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Access Point

Administration Guide

Domibus 3.3 RC1

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Table of Contents

1. INTRODUCTION	6
1.1. Purpose	6
1.2. References	6
2. CONVENTIONS	
2.1. Example 1: Sample Oracle Statement	8
2.2. Example 2: Sample Configuration file	8
3. PREREOUISITES	
2.1. Binarios repository	0
4. DOMIBUS DEPLOYMENT	10
4.1. Database Configuration	10
4.1.1. MySQL configuration	10
4.1.2. Oracle configuration	11
4.2. Domibus on WebLogic 12.1.3	12
4.2.1. Single Server Deployment	12
4.2.2. Clustered Deployment	22
4.3. Domibus on Tomcat	32
4.3.1. Pre-Configured Single Server Deployment	32
4.3.2. Single Server Deployment	35
4.3.3. Clustered Deployment	37
4.4. Domibus on WildFly	39
4.4.1. Pre-Configured Single Server Deployment	39
4.4.2. Single Server Deployment	44
4.4.3. Clustered Deployment	50
5. DOMIBUS CONFIGURATION	53
5.1. Security Configuration	54
5.1.1. Security Policies	54
5.1.2. Certificates	54
5.2. Domibus Properties	55
6. PLUGIN MANAGEMENT	61
6.1. Default Plugins	61
6.1.1. JMS Plugin	61
6.1.2. WS Plugin	61
6.1.2.1. Domibus authentication	61
6.1.2.2. Domibus Authorization	62
6.1.2.3. Enable the authentication in Domibus	62
6.2. Custom Plugin	63
6.2.1. Plugin registration	63

6.2.1.1. Tomcat	63
6.2.1.2. WebLogic	63
6.2.1.3. WildFly	63
6.3. PMode Configuration	64
6.3.1. Configuration	64
6.3.2. Adding a new participant	65
6.3.3. Sample PMode file	65
6.3.4. Domibus PMode configuration to ebMS3 PMode Mapping	69
6.3.5. Upload new Configuration	75
6.3.5.1. Upload the PMode file	75
6.3.5.2. Upload the Truststore	79
6.4. Administration Tools	81
6.4.1. Administration Console	81
6.4.1.1. Changing passwords	81
6.4.1.2. Adding new users	82
6.4.1.3. Message Filtering	82
6.4.2. Message Log	86
6.4.3. Application Logging	87
6.4.3.1. Domibus log files	87
6.4.3.2. Logging properties	87
6.4.3.3. Error Log page	89
6.4.4. Queue Monitoring	89
6.4.5. Configuration of the queues	98
6.4.5.1. Tomcat	98
6.4.5.2. WebLogic	98
6.4.5.3. WildFly	98
7. DATA ARCHIVING	
7.1. What's archiving?	
7.2. Data Retention Policy	
7.3. Data Extraction	
8. NON REPUDIATION	
9 TROUBLESHOOTING	101
	101
9.1. Failed to obtain DB connection from datasource	
9.2. Exception sending context initialized event to listener instance of class	
9.3. Neither the JAVA_HOME nor the JRE_HOME environment variable is defined	
9.4. Cannot access Admin Console	
9.5. Handsnake Fallure	102
10. ANNEX 1 – TLS CONFIGURATION	106
10.1. TLS Configuration	106
10.1.1. Transport Layer Security in Domibus	

10.1.2. Client side configuration (One Way SSL)	
10.1.3. Client side configuration (Two Way SSL)	107
10.1.4. Server side configuration	108
10.1.4.1. Tomcat 8	
10.1.4.2. WebLogic	109
10.1.4.3. Wildfly 9	110
10.1.4.4. Configure Basic and Certificates authentication in SoapUI	111
10.1.4.5. PMode update	
11. DYNAMIC DISCOVERY OF UNKNOWN PARTICIPANTS	113
11.1. Overview	113
11.2. Domibus configuration for PEPPOL	
11.3. PMode configuration for PEPPOL	115
11.3.1. Sender PMode	115
11.3.2. Receiver PMode	116
11.4. Policy and certificates for PEPPOL	117
11.5. Message format for PEPPOL	117
11.6. SMP entry	118
11.7. Domibus configuration for OASIS	119
11.8. PMode configuration for OASIS	120
11.8.1. Sender PMode	120
11.8.2. Receiver PMode	121
11.9. Policy and certificates for OASIS	122
11.10. Message format for OASIS	
12. MESSAGE PULLING	124
12.1. Setup	124
12.2. Configuration restriction	124
13. ANNEX 1 - USAGE OF CERTIFICATES IN PEPPOL AND OASIS	125
14. ANNEX 2 – DOCUMENT PARTS	126
15. LIST OF FIGURES	127
16. LIST OF TABLES	127
17. CONTACT INFORMATION	

1. INTRODUCTION

This Administration Guide is intended for Server Administrators in charge of installing, managing and troubleshooting an eDelivery Access Point.

1.1. Purpose

The purpose of this guide is to provide detailed information on how to deploy and configure Domibus 3.3 on WebLogic, Tomcat and WildFly with MySQL or Oracle. It also provides detailed descriptions of related Security Configurations (Policies, Certificates), Message Filtering, PMode Configuration, Application Monitoring, Custom Plugins Registration, JMS Monitoring, Data Archiving, Troubleshooting and TLS Configuration.

1.2. References

Ref.	Document	Content outline
[REF1]	https://ec.europa.eu/cefdigital/artifact/#nexus- search;gav~eu.domibus~domibus-distribution~3.3-RC1~~	Location of the release artefacts on the Nexus repository
[REF2]	http://downloads.mysql.com/archives/c-j/	Location to download the MySQL JDBC driver from the Official website
[REF3]	http://www.oracle.com/technetwork/database/features/jdbc/defa ult-2280470.html	Location of the Oracle JDBC driver from the Official website
[REF4]	https://docs.jboss.org/author/display/WFLY9/WildFly+9+Cluster+H owto	Location to the Official documentation on how to setup a cluster on WildFly 9
[REF5]	https://ec.europa.eu/cefdigital/wiki/download/attachments/23003 408/%28CEF%20eDelivery%29.%28PKI%29.%28SOD%29.%28v2.5% 29.pdf?api=v2	CEF Public Key Infrastructure (PKI) Service Offering Document

Ref.	Document	Content outline
[REF6]	https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Domibus+ -+v3.3+RC1	Location of the Domibus 3.3RC1 release on the Single Web Portal
[REF7]	https://access.redhat.com/documentation/en- US/Red_Hat_JBoss_Fuse/6.0/html/XML_Configuration_Reference/f iles/cxf-http-conf-2_7_0_xsd_Element_http- conf_tlsClientParameters.html	RedHat page for the XML Configuration Reference of the http- conf:tlsClientParam eters element
[REF8]	http://wiki.ds.unipi.gr/display/ESENSPILOTS/5.1.1+- +Architecture+and+Use+of+BBs+- +Dynamic+Discovery+In+AS4+Gateways	Website describing further the Dynamic Discovery in AS4 Gateways
[REF9]	http://wiki.ds.unipi.gr/display/ESENS/PR+-+SMP+-+1.7.0	Space describing the SMP (Service Metadata Publisher)
[REF10]	http://wiki.ds.unipi.gr/display/ESENS/PR+-+AS4+-+1.11	e-SENS AS4 Profile 1.11

2. CONVENTIONS

The Commands and Configuration files listed in this document usually contain a mix of reserved words (commands, instructions and system related special words) and user defined words (chosen by the user) as well as comments and preferred values for certain variables. The conventions used in this document, to distinguish between them, are the followings:

- To keep this document release agnostic as much as possible, the strings "x-y-z" or "x.y.z" are intended to refer to the version of Domibus discussed in this version of the document, in the present case "Domibus 3.3 RC1".
- **Bold** is used for "reserved" words and commands
- Normal italic together with a short description of the argument, is used for user-defined names (chosen by yourself to designate items like users, passwords, database etc..). Normally contains at least 2 words separated by "_".
- **Bold and Italic** is used for advisable values which can be changed by the user depending on their infrastructure.
- Comments are sometimes added to describe the purpose of the commands, usually enclosed in brackets ().

By default, non-OS specific paths will be described using Linux patterns.

2.1. Example 1: Sample Oracle Statement

create user edelivery_user identified by edelivery_password;

grant all privileges to edelivery_user;

(Where *edelivery_user* and *edelivery_password* are names chosen by the user)

2.2. Example 2: Sample Configuration file

jdbc.datasource.0.driver.name=com.mysql.jdbc.Driver

jdbc.datasource.0.driver.url=jdbc:mysql://localhost:3306/domibus_schema

jdbc.datasource.0.driver.password=edelivery_password

jdbc.datasource.0.driver.username=edelivery_user

(Where:

- edelivery_user, domibus_schema and edelivery_password are names chosen by the user.

- *localhost:3306* represents hostname:port parameters of the MySQL database.)

3. PREREQUISITES

Please install the following software on the target system. For further information and installation details, we kindly advise you to refer to the software owner's documentation.

• Java runtime environnement (JRE), version 7 or 8:

http://www.oracle.com/technetwork/java/javase/downloads/index.html

- One of the supported Database Management Systems :
 - MySQL 5,6 or above
 - Oracle 10g+
- If you don't plan to deploy Domibus according to the Pre-Configured Single Server Deployment method, you must also install one of the supported application/web servers:
 - WebLogic 12c
 - WildFly 9
 - Apache Tomcat 8.0.x
- All Domibus 3.3 installation resources, including full distributions and documentation can be found on the Single Web Portal :

https://ec.europa.eu/cefdigital/wiki/x/K33QAg

3.1. Binaries repository

All the Domibus 3.3 artefacts can be directly download from the Nexus repository of CEF (cf.[REF1]).

4. DOMIBUS DEPLOYMENT

Remark:

The variable **cef_edelivery_path** referring to the folder where the package is installed will be used later in this document.

4.1. Database Configuration

For this step you will have to use the following resources (see section §3.1 - "*Binaries repository*" for the download location):

• domibus-distribution-X.Y.Z-sql-scripts.zip

4.1.1. MySQL configuration

- 1. Unzip domibus-distribution-X.Y.Z-sql-scripts.zip in *cef_edelivery_path*/sql-scripts
- 2. Open a command prompt and navigate to this directory: *cef_edelivery_path/sql-scripts*.
- 3. (Optional) Storing messages in a database with payloads over 30 MB.

Domibus temporarily stores the messages in the database. They are not deleted before they are successfully transferred to the final recipient (see §6.3 –"PMode Configuration"). Therefore, it is required to increase the maximum allowed size of packets. Update the default properties of **my.ini** (Windows) or **my.cnf** (Linux).

max_allowed_packet property

```
# The maximum size of one packet or any generated or intermediate string,
or any
# parameter sent by the
# mysql_stmt_send_long_data() C API function.
max_allowed_packet=512M
```

innodb_log_file_size property

```
# Size of each log file in a log group. You should set the combined size
# of log files to about 25%-100% of your buffer pool size to avoid
# unneeded buffer pool flush activity on log file overwrite. However,# note
that larger logfile size will increase the time needed for the recovery
process
innodb_log_file_size=5120M
```

Restart MySQL service (Windows):

MSSQLServerADHelper 100		SQL Active	Stopped	N/A
MySQL56	2708	MySQL56	Running	N/A
napagent		Network A	Stopped	NetworkSe
A	750	AL 11		

MySQL service

- 4. (Optional) For storing messages in a file system instead of a database see §5.2 "Domibus Properties)
- 5. Execute the following MySQL commands at the command prompt :

Remark:

User defined names like root_password, domibus_schema etc..., are in italic as described in the Convention section.

mysql -h localhost -u root_user --password=root_password -e "drop schema if exists domibus_schema;create schema domibus_schema;alter database domibus_schema charset=utf8 collate=utf8_bin; create user edelivery_user@localhost identified by 'edelivery_password';grant all on domibus_schema.* to edelivery_user@localhost;"

The above creates a schema (*domibus_schema*) and a user (*edelivery_user*) having all the privileges on the schema.

mysql -h localhost -u root_user --password=root_password domibus_schema <
mysql5innoDb-x.y.z.ddl</pre>

The above creates the required tables in *domibus_schema*.

Remark:

If you are using Windows, make sure to have the parent directory of mysql.exe added to your PATH variable.

4.1.2. Oracle configuration

- 1. Unzip domibus-distribution-X.Y.Z-sql-scripts.zip in cef_edelivery_path/sql-scripts
- 2. Open a command prompt and navigate to this directory: *cef_edelivery_path/sql-scripts*.
- 3. Open a command line session, log in and execute the following commands :

```
sqlplus sys as sysdba
                   (password should be the one assigned during the Oracle
installation )
Once logged in Oracle:
create user edelivery_user identified by edelivery_password;
grant all privileges to edelivery_user;
grant execute on dbms_xa to edelivery_user;
grant select on pending trans$ to edelivery user;
grant select on dba 2pc pending to edelivery user;
grant select on dba_pending_transactions to edelivery_user;
connect edelivery_user
show user; (should return : edelivery_user)
@oracle10g-x.y.z.ddl (run the scripts with the @ sign from the location of the
scripts)
exit
_____
```

4.2. Domibus on WebLogic 12.1.3

This section does not include the installation of WebLogic server 12.1.3. It is assumed that the WebLogic Server is installed and a Domain is created. Hereafter the domain location will be referred as *DOMAIN_HOME* (user defined name).

4.2.1. Single Server Deployment

For this step, you will have to use the following resources (see section §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-weblogic-war.zip
- domibus-distribution-X.Y.Z-weblogic-configuration.zip
- domibus-distribution-X.Y.Z-default-ws-plugin.zip (optional)
- domibus-distribution-X.Y.Z-default-jms-plugin.zip (optional)
- 1. Download and unzip **domibus-distribution- X.Y.Z-weblogic-configuration.zip** in the directory *DOMAIN_HOME/conf/domibus*

ø	OOMAIN_HOME>\domibus\conf\domibus\					
Name		Size				
📗 in	iternal	9 895				
📗 p	lugins	113 252				
퉬 policies		17 634				
domibus.properties		6 318				
🔮 logback.xml		5 1 2 1				

- 2. Download and unzip **domibus-distribution- X.Y.Z-weblogic.war** in the directory *DOMAIN_HOME/conf/domibus*
- 3. Configure your Keystore based on section §5.1.2 "Certificates"
- 4. Add the following lines in:
 - For Windows : DOMAIN_HOME\bin\setDomainEnv.cmd
- Locate the set DOMAIN_HOME statement and add the following lines after:

- For Linux : DOMAIN_HOME/bin/setDomainEnv.sh
- Locate the export DOMAIN_HOME statement and add the following lines after:

- 5. Run the WebLogic Scripting Tool (WLST) in order to create the JMS resources and the Database datasources from the command line
 - Download the WLST Package from the following location: <u>https://ec.europa.eu/cefdigital/artifact/content/repositories/eDelivery/eu/europa/e</u> <u>c/digit/ipcis/wslt-api/1.9.1/wslt-api-1.9.1.zip</u>
 - Configure the WSLT API tool
 - Unzip the wslt-api-1.9.1.zip
 - Define the WL_HOME as a system environment variable to point to the WebLogic 'wlserver' directory as defined in the DOMAIN_HOME/bin/SetDomainEnv.[cmd|sh]

e.g. WL_HOME=/wls12130/wlserver

- Take the script WeblogicSingleServer.properties from domibus-distribution-X.Y.Z-weblogic-configuration.zip under the scripts directory and copy the
 WeblogicSingleServer.properties file into the wslt-api-1.9.1 directory and adapt the following properties :
 - Adapt the properties for connecting to the WebLogic domain

```
domain.loading.type=connect
domain.connect.url=t3://Localhost:7001
domain.connect.username=weblogic_name
domain.connect.password=weblogic_password
domain.name=my_domain1
```

Adapt the jdbc.datasource properties for the datasources

For Oracle database:

```
jdbc.datasource.0.name=eDeliveryDs
jdbc.datasource.0.driver.name=oracle.jdbc.xa.client.OracleXADataSource
jdbc.datasource.0.driver.url=jdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.0.driver.password=edelivery_password
jdbc.datasource.0.driver.username=edelivery_username
jdbc.datasource.1.name=eDeliveryNonXA
jdbc.datasource.1.driver.name=oracle.jdbc.OracleDriver
jdbc.datasource.1.driver.url=jdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.1.driver.url=gdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.1.driver.url=gdbc:oracle:thin:@127.0.0.1:1521:xe
```

Remark:

MySQL configuration is commented by default. To enable *MySQL*, remove the comment (#) from the lines below. Don't forget to add the comment (#) for Oracle to disable it.

For MySQL:

jdbc.datasource.0.driver.name=com.mysql.jdbc.Driver jdbc.datasource.0.driver.url=jdbc:mysql://localhost:3306/domibus_schema jdbc.datasource.0.driver.password=edelivery_password jdbc.datasource.0.driver.username=edelivery_username jdbc.datasource.0.transaction.protocol=LoggingLastResource jdbc.datasource.0.pool.connection.test.onreserv.sql=SQL SELECT 1 jdbc.datasource.1.driver.name=com.mysql.jdbc.Driver jdbc.datasource.1.driver.url=jdbc:mysql://localhost:3306/domibus_schema jdbc.datasource.1.driver.url=gbc:mysql://localhost:3306/domibus_schema jdbc.datasource.1.driver.username=edelivery_password jdbc.datasource.1.driver.username=edelivery_username jdbc.datasource.1.transaction.protocol=None jdbc.datasource.1.pool.connection.test.onreserv.sql=SQL SELECT 1

 Adapt the property for location of the filestore persistent.filestore.0.location

e.g.

persistent.filestore.0.location=DOMAIN_HOME/filestore

Remark:

Make sure that the path for the filestore contains forward slashes (/).

o Adapt if necessary the JMX security configuration

```
e.g.
## Policy configuration
security.policies.0.mode = CREATE
security.policies.0.resource = type=<jmx>, operation=invoke,
application=,
mbeanType=weblogic.management.runtime.JMSDestinationRuntimeMBean
security.policies.0.realm = myrealm
security.policies.0.authorizer = XACMLAuthorizer
security.policies.0.expression=
Rol(Admin) | Grp(Administrators) | Grp(JMSManagers)
security.policies.items = 1
## Users configuration
security.users.0.realm=myrealm
security.users.0.name=jmsManager
security.users.0.password=jms Manager1
security.users.0.comment=
security.users.0.authenticator=DefaultAuthenticator
security.users.items=1
## Groups configuration
security.groups.0.realm=myrealm
security.groups.0.name=JMSManagers
security.groups.0.description=
security.groups.0.authenticator=DefaultAuthenticator
security.groups.items=1
```

• Start the WebLogic domain from within DOMAIN_HOME

- For Windows startWebLogic.cmd
 - For Linux
- startWebLogic.sh
- Execute the following command from within the wlstapi-1.9.1/bin directory
 - For Windows

wlstapi.cmd ..\scripts\import.py --property ..\WeblogicSingleServer.properties

For Linux
 wlstapi.sh ../scripts/import.py --property ../WeblogicSingleServer.properties

Expected Result:

```
Saving all your changes ...
Saved all your changes successfully.
Activating all your changes, this may take a while ...
The edit lock associated with this edit session is released
once the activation is completed.
Activation completed
Location changed to serverRuntime tree. This is a read-only tree with DomainMBean as the root.
For more help, use help('domainConfig')
Disconnected from weblogic server: AdminServer
```

Activate the use of the authorization providers to protect the JMX access

Home L	og Out Preferences 📐	Record Help	Q						
Home >Sum	mary of Security Realms >m	iyrealm							
Messages									
🛷 All char	iges have been activated.	However 1 items mu	st be restarted for the cha	nges to take	effect.				
Settings for	myrealm								
Configurat	ion Users and Groups	Roles and Policies	Credential Mappings	Providers	Migration				
General	RDBMS Security Store	User Lockout Per	formance						
Click the <i>L</i>	ock & Edit button in the	Change Center to mo	dify the settings on this n	ane					
Caus		enange center to me	any the sectings on this p	ugei					
Save									
Use this pa Note: If	age to configure the gene you are implementing sec	ral behavior of this s	ecurity realm. /a Authorization Contract	for Container	rs as defined	in JSR 115), you	must use the D	D Only security m	nodel. Other WebLogic Se
Name:				myre	alm				
街 Securi	ty Model Default:			DD	Only		v		
🗹 🕂 Con	nbined Role Mapping E	nabled							
🖉 👘 Use	Authorization Provide	ers to Protect JMX	Access						
Save	ced								
Click the L	ock & Edit button in the	Change Center to mo	dify the settings on this p	age.					

7. The database dialect is pre-configured to use the Oracle database. If you are using a MySQL database, you should adapt the dialect in

DOMAIN_HOME/conf/domibus/domibus.properties as highlighted in the example below:

#EntityManagerFactory
domibus.entityManagerFactory.jpaProperty.hibernate.connection.driver_class=
com.mysql.jdbc
.Driver
domibus.entityManagerFactory.jpaProperty.hibernate.dialect=
org.hibernate.dialect.MySQL5I
nnoDBDialect

8. Install the WS Plugin. For more details (see section §6.2.1.2 – "WebLogic").

9. Deploy domibus-distribution-X.Y.Z-weblogic.war

 Click Install 						
ORACLE WebLogic Server Administration Console 12c						
Change Center	🟦 Home Log Out Preferences 🗠 Record Help	in3				
View changes and restarts	Home >Summary of Deployments	_				
Configuration editing is enabled. Future	Summary of Deployments					
modify, add or delete items in this domain.	Control Monitoring					
Domain Structure mydomain3 Environment Services Security Realms Interoperability Diagnostics Diagnostics Diagnostics Diagnostics Diagnostics	This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page. To install a new application or module for deployment to targets in this domain, click the Install button.					
	Install Update Delete Start Stop Showing 0 to 0 of 0 Previous Next					
	Name State Health Type Targets Deployment Order					
	There are no items to display					
How do I Install an enterprise application	Install Update Delete Start Stop Showing 0 to 0 of 0 Previous Next					

\circ ~ Navigate to the location of the .war file and click Next ~

	ministration Console 12c		Ŏ			
Change Center	🙆 Home Log Out Prefer	ences 🔤 Record Help	Welcome, weblogic Connected to: mydomain3			
View changes and restarts Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain. Domain Structure mydomain3 B-Environment Deployments B-Services	Home >Summary of Deployments Messages The file domibus-distribution-x.y.z-weblogic.war has been uploaded successfully to C:\wls12130\user_projects\domains\mydomain3\servers\AdminServer\upload Install Application Assistant Back Next Finish Cancel Locate deployment to install and prepare for deployment					
⊡Security Realms ⊕-Interoperability ⊕-Diagnostics	Select the file path that that you want to install. Note: Only valid file pat application contains the	represents the application root directory, archive file, exploded You can also enter the path of the application directory or file i hs are displayed below. If you cannot find your deployment file required deployment descriptors.	archive directory, or application module descriptor n the Path field. s, upload your file(s) and/or confirm that your			
	Path:	C:\wls12130\user_projects\domains\mydomain3\ser	vers\AdminServer\upload\domibus-distribut			
	Recently Used Paths: Current Location:	C:\wls12130\user_projects\domains\mydomain3\servers\Adm localhost \ C: \ wls12130 \ user_projects \ domains \ mydomai	inServer\upload in3 \ servers \ AdminServer \ upload			
How do I	O domibus-dist Back Next Finish	ribution-x.y.z-weblogic.war				
Start and stop a deployed enterprise application						

o Choose Install this deployment as an application and click Next

	ninistration Console 12c Q						
Change Center	🏦 Home Log Out Preferences 🖾 Record Help						
View changes and restarts	Home >Summary of Deployments						
Configuration editing is enabled. Future	Install Application Assistant						
modify, add or delete items in this domain.	Back Next Finish Cancel						
Domain Structure	Choose targeting style						
mydomain3	Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.						
Deployments ⊞Services	Install this deployment as an application						
Security Realms Interoperability	The application and its components will be targeted to the same locations. This is the most common usage.						
	Install this deployment as a library						
	Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.						
	Back Next Finish Cancel						

o Accept the default options and click Next

	ninistration Console 12c Q							
Change Center	🏦 Home Log Out Preferences 🔤 Record Help							
View changes and restarts	Home >Summary of Deployments							
Configuration editing is enabled. Future	Install Application Assistant Back Finish Cancel Cancel							
changes will automatically be activated as you modify, add or delete items in this domain.								
Domain Structure	Optional Settings							
mydomain3	You can modify these settings or accept the defaults							
Deployments	* Indicates required fields							
Services	Consul							
D-Interoperability	General							
⊕-Diagnostics	what do you want to name this deproyment?							
	* Name: domibus-distribution-x.y.z-weblogic							
	- Security							
	What security model do you want to use with this application?							
	DD Only: Use only roles and policies that are defined in the deployment descriptors.							
How do I								
 Start and stop a deployed enterprise 	O Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.							
application								
Configure an enterprise application	Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.							
Create a deployment plan								
Target an enterprise application to a server Test the modules in an enterprise application	Advanced: Use a custom model that you have configured on the realm's configuration page.							
	- Source Accessibility							
System Status	How should the source files be made accessible?							
Health of Running Servers	Ise the defaults defined by the deployment's targets							
Failed (0) Critical (0)	Recommended selection.							
Overloaded (0) Warning (0)	Copy this application onto every target for me							
OK (1)	During deployment, the files will be copied automatically to the Managed Servers to which the application is targeted.							
	I will make the deployment accessible from the following location							
	Location: C:\wls12130\user_projects\domains\mydomain3\servers\AdminSe							
	Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the							

\circ ~ Select the following option and click \mbox{Finish}

	ninistration Console	120	Q				
Change Center	🔒 Home Log Ou	t Preferences 🔤 Record Help	Welcome, weblogic Connected to: mydomain3				
View changes and restarts	Home >Summary of Deployments						
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	Install Application Assistant Back Next Finish Cancel						
Domain Structure	Review your d	hoices and click Finish					
mydomain3	Click Finish to complete the deployment. This may take a few moments to complete. Additional configuration In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?						
Printeroperability Yes, take me to the deployment's configuration screen. No, I will review the configuration later. Summary							
	Deployment: C:\vls12130\user_projects\domains\mydomain3\servers\AdminServer\upload\domibus- distribution-x.y.z-weblogic.war						
How do I 🗉	Name:	domibus-distribution-x.y.z-weblogic					
 Start and stop a deployed enterprise application 	Staging Mode:	Use the defaults defined by the chosen targets					
Configure an enterprise applicationCreate a deployment plan	Plan Staging Mode:	Use the same accessibilty as the application					
 Target an enterprise application to a server Test the modules in an enterprise application 	Security DDOnly: Use only roles and policies that are defined in the deployment descriptors. Model:						
	Target Summa	ry					
Health of Running Servers	Components	ŵ	Targets				
Failed (0)	domibus-distrib	ution-x.y.z-weblogic	AdminServer				
Critical (0) Overloaded (0) Warning (0)	Back Next	Finish					

- ORACLE WebLogic Server Administration Console 12c 🚹 Home Log Out Preferences 🔤 Record Help Welcome, weblogic Connected to: myde Q Change Center Home >Summary of Deployments >domibus-distribution-x.y.z-weblogic View changes and restarts Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain. Settings for domibus-distribution-x.y.z-weblogic Overview Deployment Plan Configuration Security Targets Control Testing Monitoring Notes Domain Structure Save mydomain3 Environment Use this page to view the installed configuration of a Web application. --Deployments The name of this application deployment. More ---Security Realms domibus-distribution-x.v.z-weblogic Name: Context Root: /domibus-weblogic The specific path at which this Web application is found by a servlet. More Info... C:\wls12130\user_projects\domains\mydomain3\servers\ AdminServer\upload\domibus-distribution-x. y. z-weblogic. The path to the source of the deployable unit on the Administration Server. More Info... Path: war Deployment Plan: (no plan specified) The path to the deployment plan document on the Administration Server. More Info... How do I... - Deploy Web applications Staging Mode: (not specified) Specifies whether an application's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. More Info... Configure Web applications Create a deployment plan • Test the deployment Specifies whether a deployment plan's files are copied from a source on the Administration Server to the Plan Staging (not specified) Mode: Monitor Web applications and servlets
- Here is an overview of the resulting settings, you can now click Save

The expected positive response to the deployment request should be the following:



10. Verify the installation by navigating into your browser to <u>http://localhost:7001/domibus-</u> weblogic

If you can access the page it means the deployment was successful.

(by default: User = admin; Password = 123456)

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 – "Administration " for further information.

Expected result:

	States A		10.00	the second se			1 - O X
Domibus	×			And Inc.	And Inc.	-	
← → C ∆	i localhost:8080/domibus/log	in?returnUrl=%2F					☆ :
	Domibus Administration Console						≡
📕 Mess	sages						
Ţ Mes	sage Filter						
🖪 Erroi	r Log						
				Username *			
				Password *			
	CEF Digital			→ Login			
		domibus	s-MSH Version [3.3-	SNAPSHOT] Build-	Time [2017-06-0	9 10:49 Central Eu	ropean Time]

4.2.2. Clustered Deployment



Figure 1 - Diagram representing the Deployment of Domibus in a Cluster on WebLogic

Remark:

In this section we assume that a Domain and a WebLogic Cluster is already setup.

For this step, you will have to use the following resources (see section §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-weblogic-war.zip
- domibus-distribution-X.Y.Z-weblogic-configuration.zip
- domibus-distribution-X.Y.Z-default-ws-plugin.zip (optional)
- domibus-distribution-X.Y.Z-default-jms-plugin.zip (optional)
- 1. Follow steps 1, 2, 3 and 4 from §4.2.1 "Single Server Deployment".
- 2. Run the WebLogic Scripting Tool (WLST) in order to create the necessary JMS resources and Database datasources from the command line
 - Download the WLST Package from the following location: <u>https://ec.europa.eu/cefdigital/artifact/content/repositories/eDelivery/eu/europa/e</u> <u>c/digit/ipcis/wslt-api/1.9.1/wslt-api-1.9.1.zip</u>
 - o Configure the WSLT API tool
 - Unzip the wslt-api-1.9.1.zip
 - Define the WL_HOME (SET or export command depending on your operating system) environment variable to point to the WebLogic **wlserver** directory

e.g. WL_HOME=/wls12130/wlserver

- Take the script WeblogicCluster.properties from domibus-distribution-X.Y.Z-weblogic-configuration.zip under the scripts directory and copy the
 WeblogicCluster.properties file into the wslt-api-1.9.1 directory and apply the following changes :
 - Adapt the properties for connecting to the WebLogic domain

```
domain.loading.type=connect
domain.connect.url=t3://localhost:7001
domain.connect.username=weblogic_user
domain.connect.password=weblogic_password
domain.name=mydomain1
```

Adapt the jdbc.datasource properties for the datasources

For Oracle database:

```
jdbc.datasource.0.name= eDeliveryDs
jdbc.datasource.0.driver.name=oracle.jdbc.xa.client.OracleXADataSource
jdbc.datasource.0.driver.url=jdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.0.driver.password=edelivery_password
jdbc.datasource.0.driver.username=edelivery_username
jdbc.datasource.0.targets=cluster_name
jdbc.datasource.1.name=edeliveryNonXA
jdbc.datasource.1.driver.name=oracle.jdbc.OracleDriver
jdbc.datasource.1.driver.url=jdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.1.driver.url=jdbc:oracle:thin:@127.0.0.1:1521:xe
jdbc.datasource.1.driver.username=edelivery_password
jdbc.datasource.1.driver.username=edelivery_password
jdbc.datasource.1.driver.username=edelivery_username
jdbc.datasource.1.targets=cluster_name
```

For MySQL database:

Remark:

MySQL configuration is commented by default. To enable MySQL, remove the comment (#) from the lines below. Don't forget to add the comment (#) for Oracle to disable it.

```
jdbc.datasource.0.name= eDeliveryDs
jdbc.datasource.0.driver.name=com.mysql.jdbc.Driver
jdbc.datasource.0.driver.url=jdbc:mysql://localhost:3306/domibus_schema
jdbc.datasource.0.driver.password=edelivery_password
jdbc.datasource.0.driver.username=edelivery_username
jdbc.datasource.0.targets=cluster_name
jdbc.datasource.0.transaction.protocol=LoggingLastResource
jdbc.datasource.0.pool.connection.test.onreserv.sql=SQL SELECT 1
jdbc.datasource.1.name= edeliveryNonXA
jdbc.datasource.1.driver.name=com.mysql.jdbc.Driver
jdbc.datasource.1.driver.url=jdbc:mysql://Localhost:3306/domibus schema
jdbc.datasource.1.driver.password=edelivery_password
jdbc.datasource.1.driver.username=edelivery username
jdbc.datasource.1.targets=cluster name
jdbc.datasource.1.transaction.protocol=None
jdbc.datasource.1.pool.connection.test.onreserv.sql=SQL SELECT 1
```

• Adapt the properties for target and location of the filestore

persistent.filestore.0.target=cluster_name persistent.filestore.0.location=DOMAIN_HOME/filestores

Remark:

If you are using Windows, make sure that the path for the filestore content forward slash (/).

• Adapt if necessary the JMX security configuration

```
e.g.
*********
## Policy configuration
security.policies.0.mode = CREATE
security.policies.0.resource = type=<jmx>, operation=invoke,
application=,
mbeanType=weblogic.management.runtime.JMSDestinationRuntimeMBean
security.policies.0.realm = myrealm
security.policies.0.authorizer = XACMLAuthorizer
security.policies.0.expression=
Rol(Admin) | Grp(Administrators) | Grp(JMSManagers)
security.policies.items = 1
## Users configuration
security.users.0.realm=myrealm
security.users.0.name=jmsManager
security.users.0.password=jms Manager1
security.users.0.comment=
security.users.0.authenticator=DefaultAuthenticator
security.users.items=1
## Groups configuration
security.groups.0.realm=myrealm
security.groups.0.name=JMSManagers
security.groups.0.description=
security.groups.0.authenticator=DefaultAuthenticator
security.groups.items=1
## Groups Membership configuration
security.group.member.0.user=jmsManager
security.group.member.0.groups=JMSManagers
security.group.member.0.realm=myrealm
security.group.member.0.authenticator=DefaultAuthenticator
security.group.member.items=1
```

Adapt the property for JMS Server

e.g.

jms.server.0.target=cluster_name

Adapt the property for JMS Module

e.g.

jms.module.0.targets=cluster_name

• Start the WebLogic domain from within DOMAIN_HOME

• For Windows

startWebLogic.cmd

• For Linux

startWebLogic.sh

• Execute the following command from within the **wlstapi-1.9.1/bin** directory

• For Windows
wlstapi.cmd ..\scripts\import.py -property ..\WeblogicCluster.properties

• For Linux

wlstapi.sh ../scripts/import.py -property ../WeblogicCluster.properties

Expected Result:

Saving all your changes
Saved all your changes successfully.
Activating all your changes, this may take a while
The edit lock associated with this edit session is released
once the activation is completed.
Activation completed
Location changed to serverRuntime tree. This is a read-only tree with DomainMBean as the root.
For more help, use help('domainConfig')
Disconnected from weblogic server: AdminServer

3. Activate the use of the authorization providers to protect the JMX access

Home Log O	ut Preferences 🔤 F	Record Help	Q						
Home >Summary	of Security Realms >my	yrealm							
Messages									
🛷 All changes	have been activated. I	However 1 items mu	st be restarted for the cha	inges to take	effect.				
Settings for my	realm								
Configuration	Users and Groups	Roles and Policies	Credential Mappings	Providers	Migration				
General RD	BMS Security Store	User Lockout Per	formance						
Click the <i>Lock</i>	& Edit button in the C	Change Center to mo	dify the settings on this p	age.					
Save									
Use this page t Note: If you	to configure the gener are implementing sect	al behavior of this so urity using JACC (Jav	ecurity realm. va Authorization Contract	for Container	s as defined i	in JSR 115), you	must use the I	DD Only securit	:y model. Other WebLogic S
Name:				myre	alm				
街 Security M	odel Default:			DD	Only	,	Ŧ		
🗹 街 Combin	ed Role Mapping Ei	nabled							
🗹 街 Use Au	thorization Provide	rs to Protect JMX	Access						
Save									
Click the <i>Lock</i>	& Edit button in the C	Change Center to mo	dify the settings on this p	age.					

4. The database dialect is pre-configured to use the Oracle database. If you are using the MySQL database you should adapt the dialect as highlighted in the text below in *DOMAIN_HOME/conf/domibus.properties* file :



5. Install the WS plugin. For more details refer to chapter §6.2.1.2 - "WebLogic",

6. Deploy domibus-distribution-X.Y.Z-weblogic.war.

• Click Install

ORACLE WebLogic Server Ad	ministration C	Console 12c						Õ	
Change Center	🔒 Home	🏦 Home Log Out Preferences 🖾 Record Help							
View changes and restarts	Home >Su	Home >Summary of Deployments							
Configuration editing is enabled. Future	Summary	of Deployme	nts						
changes will automatically be activated as you modify, add or delete items in this domain.	Control	Monitoring							
Domain Structure mydomain3 Deployments Services Security Realms Interoperability Diagnostics	This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page. To install a new application or module for deployment to targets in this domain, click the Install button. Customize this table Deployments								
	Install Update Delete Start Stop Showing 0 to 0 of 0 Previous Next								
	🔲 Na	ame 🚕	State	Health	Туре	Targets	Deployment Or	der	
	There are no items to display								
How do I Install an enterprise application	Install	Update D	Ielete Start v	Stop 🗸			Showing 0 to	0 of 0 Previous Next	

- Navigate to location DOMAIN_HOME/conf/domibus where the domibusdistribution-X.Y.Z-weblogic.war file has been previously copied
- 0 ORACLE WebLogic Server Administration Console 12c 🙆 Home Log Out Preferences 🔤 Record Help Q Welcome, weblogic Connected to: mydomain3 Change Center Home >Summary of Deployments View changes and restarts Messages Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain. The file domibus-distribution-x.y.z-weblogic.war has been uploaded successfully to C:\wls12130\user_projects\domains\mydomain3\servers\AdminServer\upload Install Application Assistant Domain Structure mydomain3 Back Next Finish Cancel +-Environment --Deployments Locate deployment to install and prepare for deployment -Security Realms Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the application directory or file in the Path field. Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors. C:\wls12130\user_projects\domains\mydomain3\servers\AdminServer\upload\domibus-distribut Path: Recently Used Paths: C:\wls12130\user_projects\domains\mydomain3\servers\AdminServer\upload Current Location: localhost \ C: \ wls12130 \ user_projects \ domains \ mydomain3 \ servers \ AdminServer \ upload ۲ 🦲 domibus-distribution-x.y.z-weblogic.war -How do I... Back Next Finish Cancel Start and stop a deployed enterprise application
- o Select the domibus-distribution-X.Y.Z-weblogic.war file and click Next

o Choose Install this deployment as an application and click Next

ORACLE WebLogic Server Ad	Iministration Console 12c Q								
Change Center	🏠 Home Log Out Preferences 🖾 Record Help								
View changes and restarts	Home >Summary of Deployments								
Configuration editing is enabled. Future	Install Application Assistant								
modify, add or delete items in this domain.	Back Next Finish Cancel								
Domain Structure	Choose targeting style								
mydomain3	Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.								
Deployments Services	Install this deployment as an application								
Security Realms Interoperability	The application and its components will be targeted to the same locations. This is the most common usage.								
È-Diagnostics	Install this deployment as a library								
	Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.								
	Back Next Finish Cancel								

o Select your cluster for the deployment target and click Next

	dministration Console 12c Q							
Change Center	The Home Log Out Preferences 🔤 Record Help Welcome, domibus Connected to: domibus							
View changes and restarts	Home >Summary of JDBC Data Sources >eDeliveryDs >Summary of Clusters >Summary of Deployments >domibus-default- ws-plugin(3.1.3.1) >Summary of Deployments							
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain. Domain Structure dombus Benvironment Servers Clusters Clusters Server Templates Coherence Clusters Machines Wirtual Hosts Wirtual Hosts Wirtual Hosts Startup and Shutdown Classes	ws-plugin(3.1,3.1) > Summary of Deployments Install Application Assistant Back Next Finish Cancel Select deployment targets Select the servers and/or dusters to which you want to deploy this application. (You can reconfigure deployment targets later). Available targets for domibus-MSH-x-y-z-weblogic : Servers AdminServer							
	Clusters Ø Domibus_Cluster Ø All servers in the cluster Part of the cluster Domibus-Server-1 Domibus-Server-2							
Target an enterprise application to a serverTest the modules in an enterprise application	Back Next inish Cancel							

\circ ~ Select the following options and click Next

ORACLE WebLogic Server Adr	ninistration Console 12c
Change Center	🏦 Home Log Out Preferences 🔤 Record Help
View changes and restarts	Home >Summary of Deployments
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	Install Application Assistant Back Finish Cancel
Domain Structure	Optional Settings
mydomain3 - Environment - Deployments - Services - Security Realms - Interoperability - Diagnostics	You can modify these settings or accept the defaults * Indicates required fields - General What do you want to name this deployment?
	* Name: domibus-distribution-x.y.z-weblogic
	What security model do you want to use with this application?
	DD Only: Use only roles and policies that are defined in the deployment descriptors.
How do I • Start and stop a deployed enterprise application	Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.
Configure an enterprise applicationCreate a deployment plan	Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.
Target an enterprise application to a server	O Advanced: Use a custom model that you have configured on the realm's configuration page.
 Test the modules in an enterprise application 	- Source Accessibility
System Status 🗉	How should the source files be made accessible?
Health of Running Servers	Use the defaults defined by the deployment's targets
Failed (0) Critical (0)	Recommended selection.
Overloaded (0) Warning (0)	Copy this application onto every target for me
OK (1)	During deployment, the files will be copied automatically to the Managed Servers to which the application is targeted.
	\bigcirc I will make the deployment accessible from the following location
	Location: C:\wls12130\user_projects\domains\mydomain3\servers
	Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the

Select the following option and click Finish

ORACLE WebLogic Server Ad	ministration Console	e 12c		Q				
Change Center	🔒 Home Log Ou	🏦 Home Log Out Preferences 🚵 Record Help						
View changes and restarts	Home >Summary	Home >Summary of Deployments						
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	Install Application	Install Application Assistant Back Vext Finish Cancel						
Domain Structure	Review your c	hoices and click Finish						
mydomain3 ⊕-Environment →-Deployments ⊕-Services →-Security Realms ⊕-Interoperability ⊕-Diagnostics	Click Finish to complete the deployment. This may take a few moments to complete. Additional configuration In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant? Yes, take me to the deployment's configuration screen. No, I will review the configuration later. Summary Deployment: C:\wls12130\user_projects\domains\mydomain3\servers\AdminServer\upload\domibus-							
How do I	Name:	domibus-distribution-x.y.z-weblogic						
 Start and stop a deployed enterprise application 	Staging Mode:	Use the defaults defined by the chosen targets						
Configure an enterprise applicationCreate a deployment plan	Plan Staging Mode:	Use the same accessibilty as the application						
 Target an enterprise application to a server Test the modules in an enterprise application 	Security DDOnly: Use only roles and policies that are defined in the deployment descriptors.							
	Target Summa	ry						
Health of Running Servers	Components	ô	Targets					
Failed (0)	domibus-distrib	ution-x.y.z-weblogic	AdminSer	ver				
Critical (0) Overloaded (0) Warning (0)	Back Next	Finish						

 \circ $\;$ Here is an overview of the resulting settings, you can now click Save

	iministration Consol	e 12c								Õ
Change Center	Home Log O	ut Preferences	🔁 Record Help	,		Q	Wel	come, weblo	gic Cor	nected to: mydomain
View changes and restarts	Home >Summary	of Deployments >	domibus-distribu	tion-x.y.z-w	eblogic					
Configuration editing is enabled. Future	Settings for don	nibus-distribut	tion-x.y.z-webl	ogic						
modify, add or delete items in this domain.	Overview De	ployment Plan	Configuration	Security	Targets	Control	Testing	Monitoring	Notes	
Domain Structure	Save									
mydomain3	nydomain3 = Environment Use this page to view the installed configuration of a Web application. = Deployments									
B-Security Realms 	Name: domibus-distribution-x.y.z-weblogic The name of this application deployment. More Info									
ter-Diagnostics	Context Root:	/domibus-we	blogic				The specifi found by a	ic path at whic servlet. More	n this We Info	eb application is
	Path:	C:\wls12130 AdminServer war	\ user_projects\ c \ upload\ domibus	lomains\ my -distributior	domain3\ s 1-x. y. z-wel	ervers\ blogic.	The path to Administra	o the source of ition Server.	the dep More Info	loyable unit on the
How do I	Deployment Plan:	(no plan spec	ified)				The path to Administra	o the deployme tion Server. I	nt plan (More Info	document on the
Deploy Web applications Configure Web applications Create a deployment plan	Staging Mode:	(not specified	i)				Specifies v from a sou Managed S preparatio	vhether an app rce on the Adn Server's staging n. More Info.	lication's ninistrati area du	files are copied on Server to the ring application
Iest the deployment Monitor Web applications and servlets	Plan Staging Mode:	(not specified	ł)				Specifies v from a sou Managed S	whether a deplo rce on the Adm Server's staging	oyment p ninistrati area du	lan's files are copied on Server to the ring application

The expected positive response to the deployment request should be the following:



7. Verify the installation by navigating into your browser to <u>http://localhost:7001/domibus-weblogic</u>

If you can access the page it means the deployment was successful.

(by	/ default:	User =	admin;	Password =	123456)
-----	------------	--------	--------	------------	---------

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 - Administration *" for further information.*

Expected result:

	To other di				e 🗆 🗖 💌 🗶
Domibus	×		And Inc.	Long Days	1 Mart
← → C ☆	localhost:8080/domibus/login?returnUr	I=%2F			☆ :
	Domibus Administration Console				≡
📕 Mess	sages				
Ţ Mess	sage Filter				
🗾 Error	r Log				
			Username *		
			Password *		
			→ Login		
	CEF Digital Connecting Europe	lomibus-MSH Version [3.3	-SNAPSHOT] Build-T	Time [2017-06-09 1	0:49 Central European Time]

4.3. Domibus on Tomcat

Remark:

As Tomcat is not a full Java EE application server and does not offer JMS capabilities by default, Domibus uses ActiveMQ as an in-memory JMS broker when deployed on a Tomcat servlet container. The configuration for the ActiveMQ JMS broker can be found in cef_edelivery_path/domibus/internal/activemq.xml.

4.3.1. Pre-Configured Single Server Deployment

For this step, you will have to use the following resources (see section §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-tomcat-full.zip
- 1. Unzip the archive
 - Unzip **domibus-distribution-X.Y.Z-tomcat-full.zip** to a location on your physical machine: *cef_edelivery_path*.

Name	Size
] domibus	66 739 870
鷆 sql-scripts	70 415
📄 changelog.txt	3 045
📋 upgrade-info.txt	6 600

2. Prepare the database

• For MySQL database:

Add MySQL JDBC driver (available on MySQL official web site cf. [REF2]) in the folder *cef_edelivery_path*/domibus/lib.

Remark:

The version of the JDBC driver has to be mysql-connector-java-5.1.40.jar or higher.

Edit the properties file *cef_edelivery_path/domibus/conf/domibus/domibus.properties* and adjust the highlighted parts in the text below according to your environment. The properties associated to the database configuration are pre-configured for the MySQL database:

```
#XA properties
domibus.datasource.xa.property.serverName=Localhost
domibus.datasource.xa.property.port=3306
domibus.datasource.xa.property.user=edeLivery_user
domibus.datasource.xa.property.password=edeLivery_password
#MySQL
domibus.datasource.xa.property.url=jdbc:mysql://${domibus.datasource.xa.propert
y.serverName}:${domibus.datasource.xa.property.port}/
domibus_schema?pinGlobalTxToPhysicalConnection=true
#Non-XA Datasource
domibus.datasource.url=jdbc:mysql://Localhost:3306/domibus_schema?useSSL=false
domibus.datasource.user=edeLivery_user
domibus.datasource.password=edeLivery_password
```

• For Oracle database:

Add the Oracle JDBC driver (e.g. *ojdbc7.jar*) (available on the Oracle official web site cf.[REF3]) in folder *cef_edelivery_path*/domibus/lib.

Edit the properties file *cef_edelivery_path*/domibus/conf/domibus/domibus.properties and adjust the highlighted parts in the text below according to your environment:

```
#XA Datasource
domibus.datasource.xa.xaDataSourceClassName=oracle.jdbc.xa.client.OracleXADataSour
ce
domibus.datasource.xa.testQuery=select 1 from dual
#XA properties
domibus.datasource.xa.property.serverName=
domibus.datasource.xa.property.port=1521
domibus.datasource.xa.property.user=edelivery_user
domibus.datasource.xa.property.password=edelivery_password
domibus.datasource.xa.property.url=jdbc:oracle:thin:@${domibus.datasource.xa.prope
rty.serverName}:${domibus.datasource.xa.property.port}/XE
#Non-XA Datasource
domibus.datasource.driverClassName=oracle.jdbc.OracleDriver
domibus.datasource.url=jdbc:oracle:thin:@localhost:1521/XE
domibus.datasource.user=edelivery_user
domibus.datasource.password=edelivery_password
```

- 3. Configure your Keystore based on section §5.1.2 "Certificates".
- 4. Set JVM parameters

Domibus expects a single environment variable **domibus.config.location**, pointing towards the *cef_edelivery_path*/domibus/conf/domibus folder.

You can do this by editing the first command lines of *cef_edelivery_path*\domibus\bin\setenv.bat (Windows) or *cef_edelivery_path*/domibus/bin/setenv.sh (Linux). Set CATALINA_HOME equal to the absolute path of the installation *cef_edelivery_path*/domibus

For Windows : Edit cef_edelivery_path\domibus\bin\setenv.bat by adding the following:

```
set CATALINA_HOME=cef_edelivery_path\domibus
set JAVA_OPTS=%JAVA_OPTS% -Dfile.encoding=UTF-8 -Xms128m -Xmx1024m -
XX:PermSize=64m
set JAVA_OPTS=%JAVA_OPTS% -Ddomibus.config.location=%CATALINA_HOME%\conf\domibus
```

• For Linux : Edit *cef_edelivery_path/domibus/bin/setenv.sh* by adding the following:

```
export CATALINA_HOME=cef_edelivery_path/domibus
export JAVA_OPTS="$JAVA_OPTS -Xms128m -Xmx1024m "
export JAVA_OPTS="$JAVA_OPTS -
Ddomibus.config.location=$CATALINA_HOME/conf/domibus"
```

- 5. Launch the Domibus application:
 - For Windows :

cd cef_edelivery_path\domibus\bin\
startup.bat

 \circ $\,$ For Linux :

cd cef_edelivery_path /domibus/bin/chmod u+x *.sh ./startup.sh

 Display the Domibus home page on your browser: <u>http://localhost:8080/domibus</u> (by default: User = *admin*; Password = *123456*)

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 – "Administration " for further information.

If you can access the page it means the deployment was successful.

Expected result:

Domibus	×		Part Long	And Street Part	
\leftrightarrow \supset \bigcirc \bigcirc	localhost:8080/domibus/lo	ogin?returnUrl=%2F			☆ :
	Domibus Administration Console				≡
📕 Mess	sages				
= Mes	sage Filter				
🖪 Error	r Log				
	I		Username *		
			Password *		
			→ Login		
	CEF Digital Connecting Europe	domibus-MSH Version [3.	3-SNAPSHOT] Build-Tin	ne [2017-06-09 10:49 Central E	uropean Time]

4.3.2. Single Server Deployment

For this step, you will have to use the following resources (see §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-tomcat-configuration.zip
- domibus-distribution-X.Y.Z-tomcat-war.zip

We assume that an Apache Tomcat 8.0.x is already installed and the installation location is now considered as your *cef_edelivery_path/domibus*.

- 1. Download and unzip the artefact **domibus-distribution-X.Y.Z-tomcat-configuration.zip** into the directory *cef_edelivery_path/domibus/conf/domibus*
- Configure the MySQL or Oracle datasource as indicated in §4.3.1 "Pre-Configured Single Server Deployment"
- 3. Configure your Keystore based on §5.1.2 "Certificates".
- 4. Execute step 4 from §4.3.1 "Pre-Configured Single Server Deployment"
- 5. Rename **domibus-MSH-X.Y.Z-tomcat.war** to **domibus.war** and deploy it to *cef_edelivery_path*/domibus /webapps.

Name	Size
domibus.war	60 612 036

6. Launch the Domibus application:

• For Windows :

cd cef_edelivery_path\domibus\bin\
startup.bat

• For Linux :

cd cef_edelivery_path /domibus/bin/
chmod +x *.sh
./startup.sh

 Display the Domibus home page on your browser: <u>http://localhost:8080/domibus</u> (by default: User = *admin*; Password = *123456*)

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 – "Administration " for further information.

If you can access the page it means the deployment was successful.

Expected result:

Domibus Administration Console	
Messages	
- Message Filter	
Error Log	
PMode	
JMS Monitoring	Username *
OT Truststore	
	Password *
	E Login
4.3.3. Clustered Deployment



Figure 2 - Diagram representing the Deployment of Domibus in a Cluster on Tomcat

Remark:

In this section we assume that a JMS Broker and a Loadbalancer are configured separately (e.g. httpd).

For this step, you will have to use the following resources (see §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-tomcat-full.zip
- domibus-distribution-X.Y.Z-tomcat-war.zip
- 1. Follow steps 1, 2, 3 and 4 from the §4.3.2 "Single Server Deployment"
- 2. Set the JVM parameters

Domibus expects a single JVM parameter **\$domibus.config.location**, pointing towards the *cef_edelivery_path*/domibus/conf/domibus folder.

You can do this by editing *cef_edelivery_path*\domibus\bin\setenv.bat (Windows) or *cef_edelivery_path*/domibus/bin/setenv.sh (Linux). Set CATALINA_HOME equal to the absolute path of the installation *cef_edelivery_path*/Domibus

• For Windows: Edit *cef_edelivery_path*\domibus\bin\setenv.bat by adding the following:

Remark:

your_node_id refers to the installed node in the cluster which starts normally at 01(then 02, etc.)

```
set CATALINA_HOME=cef_edelivery_path\domibus
set JAVA_OPTS=%JAVA_OPTS% -Dfile.encoding=UTF-8 -Xms128m -Xmx1024m -
XX:PermSize=64m
set JAVA_OPTS=%JAVA_OPTS% -Ddomibus.config.location=%CATALINA_HOME%\conf\domibus
set JAVA_OPTS=%JAVA_OPTS% -Ddomibus.node.id=your_node_id
```

• For Linux : Edit cef edelivery path/domibus/bin/setenv.sh by adding the following:

```
export CATALINA_HOME=cef_edelivery_path/domibus
export JAVA_OPTS=$JAVA_OPTS -Xms128m -Xmx1024m
export JAVA_OPTS="$JAVA_OPTS -
Ddomibus.config.location=$CATALINA_HOME/conf/domibus"
export JAVA_OPTS="$JAVA_OPTS -Ddomibus.node.id=your_node_id"
```

- 3. Integrate the external JMS Broker with Domibus by adapting the following properties in *cef_edelivery_path/domibus/conf/domibus/domibus.properties*
 - Please note that the property activeMQ.embedded.configurationFile should be deleted as the JMS broker is external

```
#ActiveMQ
activeMQ.broker.host=localhost
activeMQ.brokerName=localhost
#activeMQ.embedded.configurationFile=file:///${domibus.config.location}/internal/a
ctiveMQ.embedded.configurationFile=file:///${domibus.config.location}/internal/a
ctiveMQ.connectorPort=1199
activeMQ.rmiServerPort=1200
activeMQ.transportConnector.uri=tcp://${activeMQ.broker.host}:61616
activeMQ.username=domibus
activeMQ.password=changeit
```

4. Change the following properties related to the **Atomikos** configuration in parameters in *cef_edelivery_path*/domibus/conf/domibus/domibus.properties

For clustered deployment:

```
Uncomment the following lines:
#com.atomikos.icatch.output_dir=${domibus.work.location:${domibus.config.locati
on}}/work/transactions/${domibus.node.id}
#com.atomikos.icatch.log_base_dir=${domibus.work.location:${domibus.config.loca
tion}}/work/transactions/${domibus.node.id}/Log
Comment the following lines:
```

```
com.atomikos.icatch.output_dir=${domibus.work.location:${domibus.config.locatio
n}}/work/transactions
com.atomikos.icatch.log_base_dir=${domibus.work.location:${domibus.config.locat
ion}}/work/transactions/log
```

5. Follow step 6 and 7 from the §4.3.2 – "Single Server Deployment"

4.4. Domibus on WildFly

4.4.1. Pre-Configured Single Server Deployment

In this section we assume that WildFly is installed at the location cef_edelivery_path/domibus

For this step, you will have to use the following resources (see section 3.1 - " Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-wildfly-full.zip
- 1. Download and unzip the **domibus-distribution-X.Y.Z-wildfly-full.zip** archive in your *cef_edelivery_path* location.

Name	Size
퉬 domibus	222 551 064
🐌 sql-scripts	70 415
changelog.txt	3 045
upgrade-info.txt	6 600

- 2. Configure the MySQL database (Option 1).
 - o Drivers:

Create the directory *cef_edelivery_path*/domibus/modules/system/layers/base/com/mysql/main if it does not exist. Under this directory:

• Download and copy the MySQL JDBC driver. (Available on MySQL official web site cf.[REF2]) in the folder.

Remark:

The version of the driver has to be mysql-connector-java-5.1.40.jar or higher.

 Create or edit the file cef_edelivery_path/domibus/modules/system/layers/base/com/mysql/main/mod ule.xml and copy the following module configuration. Make sure to put the name of the driver you are using as an argument of resource-root element. e.g. mysqlconnector-java-5.1.40.jar:

```
<module xmlns="urn:jboss:module:1.1" name="com.mysql">
        <resources>
        <resource-root path="mysql-connector-java-5.1.40.jar"/>
        </resources>
        <dependencies>
            <module name="javax.api"/>
            <module name="javax.transaction.api"/>
            </dependencies>
        </module>
```

 Add your DBMS driver metadata to the Drivers section of the cef edelivery path/domibus/standalone/configuration/standalone-full.xml

<subsystem xmlns="urn:jboss:domain:datasources:3.0"></subsystem>
<datasources></datasources>
<pre><drivers></drivers></pre>
<pre><driver module="com.mysql" name="com.mysql"></driver></pre>
<pre><driver-class>com.mysql.jdbc.Driver</driver-class></pre>
<pre><xa-datasource-class></xa-datasource-class></pre>
<pre>com.mysql.jdbc.jdbc2.optional.MysqlXADataSource</pre>
<pre><drivers></drivers></pre>
/ subsystems

- Datasources
 - Add the datasources as indicated below to *cef_edelivery_path*/domibus/standalone/configuration/standalone-full.xml.

Remark:

Please make sure you modify the connection details for the **MysqlXADS** datasource for MySQL according to your environment.

```
<subsystem xmlns="urn:jboss:domain:datasources:3.0">
<datasources>
<xa-datasource jndi-name="java:/jdbc/cipaeDeliveryDs" pool-</pre>
name="eDeliveryMysqlXADS" enabled="true" use-ccm="true" statistics-enabled="true">
       <xa-datasource-property name="ServerName">localhost</xa-datasource-</pre>
property>
            <xa-datasource-property name="DatabaseName">domibus_schema</xa-</pre>
datasource-property>
           <xa-datasource-</pre>
class>com.mysql.jdbc.jdbc2.optional.MysqlXADataSource<//xa-datasource-class>
             <driver>com.mysql</driver>
                    <security>
                         <user-name>edelivery_user</user-name>
                         <password>edelivery_password</password>
                    </security>
<validation>
<valid-connection-checker class-
name="org.jboss.jca.adapters.jdbc.extensions.mysql.MySQLValidConnectionChecker"/>
<background-validation>true</background-validation>
<exception-sorter class-
name="org.jboss.jca.adapters.jdbc.extensions.mysql.MySQLExceptionSorter"/>
             </validation>
       </xa-datasource>
<datasource jndi-name="java:/jdbc/cipaeDeliveryNonXADs" pool-</pre>
name="eDeliveryMysqlNonXADS" enabled="true" use-ccm="true">
    <connection-url>jdbc:mysql://localhost:3306/domibus_schema</connection-url>
    <driver-class>com.mysql.jdbc.Driver</driver-class>
    <driver>com.mysql</driver>
    <security>
        <user-name>edelivery username</user-name>
        <password>edelivery_password</password>
    </security>
```

- 3. Configure the Oracle Database (option 2)
 - Drivers:

Create the directory *cef_edelivery_path*/domibus/modules/system/layers/base/com/oracle/main if it does not exist. Under this directory:

- Download and copy the Oracle JDBC driver. (e.g. *ojdbc7.jar*) (Available on the Oracle official web site cf.[REF3]) in the folder.
- Copy the file cef_edelivery_path/domibus/modules/system/layers/base/com/mysql/main/mod ule.xml then copy it in the folder recently created.

Edit **module.xml** by copying the following module configuration. Make sure to put the name of the driver you are using as an argument of **resource-root** element. e.g. **ojdbc7.jar**:

 Add your DBMS driver metadata to the Drivers section in *cef_edelivery_path/domibus/standalone/configuration/standalone-full.xml* (Only change the items described below while replacing MYSQL configuration in the process).

- Datasources
 - Add the datasources as indicated below to *cef_edelivery_path*/domibus/standalone/configuration/standalone-full.xml.

Remark:

Please make sure you modify the connection details for the *eDeliveryOracleXADS* datasource for Oracle according to your environment.

<valid-connection-checker class-<="" th=""></valid-connection-checker>
<pre>name="org.jboss.jca.adapters.jdbc.extensions.oracle.OracleValidConnectionChecker"/</pre>
>
<exception-sorter class-<="" td=""></exception-sorter>
name="org.jboss.jca.adapters.jdbc.extensions.oracle.OracleExceptionSorter"/>
<driver module="<mark>com.oracle</mark>" name="<mark>com.oracle</mark>"></driver>
<xa-datasource-< td=""></xa-datasource-<>
class> <mark>oracle.jdbc.xa.client.OracleXADataSource</mark>
<pre><datasource jndi-name="java:/jdbc/cipaeDeliveryNonXADs" jta="true" pool-<="" pre=""></datasource></pre>
<pre>name="eDeliveryOracleNonXADS" enabled="true" use-ccm="true"></pre>
<connection-url><mark>jdbc:oracle:thin:@localhost:1521:xe</mark></connection-url>
<pre><driver-class>oracle.jdbc.OracleDriver</driver-class></pre>
<pre><driver>com.oracle</driver></pre>
<security></security>
<user-name><pre>edelivery_username</pre></user-name>
<pre><password>edelivery_password</password></pre>
<validation></validation>
<valid-connection-checker class-<="" td=""></valid-connection-checker>
<pre>name="org.jboss.jca.adapters.jdbc.extensions.oracle.OracleValidConnectionChecker"/</pre>
>
<pre><background-validation>true</background-validation></pre>
<stale-connection-checker class-<="" td=""></stale-connection-checker>
<pre>name="org.jboss.jca.adapters.jdbc.extensions.oracle.OracleStaleConnectionChecker"/</pre>
>
<exception-sorter class-<="" td=""></exception-sorter>
<pre>name="org.jboss.jca.adapters.jdbc.extensions.oracle.OracleExceptionSorter"/></pre>

• Edit the configuration file *cef_edelivery_path*/domibus/conf/domibus/domibus.properties and configure the datasources as indicated below.

Remark:

Configure the database dialect as it is by default pre-configured for MySQL.

```
#EntityManagerFactory
domibus.entityManagerFactory.jpaProperty.hibernate.connection.driver_class=
oracle.jdbc.xa
.client.OracleXADataSource
domibus.entityManagerFactory.jpaProperty.hibernate.dialect=
org.hibernate.dialect.Oracle1
0gDialect
```

4. Configure your Keystore based on §5.1.2 – "Certificates".

- 5. Run the standalone server:
 - For Windows under *cef_edelivery_path***\domibus\bin**
 - o standalone.bat --server-config=standalone-full.xml
 - For Linux under *cef_edelivery_path/domibus/bin/*

```
standalone.sh --server-config=standalone-full.xml
```

 Display the Domibus home page on your browser: <u>http://localhost:8080/domibus-wildfly</u> (by default: User = *admin*; Password = **123456**)

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 – "Administration " for further information.

If you can access the page it means the deployment was successful.

Expected result:



4.4.2. Single Server Deployment

In this section we assume that WildFly is installed at the location cef_edelivery_path/domibus

For this step, you will have to use the following resources (see §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-wildfly-war.zip
- domibus-distribution-X.Y.Z-wildfly-configuration.zip
- Follow steps 2 (MySQL) or 3 (Oracle) from the §4.4.1 "Pre-Configured Single Server Deployment"
- Configure the environment variables under cef_edelivery_path/domibus/bin/standalone.conf:

```
JAVA_OPTS="-Xms128m -Xmx1024m
java.net.preferIPv4Stack=true"
JAVA_OPTS="$JAVA_OPTS -Ddomibus.config.location=$JBOSS_HOME/conf/domibus
```

- 3. Download and unzip **domibus-distribution-X.Y.Z-wildfly-configuration.zip** in the directory *cef_edelivery_path*/domibus/conf/domibus
- 4. Configure your Keystore based on §5.1.2 "Certificates".
- 5. Configure the JMS resources

Configure the JMS resources in the configuration file *cef_edelivery_path*/domibus/standalone/configuration/standalone-full.xml by adding the jmsconnection-factories and jms-queues.

```
<address-settings>
  <!--default for catch all-->
  <address-setting match="#">
      <dead-letter-address>jms.queue.DLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <max-size-bytes>10485760</max-size-bytes>
      <page-size-bytes>2097152</page-size-bytes>
      <message-counter-history-day-limit>10</message-counter-history-day-limit>
  </address-setting>
  <address-setting match="jms.queue.DomibusSendMessageQueue">
      <dead-letter-address>jms.gueue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.gueue.ExpiryQueue</expiry-address>
      <redelivery-delay>1000</redelivery-delay>
      <max-delivery-attempts>1</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusBusinessMessageOutQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusNotifyBackendJmsQueue">
      <dead-letter-address>jms.gueue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
```

```
<address-setting match="jms.queue.DomibusErrorNotifyConsumerQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusErrorNotifyProducerQueue">
      <dead-letter-address>jms.gueue.DomibusDLO</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
      <address-setting match="jms.queue.DomibusBusinessMessageInQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusPluginToBackendQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusNotifyBackendWebServiceQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusUnknownReceiverQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusNotifyBackendQueue">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>300000</redelivery-delay>
      <max-delivery-attempts>10</max-delivery-attempts>
  </address-setting>
  <address-setting match="jms.queue.DomibusClusterCommandTopic">
      <dead-letter-address>jms.queue.DomibusDLQ</dead-letter-address>
      <expiry-address>jms.queue.ExpiryQueue</expiry-address>
      <redelivery-delay>10000</redelivery-delay>
      <max-delivery-attempts>3</max-delivery-attempts>
  </address-setting>
</address-settings>
<subsystem xmlns="urn:jboss:domain:messaging:3.0">
   <hornetg-server>
      <jmx-management-enabled>true</jmx-management-enabled>
      <jms-connection-factories>
           <connection-factory name="edeliveryConnectionFactory">
              <connectors>
                 <connector-ref connector-name="in-vm"/>
              </connectors>
               <entries>
```

```
<entry name="java:/jms/ConnectionFactory"/>
         </entries>
          <compress-large-messages>false
          </compress-large-messages>
            <failover-on-initial-connection>false
            </failover-on-initial-connection>
             <use-global-pools>true</use-global-pools>
    </connection-factory>
</jms-connection-factories>
 <jms-destinations>
 <ims-queue name="DomibusBusinessMessageOutOueue">
  <entry name="java:/jms/domibus.backend.jms.outQueue"/>
  <entry name="java:/jms/queue/DomibusBusinessMessageOutQueue"/>
      <durable>true</durable>
 </jms-queue>
 <jms-queue name="DomibusNotifyBackendJmsQueue">
  <entry name="java:/jms/domibus.notification.jms"/>
  <entry name="java:/jms/queue/DomibusNotifyBackendJmsQueue"/>
  <durable>true</durable>
 </jms-queue>
 <jms-queue name="DomibusErrorNotifyConsumerQueue">
  <entry name="java:/jms/domibus.backend.jms.errorNotifyConsumer"/>
  <entry name="java:/jms/queue/DomibusErrorNotifyConsumerQueue"/>
      <durable>true</durable>
  </jms-queue>
  <jms-queue name="DomibusErrorNotifyProducerQueue">
   <entry name="java:/jms/domibus.backend.jms.errorNotifyProducer"/>
   <entry name="java:/jms/queue/DomibusErrorNotifyProducerQueue"/>
      <durable>true</durable>
  </jms-queue>
  <jms-queue name="DomibusBusinessMessageInQueue">
   <entry name="java:/jms/domibus.backend.jms.inQueue"/>
<entry name="java:/jms/queue/DomibusBusinessMessageInQueue"/>
      <durable>true</durable>
  </ims-aueue>
  <jms-queue name="DomibusPluginToBackendQueue">
   <entry name="java:/jms/domibus.backend.jms.replyQueue"/>
   <entry name="java:/jms/queue/DomibusPluginToBackendQueue"/>
      <durable>true</durable>
  </ims-aueue>
  <jms-queue name="DomibusSendMessageQueue">
   <entry name="java:/jms/domibus.internal.dispatch.queue"/>
   <entry name="java:/jms/queue/DomibusSendMessageQueue"/>
      <durable>true</durable>
  </jms-queue>
  <jms-queue name="DomibusNotifyBackendWebServiceQueue">
   <entry name="java:/jms/domibus.notification.webservice"/>
   <entry name="java:/jms/queue/DomibusNotifyBackendWebServiceQueue"/>
      <durable>true</durable>
  </ims-aueue>
  <ims-queue name="DomibusUnknownReceiverQueue">
   <entry name="java:/jms/domibus.internal.notification.unknown"/>
   <entry name="java:/jms/queue/DomibusUnknownReceiverQueue"/>
      <durable>true</durable>
  </jms-queue>
  <jms-queue name="DomibusNotifyBackendQueue">
   <entry name="java:/jms/domibus.internal.notification.queue"/>
   <entry name="java:/jms/queue/DomibusNotifyBackendQueue"/>
```

Remark:

Please note also the JMX management has to be enabled so the JMS resources can be monitored in the JMS Monitoring screen.

6. Configure the executor services

Configure the executor's services in the configuration file cef_edelivery_path/domibus/standalone/configuration/standalone-full.xml

```
<subsystem xmlns="urn:jboss:domain:ee:3.0">
   <concurrent>
       <managed-executor-services>
         <managed-executor-service name="domibusExecutorService" jndi-
name="java:jboss/ee/concurrency/executor/DomibusExecutorService" context-
service="default" hung-task-threshold="60000" core-threads="5" max-threads="25"
keepalive-time="5000"/>
      </managed-executor-services>
      <managed-executor-services>
         <managed-executor-service name="quartzExecutorService" jndi-
name="java:jboss/ee/concurrency/executor/QuartzExecutorService" context-
service="default" hung-task-threshold="0" long-running-tasks="true" core-
threads="5" max-threads="25" keepalive-time="5000"/>
      </managed-executor-services>
        </concurrent>
       <subsystem xmlns="urn:jboss:domain:ee:3.0">
```

7. Connect to the Admin Console of WildFly at http://localhost:9990/console

← → C 👬 🗋 localhost:9990/console/App.html#home				
	Authentication Required http://localhost:9990 requires a username and password. User Name: Password:	×		
	Log In Cancel			

8. Click on Deployments in the console menu then click on Add



9. Select Upload a new deployment then click Next

Wild Fly 9.0.2.Final		Messages: 0 🏻 🏝 manager 🗸
Home Deployments Configuration	Runtime Access Control Patching	
Deployment Add		
۹ [Deployment	
A domibus-wildfly.war	deployment represents anything that can be deployed (e.g. an application such as EJB-JAR, WAR, EAR, any ind of standard archive such as RAR or JBoss-specific deployment) into a server.	
C	COM Add Deployment **	
	Please Choose	
	Upload a new deployment	
	Create an unmanaged deployment	
	Cancel (K Back Next >>	

10. Browse to the location of the **domibus-distribution-X.Y.Z-wildfly.war** file, select it and click **Next**



11. The deployment is successful when the name of the .war file appears in the Deployment column.

Expected Result:

	Wild	y 9.0.2.Final							Messages: 2	∎ manager ∨
	Home	Deployments	Configuratio	on Runtime	Access Control	Patching				
	Deploym	ent	Add							
	۹			Deploym	ent					
	domibus-d	istribution-X-V.7 - wil	dflywar	A deployment re kind of standard	presents anything that archive such as BAB o	can be deployed (e.g. IBoss-specific deploye	an application such as l	EJB-JAR, WAR, EAR, any		
	uumuus-uisunuutuin-X.1.2 -wiidiny.wat									
				Common C	onfiguration Ta	sks				
l				Deploy and man	age applications and o	her EE resources.				

4.4.3. Clustered Deployment

For this step, you will have to use the following resources (see §3.1 – "Binaries repository" for the download location):

- domibus-distribution-X.Y.Z-wildfly-configuration.zip
- domibus-distribution-X.Y.Z-wildfly-war.zip

In this section we assume that the setup of Wildfly 9 in domain mode has already been done and that the cluster has been enabled as described in the official documentation. For more details on how to perform an installation of Wildfly 9 in domain mode please refer to the official documentation cf.[REF4].



Figure 3 - Diagram representing the Deployment of Domibus in a Cluster on WildFly

In order to install Domibus in a WildFly cluster please follow the steps below:

- 1. Download and unzip **domibus-distribution-X.Y.Z-wildfly-configuration.zip** in a shared location that is accessible by all the nodes from the cluster. We will refer to this directory as *cef_shared_edelivery_path*/Domibus
- 2. Follow steps **2** (MySQL) or **3** (Oracle) from the §4.4.1 "Pre-Configured Single Server Deployment"

Remarks:

- This step needs to be performed on all the nodes from the cluster
- In the following 2 steps we will edit the profile **full-ha** from the configuration file **domain/configuration/domain.xml** located in the master node
- 3. Configure the JMS queues and topics as indicated in §4.4.2 point 5 "Configure the JMS resources"
- 4. Configure the database dialect as indicated in §4.4.1 point 0 "*Edit the configuration file cef_edelivery_path/domibus/conf/domibus/domibus.properties*"

5. Configure the environment variables in the file bin/domain.conf

Remark:

bin/domain.conf is located in each WildFly node. The environment variable setting needs to be performed in every node from the cluster.

..... JAVA_OPTS="-Xms128m -Xmx1024m -java.net.preferIPv4Stack=true" JAVA_OPTS="\$JAVA_OPTS -Ddomibus.config.location=cef_shared_edelivery_path/conf/domibus

 Deploy the domibus-distribution-X.Y.Z-wildfly.war to the cluster. We will use the Wildfly Administration console for performing the deployment. We will deploy the application on the other-server-group cluster which is configured step by step in the official documentation cf.[REF4].



Wild Fly 9.0.2.Final			Messages: 5 🛔 📥 admin 🗸
Home Deployments Configura	ation Runtime Access Control	Patching	
Browse By	Server Group (2)	Deployment (0)	
Content Repository	۹ 📃	۹ 🗌	Server Group
Unassigned Content >	main-server-group >	No Items!	
Server Groups >	other-server-group		
	Add deployment to server group of Verify Upload Name: domibus-MSH Runtime Name: domibus-MSH Enable:	other-server-group' X.Y.Zwildfly.war X.Y.Zwildfly.war Cancel « Back	Need Help?

5. DOMIBUS CONFIGURATION

Domibus exposes the Message Service Handler endpoint as **../services/msh**. Only this endpoint has to be to be reachable by the other AS4 Access Points and it is typically exposed on the internet.

If the the Default WS Plugin(§6.1.2 – "WS Plugin") is deployed, Domibus exposes the Default WS Plugin endpoint as **../services/backend**. This endpoint should ONLY be exposed to the backend client(s) within the trusted zone and it should not be exposed to the internet.



Figure 4 - Message Service Handler diagram

5.1. Security Configuration

5.1.1. Security Policies

The WS-Security policy used by Domibus when exchanging messages can be specified in the PMode configuration file(§6.3 – "PMode Configuration"). The recommended security policy is **eSensPolicy.v2.0.xml and it** can be found under *cef_edelivery_path/domibus/conf/domibus/policies/eSensPolicy.v2.0.xml*.

5.1.2. <u>Certificates</u>

The certificates that are used for signing and encrypting the messages when communicating with the other Access Points can be configured in the property file located under

cef_edelivery_path/domibus/conf/domibus/*domibus.properties.*

By default Domibus is pre-configured to use self-signed certificates. Please note that self-signed certificates should be used only for testing purposes and are not intended for for production use.

In order to configure Domibus to use custom certificates the following properties need to be modified:



- 1. Create, if not present, a folder cef_edelivery_path/domibus/conf/domibus/keystores
- Get your key pair from an external provider. (Self-signed certificates should only be used for testing purposes, not production). If you are interested in using the CEF Public Key Infrastructure Solution, cf.[REF5].
- 3. Create, if not present, the public and private keys containers (e.g. *truststore.jks and keystore.jks*)
- 4. Import your private key into your keystore

Remarks:

- Your private key and your keystore should always stay secret. Please never share them.
- The keystore alias has to be the same as the party ID defined in the §6.3 "PMode Configuration". It is strongly recommended to put your key pair (private and public key) and the public key of the other participants you trust in two separate containers.

5.2. Domibus Properties

The following properties defined in the property file *cef_edelivery_path/conf/domibus/domibus.properties* can be used to configure Domibus:

Configuration Property	Default value	Purpose
domibus.msh.messageid.suffix	domibus.eu	This Property is used to generate the random Message id with a fixed suffix which is set by default to "domibus.eu". The resulting format will be UUID@\$domibus.msh.messageid.suffix. This property is mandatory.
domibus.msh.retry.cron	0/5 * * * *	It is the retry cron job to send the messages. It is set by default to every 5 seconds. This property is mandatory
domibus.dispatch.ebms.error.unrecoverable.retry	true	This property should be set to true if Domibus needs to retry sending the failed messages. This property is mandatory
domibus.smlzone	acc.edelivery.tech.ec.europa.eu	Set the SMLZone if Domibus needs to be used under Dynamic discovery model. This property is only mandatory if an SML is used.
domibus.dynamic.discovery.client.specification	OASIS	The property specifies the dynamic discovery client to be used for the dynamic process. Possible values: OASIS and PEPPOL.
domibus.dynamic.discovery.peppolclient.mode	TEST	This information is passed to the PEPPOL client that requires to know if the usage is in PRODUCTION or TEST mode.
domibus.backend.jmsInQueue	domibus.backend.jms.inQueue	This queue is the entry point for messages to be sent by the sending MSH. This property is only mandatory if the JMS plugin is used.
domibus.deployment.clustered	false	If true the quartz scheduler jobs are clustered. This property is mandatory, it should be set to true if the deployment of Domibus is done in a cluster.
messageFactoryClass		The factory for creating SOAPMessage objects Default values - Tomcat/WebLogic: com.sun.xml.internal.messaging.saaj.soap.ver1_2.SOA PMessageFactory1_2Impl - WildFly: com.sun.xml.messaging.saaj.soap.ver1_2.SOAPMessag eFactory1_2Impl
domibus.certificate.validation.enabled	true	If activated Domibus will verify before sending a User Message if the receiver's certificate is valid and not revoked. If the receiver's certificate is not valid or it has been revoked Domibus will not send the message and it will mark it as SEND_FAILURE
domibus.dispatcher.allowChunking	false	Allows chunking when sending messages to other Access Points

domibus.dispatcher.concurency	3-3	Specify concurrency limits via a "lower-upper" String, e.g. "5-10", or a simple upper limit String, e.g. "10" (the lower limit will be 1 in this case) #when sending messages to other Access Points
domibus.msh.pull.cron	0/20 * * * * ?	Cron expression used for configuring the message puller scheduling.
domibus.retentionWorker.cronExpression	0/60 * * * * ?	Cron expression used for configuring the retention worker scheduling. The retention worker deletes the expired messages(downloaded and not-downloaded).
message.retention.downloaded.max.delete	50	This property is used to tweak the maximum downloaded messages to be deleted by the retention worker
message.retention.not_downloaded.max.delete	50	This property is used to tweak the maximum not- downloaded messages to be deleted by the retention worker
		It is possible to configure Domibus to save the message payloads on the file system instead of the database. This setting is recommended when exchanging payloads bigger than 30MB.
		In order to enable the file system storage please add the following property:
domibus.attachment.storage.location	-	domibus.attachment.storage.location= your_file_system_location
		where <i>your_file_system_location</i> is the location on the file system where the payloads will be saved.
		<u>Remark</u> : In a cluster configuration the file system storage needs to be accessible by all the nodes from the cluster.
domibus.taskExecutor.threadCount	50	Tomcat only: customize the task executor threads count
domibus.jmx.user	jmsManager	WebLogic specific: The user that will be used to access the queues via JMX
domibus.jmx.password	jmsManager1	WebLogic specific: The associated password of the configured domibus.jmx.user
domibus.sendMessage.messageIdPattern	^[\x20-\x7E]*\$	When an initiator backend client submits messages to Dombus for transmission, with the message id field populated, then the message id should be RFC2822 compliant. The pattern specified here ensures this validation.
		This field is optional. In case the existing client does not match this message id pattern during submission, then this property can be omitted to skip the validation.

	1	
		This property specifies the maximum number of
		messages that would be served when the
		'listPendingMessages' operation is invoked. Setting
		this property is expected to avoid timeouts due to
domibus.listPendingMessages.maxCount	500	nuge resultsets being served.
		A value of 0 would return all the pending messages.
		This property is optional. Omitting this property would
		default the resultset size to 500
		For connection between the access points $-C2 \& C3$
		Specifies the amount of time in milliseconds that the
domibus.dispatcher.connectionTimeout	240000	consumer will attempt to establish a connection
		before it times out. 0 is infinite.
domibus.dispatcher.receiveTimeout	240000	For connection between the access points – C2 & C3.
		Specifies the amount of time, in milliseconds, that the
		consumer will wait for a response before it times out.
		0 is infinite.
domibus.senderparty.trust.verification	false	An extra security validation that requires that the
		party name reflected in the alias of the sender public
		key should also be contained in the subject of the
		certificate
domibus.msh.retry.tolerance	10800000	Timeout tolerance for retry messages (in miliseconds).
		Scheduled retries that, due to any reason, were not
		performed within this period will be timeout
domibus sendMessage failure delete navload	false	Whether to delete the message payload on send
aonnousischantessägenanarendereteipäyröää	Table	failure Defaults to false (the admin could put the
		message back in the send queue)
domibus.auth.unsecureLoginAllowed	true	The property specifies if authentication is required or
		not.
domibus.pmode.dao.implementation	Cashing DN (ada Duayidan	Internal configuration provider for managing the
	CachingPiviodeProvider	PMode access
	application/ynd.etsi.asic-	The list of mime-types that will not be compressed (in
compressionBlacklist	s+zip.image/ipeg	outgoing messages) even if compression is turned on
		for the given message.
	¢(dominus config location)/kov	
domibus.security.keystore.location	storos/gatoway, koystoro iks	The location of the keystore
	stores/gateway_keystore.jks	
domibus.security.keystore.type	iks	The type of the used keystore
	,	
dominus security keystore password	test123	The password used to load the keystore
dombusiseeungineystoreipussword		The passivora asca to load the Reystore
al and the second the descent state of the	blue en	The elize from the bount of the state of the
domibus.security.key.private.alias	blue_gw	The allas from the Reystore of the private Rey
domibus.security.key.private.password	test123	The private key password
	¢/domibus config location)//	
domibus.security.truststore.location	storos/gatoway, truststoro ike	The location of the truststore
	stores/gateway_truststore.jks	

domibus.security.truststore.type	jks	The type of the used keystore
domibus.security.truststore.password	test123	The password used to load the trustStore
domibus.entityManagerFactory.packagesToScan	eu.domibus	Packages to be scanned(comma separated) by the EntityManagerFactory
domibus.entityManagerFactory.jpaProperty.hibern ate.connection.driver_class		The JDBC driver class used for connecting to the database
domibus.entityManagerFactory.jpaProperty.hibern ate.dialect		This property makes Hibernate generate the appropriate SQL for the chosen database
domibus.entityManagerFactory.jpaProperty.hibern ate.format_sql	true	Pretty print the SQL in the log and console.
domibus.entityManagerFactory.jpaProperty.transa ction.factory_class		The classname of a TransactionFactory to use with Hibernate Transaction API
domibus.entityManagerFactory.jpaProperty.hibern ate.transaction.manager_lookup_class		The classname of the TransactionManagerLookup
com.atomikos.icatch.output_dir	\${domibus.work.location:\${do mibus.config.location}}/work/tr ansactions	Tomcat only: Specifies the directory in which to store the debug log files for Atomikos
com.atomikos.icatch.log_base_dir	\${domibus.work.location:\${do mibus.config.location}}/work/tr ansactions/log	Tomcat only: Specifies the directory in which the log files should be stored
com.atomikos.icatch.default_jta_timeout	60000	Tomcat only: The default timeout for JTA transactions
com.atomikos.maxPoolSize	20	Tomcat only: The max pool size of the JMS connection factory
activeMQ.broker.host	localhost	Tomcat only: The host of the JMS broker
activeMQ.brokerName	localhost	Tomcat only: The name of the JMS broker
activeMQ.embedded.configurationFile	file:///\${domibus.config.locatio n}/internal/activemq.xml	Tomcat only: The configuration file of the embedded ActiveMQ broker. In case an external broker is used this property is not needed and it should be deleted from the property file
activeMQ.JMXURL	service:jmx:rmi://\${activeMQ.b roker.host}:\${activeMQ.rmiServ erPort}/jndi/rmi://\${activeMQ. broker.host}:\${activeMQ.conne ctorPort}/jmxrmi	Tomcat only: The service URL of the MBeanServer
activeMQ.connectorPort	1199	Tomcat only: The port that the JMX connector will use for connecting to ActiveMQ
activeMQ.rmiServerPort	1200	Tomcat only: The RMI server port

activeMQ.transportConnector.uri	tcp://\${activeMQ.broker.host}: 61616	Tomcat only: The connection URI that the clients can use to connect to an ActiveMQ broker using a TCP socket
active MQ. username	domibus	Tomcat only: The username that is allowed to connect to the ActiveMQ broker
activeMQ.password	changeit	Tomcat only: The password of the username defined in the activeMQ.username property
domibus.datasource.xa.xaDataSourceClassName	com.mysql.jdbc.jdbc2.optional. MysqlXADataSource	Tomcat only(XA datasource): The fully qualified underlying XADataSource class name
domibus.datasource.xa.testQuery	select 1	Tomcat only(XA datasource): Sets the SQL query or statement used to validate a connection before returning it
domibus.datasource.xa.minPoolSize	1	Tomcat only(XA datasource): Sets the minimum pool size. The amount of pooled connections will not go below this value. The pool will open this amount of connections during initialization
domibus.datasource.xa.maxPoolSize	100	Tomcat only(XA datasource): Sets the maximum pool size. The amount of pooled connections will not go above this value
domibus.datasource.xa.property.serverName	localhost	Tomcat only(XA datasource): The host name or the IP address of the database server
domibus.datasource.xa.property.port	3306	Tomcat only(XA datasource): The port number of the database server
domibus.datasource.xa.property.user	edelivery	Tomcat only(XA datasource): A user who has access to the Domibus database schema
domibus.datasource.xa.property.password	edelivery	Tomcat only(XA datasource): The password of the user defined in the domibus.datasource.xa.property.user property
domibus.datasource.xa.property.url	jdbc:mysql://\${domibus.dataso urce.xa.property.serverName}: \${domibus.datasource.xa.prope rty.port}/domibus?pinGlobalTx ToPhysicalConnection=true	Tomcat only(XA datasource): The JDBC URL connection. It re-uses the properties for the user and password defined above.
domibus.datasource.driverClassName	com.mysql.jdbc.Driver	Tomcat only(Non-XA datasource): the JDBC driver class name
domibus.datasource.url	jdbc:mysql://localhost:3306/do mibus?useSSL=false	Tomcat only(Non-XA datasource): The JDBC URL connection
domibus.datasource.user	edelivery	Tomcat only(Non-XA datasource): A user who has access to the Domibus database schema
domibus.datasource.password	edelivery	Tomcat only(Non-XA datasource): The password of the user defined in the domibus.datasource.user property

Configuration Property	Default value	Purpose
Proxy Settings		In case your Access Point has to use a proxy server you can configure it with these properties.
domibus.proxy.enabled	false	true/false depending on whether you need to use proxy or not.
domibus.proxy.http.host	-	Host name of the proxy server
domibus.proxy.http.port	-	Port of Proxy server
domibus.proxy.user	-	Username for authentication on the proxy server
domibus.proxy.password	-	Password
domibus.proxy.nonProxyHosts	-	Indicates the hosts that should be accessed without going through the proxy.

Table 1 - Domibus Properties

6. PLUGIN MANAGEMENT

This section describes the different types of plugins and their registration process.

6.1. Default Plugins

Domibus comes with two default plugins. The two Interface Control Documents (ICD) describe these two plugins (JMS and WS) cf.[REF6].

6.1.1. JMS Plugin

For the JMS plugin, you will have to use the following resource (see section 3.1 Binaries repository for the download location):

• domibus-distribution-X.Y.Z-default-jms-plugin.zip

6.1.2. <u>WS Plugin</u>

For the WS plugin, you will have to use the following resource (see section 3.1 Binaries repository for the download location):

• domibus-distribution-X.Y.Z-default-ws-plugin.zip

6.1.2.1. Domibus authentication

The default web service plugin includes an example of how to implement authentication and authorization. By default this feature is disabled to insure backwards compatibility with older versions of Domibus.

The documentation below answers the question "*how to enable and use the authentication in the WS plugin*?"

The default WS plugin supports:

- Basic Authentication
- X509Certificates Authentication
- Blue Coat Authentication

Remark:

Blue Coat is the name of the reverse proxy at the commission. It forwards the request in HTTP with the certificate details inside the request ("Client-Cert" header key).

When more than one authentication method is used, the Basic Authentication takes precedence on both http and https.

When no Basic Authentication is provided, X509 Certificates are expected on https requests. When no Basic Authentication is provided, Blue Coat certificates are expected on http requests.

6.1.2.2. Domibus Authorization

For convenience reasons, the WS plugin uses exactly the same database as configured for Domibus core to store the users/passwords and certificate ids. To learn more about authorization (and authentication), read the plugin cookbook cf.[REF6].

There are two default users already inserted in the database (make sure you already ran the migration scripts),

- *admin* and *user* both with **123456** as password.
- admin has the role ROLE_ADMIN and user has the role ROLE_USER

Roles:

ROLE_ADMIN has the right to call:

- submitMessage with any value for originalSender property
- retrieveMessage (any message among messages notified to this plugin)
- listPendingMessages will list all pending messages for this plugin
- getStatus and getMessageErrors

ROLE_USER has the right to call:

- submitMessage with originalSender equal to the originalUser
- retrieveMessage, only if finalRecipient equals the originalUser
- listPendingMessages, only messages with finalRecipient equal to the origi-nalUser

6.1.2.3. Enable the authentication in Domibus

To enable the authentication at Domibus level the following steps must be configured:

 In conf/domibus/domibus.properties and set the property "domibus.auth.unsecureLoginAllowed" to false.

domibus.auth.unsecureLoginAllowed=false

2. The application server must be configured to allow https requests and pass the authentication credentials to Domibus.

6.2. Custom Plugin

Users can develop their own plugins. Please refer to the Plugin Cookbook cf.[REF6] for more details.

6.2.1. Plugin registration

Remark:

Please refer to section 6.4.1.3 - "Message Filtering" *for the routing of the specific plugin after registering the plugin on your specific Application Server.*

6.2.1.1. Tomcat

Remark:

CATALINA_HOME is the folder where the Tomcat is installed.

- 1. Stop Tomcat server
- 2. Copy the custom plugin jar file to the plugins folder *CATALINA_HOME*/conf/domibus/plugins/lib
- 3. Copy the custom plugin XML configuration file to *CATALINA_HOME*/conf/domibus/plugins/config
- 4. Start Tomcat server

6.2.1.2. WebLogic

Remark:

DOMAIN_HOME is the folder corresponding to the WebLogic domain.

- 1. Stop the WebLogic server
- Copy the custom plugin jar file to the plugins folder DOMAIN_HOME/conf/domibus/plugins/lib
- 3. Copy the custom plugin XML configuration file to DOMAIN_HOME/conf/domibus/plugins/config
- 4. Start the WebLogic server

6.2.1.3. WildFly

In order to install a custom plugin please follow the steps:

- 1. Stop the WildFly server
- 2. Copy the custom plugin jar file to the plugins folder *cef_edelivery_path* /conf/domibus/plugins/lib
- 3. Copy the custom plugin XML configuration file to *cef_edelivery_path* /conf/domibus/plugins/config
- 4. Start the WildFly server

6.3. PMode Configuration

Processing Modes (PModes) are used to configure Access Points. The PMode parameters are loaded into the Access Point via an XML file.

The following features described in the PMode file are, Security, Reliability, Transport, Business Collaborations, Error Reporting, Message Exchange Patterns (MEPs) and Message Partition Channels (MPCs).

As different messages maybe subject to various types of processing or, as different business domains may have several requirements, Access Points commonly support several PModes. Some PMode parameters are mandatory, others are optional. For more information please refer to the <u>Access</u> <u>Point Component Offering Document</u>.

6.3.1. Configuration

In Domibus, PMode are XML files, you can create one or edit the existing PMode files: cef_edelivery_path/domibus/conf/pmodes/domibus-gw-sample-pmode-party_id_name1.xml and cef_edelivery_path/domibus/conf/pmodes/domibus-gw-sample-pmode-party_id_name2.xml, by replacing party_id_name1 with your party name and party_id_name2 with your correspondent's party name in the file's names and in the files themselves as shown below. The partyID must match the alias of the certificate in the keystore and the endpoint must be the external access link to your own instance.

Remark:

This step could be managed by a PMode Configuration Manager known by your Business Owner.

Figure 5 - PMode view

6.3.2. Adding a new participant

If a new participant's Access Point is joining your network, you need to edit your PMode accordingly and to re-upload it like mentioned in §6.3.5 – "Upload new Configuration".

• Add a "new_party" element

• Add your "new_party_name" as initiator

The party with the role of initiator will be the sender of the messages

```
<initiatorParties>
    ...
    ...
    <initiatorParty name="new_party_name"/>
    </initiatorParties>
```

Add your "new_party_name" as responder

The party with the role of responder will be the receiver of the messages

```
<responderParties>
...
<responderParty name="new_party_name"/>
</responderParties>
```

6.3.3. Sample PMode file

Processing modes (PModes) describe how messages are exchanged between AS4 partners (in this case *Access Points blue_gw and red_gw*). These files contain the identifiers of each AS4 Access Point (identified as *parties* in the PMode file below).

Sender Identifier and Receiver Identifier represent the organizations that send and receive the business documents. They are both used in the authorization process (PMode). Therefore, adding, modifying or deleting a participant implies modifying the corresponding PMode files.

Here is an example of the content of a PMode XML file:

Remark:

In this setup we have allowed each party (blue_gw or red_gw) to initiate the process. If only blue_gw is supposed to send messages, we need to put only blue_gw in <initiatorParties> and red_gw in <responderParties>.

```
<businessProcesses>
             <roles>
                     <role name="defaultInitiatorRole"
                                  value="http://docs.oasis-open.org/ebxml-
msg/ebms/v3.0/ns/core/200704/initiator"/>
                    <role name="defaultResponderRole"
                                  value="http://docs.oasis-open.org/ebxml-
msg/ebms/v3.0/ns/core/200704/responder"/>
             </roles>
             <parties>
                     <partyIdTypes>
                           <partyIdType name="partyTypeUrn"</pre>
value="urn:oasis:names:tc:ebcore:partyid-type:unregistered"/>
                    </partyIdTypes>
                    <party name="red_gw"
endpoint="http://<red_hostname>:8080/domibus/services/msh"
                                  allowChunking="false">
                           <identifier partyId="domibus-red"
partyIdType="partyTypeUrn"/>
                     </party>
                    <party name="blue_gw"
       endpoint="http://<blue hostname>:8080/domibus/services/msh"
                                  allowChunking="false">
                           <identifier partyId="domibus-blue"
partyIdType="partyTypeUrn"/>
                    </party>
             </parties>
             <meps>
                    <mep name="oneway" value="http://docs.oasis-open.org/ebxml-</pre>
msg/ebms/v3.0/ns/core/200704/oneWay"/>
                     <mep name="twoway" value="http://docs.oasis-open.org/ebxml-</pre>
msg/ebms/v3.0/ns/core/200704/twoWay"/>
                     <binding name="push" value="http://docs.oasis-open.org/ebxml-</pre>
msg/ebms/v3.0/ns/core/200704/push"/>
                    <binding name="pushAndPush" value="http://docs.oasis-</pre>
open.org/ebxml-msg/ebms/v3.0/ns/core/200704/push-and-push"/>
             </meps>
             <properties>
                     <property name="originalSenderProperty"</pre>
                                  key="originalSender"
                                  datatype="string"
                                  required="true"/>
                     <property name="finalRecipientProperty"</pre>
                                  key="finalRecipient"
                                  datatype="string"
                                  required="true"/>
                    <propertySet name="ecodexPropertySet"></pro>
                           <propertyRef property="finalRecipientProperty"/>
                           <propertyRef property="originalSenderProperty"/>
                    </propertySet>
             </properties>
             <payloadProfiles>
                     <payload name="businessContentPayload"</pre>
                                  cid="cid:message"
                                  required="true"
                                  mimeType="text/xml"/>
                     <payload name="businessContentAttachment"</pre>
                                  cid="cid:attachment"
```

required="false" mimeType="application/octet-stream"/> <payloadProfile name="MessageProfile"</p> maxSize="40894464"> <attachment name="businessContentPayload"/> <attachment name="businessContentAttachment"/> </payloadProfile> </payloadProfiles> <securities> <security name="eDeliveryPolicy"</pre> policy="eDeliveryPolicy.xml" signatureMethod="RSA_SHA256" /> <security name="noSigNoEnc"</pre> policy="doNothingPolicy.xml" signatureMethod="RSA_SHA256"/> <security name="eSensPolicy" policy="eSensPolicy.v2.0.xml" signatureMethod="RSA SHA256"/> </securities> <errorHandlings> <errorHandling name="demoErrorHandling"</pre> errorAsResponse="true" businessErrorNotifyProducer="false" businessErrorNotifyConsumer="false" deliveryFailureNotifyProducer="false"/> </errorHandlings> <agreements> <agreement name="agreement1" value="A1" type=""/> <agreement name="agreement2" value="A2" type=""/> <agreement name="agreement3" value="A3" type=""/> </agreements> <services> <service name="testService1" value="bdx:noprocess" type="tc1"/> </services> <actions> <action name="tc1Action" value="TC1Leg1"/> <action name="tc2Action" value="TC2Leg1"/> </actions> <as4> <receptionAwareness name="receptionAwareness" retry="12;4;CONSTANT" duplicateDetection="true"/> <reliability name="AS4Reliability" nonRepudiation="true" replyPattern="response"/> <reliability name="noReliability" nonRepudiation="false" replyPattern="response"/> $\langle as4 \rangle$ <legConfigurations> <legConfiguration name="pushTestcase1tc1Action" service="testService1" action="tc1Action" defaultMpc="defaultMpc" reliability="AS4Reliability" security="eDeliveryPolicy" receptionAwareness="receptionAwareness" propertySet="ecodexPropertySet" payloadProfile="MessageProfile" errorHandling="demoErrorHandling" compressPayloads="true"/> <legConfiguration name="pushTestcase1tc2Action" service="testService1"

	action="tc2Action"
	<pre>defaultMpc="defaultMpc"</pre>
	reliability="AS4Reliability"
	security="eSensPolicy"
recentionAwareness="recentionAwareness"	seeding = esclisionery
	nnonentySet-"ecodexPropertySet"
	propertyset = ecodexpropertyset
en en la califación de la construcción de la colla	payroadProfile= messageProfile
errorHandling= demoErrorHandling	
	compressPayloads="true"/>
<process <="" name="tc1Process" td=""><td></td></process>	
agreement=""	
mep="oneway"	
binding="push"	
<pre>initiatorRole="defaultInitiatorRole"</pre>	
<pre>responderRole="defaultResponderRole"></pre>	
<pre><initiatorparties></initiatorparties></pre>	
<pre><initiatorparty name="blue gw"></initiatorparty></pre>	
<pre><initiatorparty name="red gw"></initiatorparty></pre>	
<pre></pre>	
<pre><resnonderparties></resnonderparties></pre>	
<pre>cresponderPanty_name="hlue_gw"/></pre>	
(respondentianty name="bide_gw"/>	
(nochondonDontion)	
<pre></pre>	
<iegs></iegs>	
<leg ,<="" name="pushiestcaseltclAction" td=""><td>/></td></leg>	/>
<leg ,<="" name="pushlestcaseltc2Action" td=""><td>/></td></leg>	/>

6.3.4. Domibus PMode configuration to ebMS3 PMode Mapping

The following table provides additional information concerning the Domibus PMode configuration files.

	EDIVISS SPECIFICATION	Description
_	[ebMS3CORE] [AS4-	
	Profile]	
1PCs	-	Container which defines the
		different MPCs (Message Partition
		Channels).
1PC	PMode[1].BusinessInfo.MPC:	Message Partition Channel allows
	The value of this parameter	the partition of the flow of
	is the identifier of the MPC	messages from a <i>Sending MSH</i> to a
	(Message Partition Channel)	Receiving MSH into several flows,
	to which the message is	each of which is controlled
	assigned. It maps to the	separately. An MPC also allows
	attribute Messaging /	merging flows from several Sending
	UserMessage	MSHs into a unique flow that will
		be treated as such by a <i>Receiving</i>
		MSH.
		The value of this parameter is the
		identifier of the MPC to which the
		message is assigned.
1essage Retention Downloaded	-	Retention interval for messages
C		already delivered to the backend.
1essageRetentionUnDownloaded	-	Retention interval for messages not
		yet delivered to the backend.
arties	-	Container which defines the
		different PartyIdTypes, Party and
		Endpoint.
artyIdTypes	maps to the attribute	Message Unit bundling happens
	Messaging/UserMessage/	when the Messaging element
	PartyInfo	contains multiple child elements or
		Units (either User Message Units or
		Signal Message Units).
arty ID	maps to the element	The ebCore Party ID type can
	Wessaging/UserMessage/	simply be used as an identifier
	PartyInfo	format and therefore as a
		convention for values to be used in
		configuration and – as such – does
		house require any specific solution
IPCs IPC IPC IessageRetentionDownloaded IessageRetentionUnDownloaded IessageRetentionUnDownloaded arties artyIdTypes	Profile] - PMode[1].BusinessInfo.MPC: The value of this parameter is the identifier of the MPC (Message Partition Channel) to which the message is assigned. It maps to the attribute Messaging / UserMessage maps to the attribute Messaging/UserMessage/ PartyInfo maps to the element Messaging/UserMessage/ PartyInfo	Container which defines the different MPCs (Message Partitic Channels). Message Partition Channel allow the partition of the flow of messages from a <i>Sending MSH</i> to <i>Receiving MSH</i> into several flows each of which is controlled separately. An MPC also allows merging flows from several <i>Send MSHs</i> into a unique flow that will be treated as such by a <i>Receiving MSH</i> . The value of this parameter is the identifier of the MPC to which the message is assigned. Retention interval for messages already delivered to the backend. Container which defines the different PartyldTypes, Party and Endpoint. Message Unit bundling happens when the Messaging element contains multiple child elements Units (either User Message Units Signal Message Units). The ebCore Party ID type can simply be used as an identifier format and therefore as a convention for values to be used configuration and – as such – do not require any specific solution building block.

Endpoint	maps to PMode[1].Protocol.Address	The endpoint is a party attribute that contains the link to the MSH. The value of this parameter represents the address (endpoint URL) of the <i>Receiver MSH</i> (or <i>Receiver Party</i>) to which Messages under this PMode leg are to be sent. Note that a URL generally determines the transport protocol (e.g. if the endpoint is an email address, then the transport protocol must be SMTP; if the address scheme is "http", then the transport protocol must be HTTP).
AS4	-	Container
Reliability [@Nonrepudiation] [@ReplyPattern]	Nonrepudiation maps to PMode[1].Security.SendRec eipt.NonRepudiation ReplyPattern maps to PMode[1].Security.SendRec eipt.ReplyPattern	PMode[1].Security.SendReceipt.No nRepudiation : value = 'true' (to be used for non-repudiation of receipt), value = 'false' (to be used simply for reception awareness). PMode[1].Security.SendReceipt.Re plyPattern: value = 'Response' (sending receipts on the HTTP response or back-channel). PMode[1].Security.SendReceipt.Re plyPattern: value = 'Callback' (sending receipts use a separate connection.)
ReceptionAwareness	retryTimeout maps to	These parameters are stored in a
[@retryTimeout] [@retryCount] [@strategy] [@duplicateDetection]	PMode[1].ReceptionAwaren ess.Retry=true PMode[1].ReceptionAwaren ess.Retry.Parameters retryCount maps to PMode[1].ReceptionAwaren ess.Retry.Parameters strategy maps to PMode[1].ReceptionAwaren ess.Retry.Parameters duplicateDetection maps to PMode[1].ReceptionAwaren ess.DuplicateDetection	 composite string. retryTimeout defines timeout in seconds. retryCount is the total number of retries. strategy defines the frequency of retries. The only strategy available as of now is CONSTANT. duplicateDetection allows to check duplicates when receiving twice the same message. The only duplicateDetection available as of now is TRUE.
Securities	-	Container
Security	-	Container
Policy	PMode[1].Security.* NOT including PMode[1].Security.X509.Sign ature.Algorithm	The parameter in the pconf file defines the name of a WS- SecurityPolicy file.
SignatureMethod	PMode[1].Security.X509.Sign ature.Algorithm	This parameter is not supported by WS-SecurityPolicy and therefore it is defined separately.
BusinessProcessConfiguration	-	Container

Agroomonto	mans to ob: Mossaging/	This OPTIONAL alamant assure
Agreements	haps to ep: wessaging/	This OPTIONAL Element occurs
	Useriviessage/	zero times or once. The
	CollaborationInfo/	AgreementRef element is a string
	AgreementRef	that identifies the entity or artifact
		governing the exchange of
		messages between the parties.
Actions	-	Container
Action	maps to Messaging/	This REQUIRED element occurs
	UserMessage/	once. The element is a string
	CollaborationInfo/Action	identifying an operation or an
		activity within a Service that may
		support several of these
Services	-	Container
ServiceTypes Type	maps to Messaging/	This REQUIRED element occurs
	UserMessage/	once. It is a string identifying the
	CollaborationInfo/	service that acts on the message
	Service[@type]	and it is specified by the designer
		of the service.
MEP [@Legs]	-	An ebMS MEP defines a typical
		choreography of ebMS User
		Messages which are all related
		through the use of the referencing
		feature (RefToMessageId). Each
		message of an MEP Access Point
		refers to a previous message of the
		same Access Point, unless it is the
		first one to occur. Messages are
		associated with a label (e.g.
		request, ren/v) that precisely
		identifies their direction between
		the parties involved and their role
		in the choreography.
Bindings	-	Container
Binding	-	The previous definition of ebMS
		MEP is guite abstract and ignores
		any binding consideration to the
		transport protocol. This is
		intentional, so that application
		level MEPs can be mapped to ebMS
		MEPs independently from the
		transport protocol to be used
Boles	-	Container
10103		container

Role	maps to	The required role element occurs
	PMode.Initiator.Role or	once, and identifies the authorized
	PMode.Responder.Role	role (fromAuthorizedRole or
	depending on where this is	toAuthorizedRole) of the Party
	used. In ebMS3 message this	sending the message (when
	defines the content of the	present as a child of the From
	following element:	element), or receiving the message
		(when present as a child of the <i>To</i>
	 For Initiator: 	element). The value of the role
	Messaging/UserMessage/P	element is a non-empty string, with
	artyInfo/From/Role	a default value of http://docs.oasis-
	• For Responder:	open.org/ebxml-
	Messaging/UserMessage/P	msg/ebms/v3.0/ns/core/200704/d
	artyInfo/To/Role	efaultRole
		Other possible values are subject to
		partner agreement.
Processes	-	Container
Payload Profiles	-	Container
Pavloads	-	Container
Payload	maps to	This parameter allows specifying
	PMode[1].BusinessInfo.Pavl	some constraint or profile on the
	oadProfile	navload. It specifies a list of
		payload narts
		A navload part is a data structure
		that consists of five properties:
		1 name (or Content-ID) that
		is the part identifier and
		is the part identifier , and
		can be used as an index in
		the notation
		PayloadProfile;
		2. MIME data type (text/xml,
		application/pdf_etc.)
		2 nome of the applicable
		5. name of the applicable
		XML Schema file if the
		MIME data type is
		text/xml;
		4. maximum size in kilobytes;
		5. Boolean string indicating
		whether the part is
		expected or optional,
		within the User message.
		The message payload(s) must
		match this profile.
ErrorHandlings	-	Container
ErrorHandling	-	Container
ErrorAsResponse	maps to	This Boolean parameter indicates
-------------------------------	------------------------------	--
	PMode[1].ErrorHandling.Re	(if <i>true</i>) that errors generated from
	port.AsResponse	receiving a message in error are
		sent over the back-channel of the
		underlying protocol associated with
		the message in error. If <i>false</i> , such
		errors are not sent over the back-
		channel.
ProcessErrorNotifyProducer	maps to	This Boolean parameter indicates
	PMode[1].ErrorHandling.Re	whether (if <i>true</i>) the Producer
	port.ProcessErrorNotifyProd	(application/party) of a User
	ucer	Message matching this PMode
		should be notified when an error
		occurs in the Sending MSH, during
		processing of the User Message to
		be sent.
ProcessErrorNotifyConsumer	maps to	This Boolean parameter indicates
	PMode[1].ErrorHandling.Re	whether (if <i>true</i>) the Consumer
	port.ProcessErrorNotifyProd	(application/party) of a User
	ucer	Message matching this PMode
		should be notified when an error
		occurs in the Receiving MSH,
		during processing of the received
		User message.
DeliveryFailureNotifyProducer	maps to	When sending a message with this
	PMode[1].ErrorHandling.Re	reliability requirement (Submit
	port.DeliveryFailuresNotifyP	invocation), one of the two
	roducer	following outcomes shall occur:
		- The Receiving MSH successfully
		delivers (Deliver invocation) the
		message to the Consumer.
		- The Sending MSH notifies (Notify
		invocation) the Producer of a
		delivery failure.
Legs	-	Container

Leg	-	Because messages in the same MEP
		may be subject to different
		requirements - e.g. the reliability,
		security and error reporting of a
		response may not be the same as
		for a request – the PMode will be
		divided into <i>legs</i> . Each user
		message label in an ebMS MEP is
		associated with a PMode leg. Each
		PMode leg has a full set of
		parameters for the six categories
		above (except for General
		Parameters), even though in many
		cases parameters will have the
		same value across the MEP legs.
		Signal messages that implement
		transport channel bindings (such as
		PullRequest) are also controlled by
		the same categories of parameters,
		except for BusinessInfo group.
Process	-	In Process everything is plugged
		together.

Table 2 - Domibus PMode configuration to ebMS3 mapping

6.3.5. Upload new Configuration

6.3.5.1. Upload the PMode file

Remark:

In case of a cluster environment the PMode configuration is replicated automatically on all the nodes

 To update the PMode configuration and/or Truststore, connect to the administration dashboard using the credentials of the administrator user (by default: User = *admin*; Password = *123456*) to <u>http://localhost:8080/domibus</u>

Remark:

It is recommended to change the passwords for the default users. See §6.4.1 – "Administration " for further information.

Domibus Administration Console	
E Messages	
- Message Filter	
Error Log	
PMode	
JMS Monitoring	Username * admin
Or Truststore	Password *
	•••••
	E Login

Figure 6 - Login to administration dashboard

2. Click on the PMode menu and then the XML tab:

Domibus Administration Console	XML
Messages	
\Xi Message Filter	
Error Log	
PMode	
JMS Monitoring	
Or Truststore	
L Users	
	Upload Download

Figure 7 - Configuration upload

3. Select the PMode file that has been edited by pressing **Upload button** then the "Browse..." one:

Domibus Administration Console	XML
Messages	
- Message Filter	
Error Log	
PMode	
D JMS Monitoring	
OT Truststore	
Lusers	
	Upload Download

4. Press then the "Browse..." button one, navigate to the PMode file and select it with the "Open" button (or equivalent) in the standard dialog box:

🥹 File Upload		
💮 🕤 🕶 🕌 « (D:) DATA	► Domibus ► domibus ► conf ► pmodes - 4 Search pmodes	
Organize 🔻 New folder	i 🛛 🖬 🕶 🗍 🔞	
👉 Eavorites	A Name Date modif	
Desktop	domibus-gw-sample-pmode-blue.xml 13/06/2017	
Downloads	E	
My IntraComm		_
🗐 Recent Places	-	=
📜 Libraries		
Documents		
Local Documents - no	backup	
J Music		
My Documents		
Pictures		
File <u>n</u> an	me: domibus-gw-sample-pmode-blue.xml 🔹 *.xml	
	<u>O</u> pen Cancel	
g nitoring re	PModes Upload BrowseVo file selected. Upload Cancel	
CEF Digital Connecting Europe	Upload Download	

5. Once the file has been selected, click "Upload" to upload the PMode xml file:

Domibus Administration Console	Party XML
Messages	
T Message Filter	
Error Log	PModes Upload
PMode	
JMS Monitoring	Browse
OT Truststore	

Remark:

Each time a PMode is updated, the truststore is also reloaded from the filesystem.

6.3.5.2. Upload the Truststore

1. Select the Truststore file that needs to be uploaded by selecting the "Trustore" menu and then pressing the "**Browse**..." button:

Domibus Administration Console	Truststore password Truststore file	BrowseNo file selected.
Messages	Upload	
➡ Message Filter		
Error Log		
PMode		
JMS Monitoring		
Or Truststore		

2. Navigate to the Trustore and select it by clicking on the "Open" button (or equivalent) of the standard file open dialog:

	Domibus Administration Console	Truststore password Truststore file	Browse	d.		
	Messages	Upload				
	- Message Filter					
	😉 File Upload					X
	😋 🔵 🔻 🚺 « (D:) DATA 🕨 Domibus	I domibus I conf I dom	mibus 🕨 keystores 👻 🍫	Search keystores		۶
	Organize 🔻 New folder				•	0
	☆ Favorites	ne	Date modified	Туре	Size	
	📃 Desktop	gateway_keystore.jks	9/06/2017 10:49	JKS File		5 KB
	Downloads 🗉 🗋	gateway_truststore.jks	9/06/2017 10:49	JKS File		2 KB
	My IntraComm					
	🗐 Recent Places					
	🚍 Librarian					
	Documents					
	Local Documents - no b					
	J Music					
	My Documents					
	Pictures • •					•
	File <u>n</u> ame: gateway	_truststore.jks	•	*.jks		•
				Open	Cancel	
l						

3. Onec the file has been selected **Press** the Upload button to activate the new **truststore** jks file:

Domibus Administration Console	Truststore password Truststore Browse gateway_truststore.jks file
Messages	Upload
- Message Filter	
Error Log	
PMode	
JMS Monitoring	
OT Truststore	

Figure 8 - PMode uploading

6.4. Administration Tools

6.4.1. Administration Console

6.4.1.1. Changing passwords

It is recommended to change the passwords for the default users, which are allowed to have access to the Domibus Administration Console: *admin* and *user*.

In order to change the password for a user, navigate to the "Users" menu entry to obtain the list of configured users:



Then click on the hidden password field (showing *****) in the line of the corresponding user and a popup will appear allowing to change the user password:

Password	
Password	
New password	
Confirm password	
Save Cancel	_

two fields (New and Confirm password) must be identical.

When done, click either on the "Save" button to apply the change to the row on the screen (not in the system yet) or the "Cancel" button to leave the password unchanged in the list.

The changes are not immediately stored in the system, and multiple changes can be done before being applied permanently.

For the change to actually take place and alter the system behaviour, the user must click on the "**Save**" button (the user may also click on "Cancel" button to revert all the changes since the last "Save" operation).

CEF Digital				
Connecting Europe	🗴 Cancel	Save	New New	Delete

6.4.1.2. Adding new users

New users can be added to the existing default users (**admin** and **user**) using the "New" option. The details of the new user(s) including the username, role and password are mandatory:

Domibus Administration Console	Username hykiukira	Email dussartt@gmail.com	Role ROLE_ADMIN	Password	Active
Messages	testuser	test@test.gmail.com	ROLE_ADMIN	*****	
- Message Filter	2 total				
Error Log					
PMode					
JMS Monitoring					
Or Truststore					
Lusers					
CEF Digital Connecting Europe	🔇 Cancel F) Save 💽 New 🗑 🗊	Delete		

As stated before for the password change, the changes are not immediately stored and effective in the system, and multiple changes can be done before that.

For the change to actually take place and alter the system behaviour, the user must in addition click on the "**Save**" button:

CEF Digital Connecting Europe	Save	New	Delate

6.4.1.3. Message Filtering

Domibus allows to route messages to different plugins based on some message's attributes:

- From : initial sender (C1)
- **To** : final recipient (C4)
- Action: defined as 'Leg' in the PMode
- Service: as defined in the PMode

The following rules apply:

• Domibus considers the ordered list of 'filters' to route all messages. The first filter matching the filter's criteria will define the target plugin. The order of the plugin is therefore important in the routing process.

Note 1: if the filters are all mutually exclusive, order actually does not matter.

Note 2: The 'Persisted' column indicates if the plugin filter configuration has been already saved. In case a plugin filter configuration has not been already saved, the 'Persisted' value is unchecked and an error message is shown on the top of the screen. In this case, it is strongly recommended to review the filters configuration and afterwards save it.

Domibus	Several filters in the table were not configured yet (Persisted flag is not checked). It is strongly recommended to double check configuration and afterwards save it.						
Administration Console							=
Messages							
T Message Filter							
Error Log	Messa	ge Fiite	er				
PMode		-					
JMS Monitoring	Plugin	From	То	Action	Service	Persisted	
Or Truststore						2	
LUSERS	backendWebservi	ce				۲	
	Jms						
	0 selected / 2 total						
	↑ Move Up	↓ Move Down					
	Cancel	Save + New	📋 Delete				
CEF Digital Connecting Europe							

- One plugin may be applied to multiple filters. This allows to define 'OR' criteria. ٠ (cf. backendWebservice in the example below).
- On the opposite, multiple attributes may be defined in one filter. This allows to define 'AND' • criteria.

(cf. the first filter in the example below).

On filter may have no criteria, meaning that all messages (not matching previous filters) will ٠ be routed to the corresponding plugin. Subsequent filters will therefore not be considered for any incoming message. Typically in the example below, the last filter routes all remaining messages to plugin 'backendWebservice'.

Domibus							=
Administration Console							
	Mossa		tor				
Messages	1016220	ge rii	lei				
T Message Filter		-	-				
Error Log	Plugin	From	To	Action	Service	Persisted	
PMode							
JMS Monitoring	Dackendwebservi	ice					
Or Truststore	Jms					1	
L Users	backendWebservi	ice				¥.	
	1 selected / 3 tota	I					
	↑ Move Up	↓ Move Down					
	Cancel	B Save + M	New 🔋 Delete				
CEF Digital Connecting Europe							
		Figure 9	– Message	Filter Page			
Use "New" and "Delete"	+ New 🔋 🛙	butto	ons to creat	e or delete a f	ilter.		
As the order matters, move up and down actions allow placing each filter in the right order:							

Cf. ^{↑ Move Up} ↓ Move Down buttons.

After some changes have been applied to the filters, "Cancel" and "Save" buttons cancel save become active Cancel Save, which allows actually reverting (Cancel) or persisting (Save) and immediately activating the changes.

The console will ask the user to confirm the operation before proceeding.

Example of message attributes used for routing and matching the first filter in the example above:

- Action : TC1Leg1
- **Service** : *bdx:noprocess:tc2*
- From : domibus-blue:urn:oasis:names:tc:ebcore:partyid-type:unregistered
- **To** : domibus-red:urn:oasis:names:tc:ebcore:partyid-type:unregistered

That information can be found in the incoming message received by Domibus (e.g. see below)

<ns:partyinfo></ns:partyinfo>
<ns:from></ns:from>
<ns:partyid type="urn:oasis:names:tc:ebcore:partyid-</td></tr><tr><td><pre>type:unregistered">domibus-blue</ns:partyid>
<ns:role>http://docs.oasis-open.org/ebxml-</ns:role>
<pre>msg/ebms/v3.0/ns/core/200704/initiator</pre>

6.4.2. Message Log

Domibus administration dashboard includes a message logging page that gives the administrator information related to send messages, received messages and their status (SENT, RECEIVED, FAILED, ACKNOWLEDGE...)

The following state machines illustrate the evolution of the processing of messages according to the encountered events:



Figure 10 - State machine of Corner 2 (sending access point)



Figure 11 - State machine of Corner 3 (receiving access point)

Domibus Administration Console	Messages	Conversation id		AP Role	Vessage Type + USER_MES +	Message Status 👻	Notification S	itatus 👻 From Party Id		To	Party Id		
Messages													
\Xi Message Filter	Reference Message Id	Original Sender		Final Recipient		Sent/Rec	ceive Time Period	From:			*		
Error Log													
PMode	TO:		Q Sear	ch									
JMS Monitoring													
Or Truststore	Roes												
	Message Id	Conversation Id	From Party Id	To Party Id	Message Status	Notification Status	AP Role	Message Type	Deleted	Received	Send Attempts Max	Send Attempts	Final Rev
	f7b96438.0dd9.4296- aeba-0da3be7395d7@domibus.eu	38ef887a-13d2-4e05-9c47- de86ac5d31ad@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:32GMT+2	2017-04-08 18:22:31GMT+2	4	0	urn:oasis type:unre
	f39b967b.94de-4d14- a01e-b755b401c82e@domibus.eu	36813428-eb9e-4cea- 847a-9e079acf50dc@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:29GMT+2	4	0	urn:oasis type:unre
	ed88a5dc-750f-4d18-975b- 2fe1cde66249@dcmibus.eu	ff54682e-f3d7-4f0f- 9125-9a2da91fe469@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	urn:oasis type:unre
	ebb07a1b- d68c-4ff3-95d8-0be2cdae11b7@domibus.eu	85886e3f-024e-4d50- a1e7-7c36fe1a9f02@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:31GMT+2	2017-04-08 18:22:30GMT+2	4	0	urn:oasis type:unro
	e692a8ba-206f-4c16- aaee-7e37ac041825@domibus.eu	5a8d4901-3400-4fe2-997d- 4dde88778f26@domibus.eu	domibus-blue	domibus-red	SEND_FAILURE	NOT_REQUIRED	SENDING	USER_MESSAGE		2017-03-21 15:55:21GMT+1	4	4	urn:oasis type:unro
	d7dd2cd9-778c-4cf7-bd9a- 4fdcf3d4de00@domibus.eu	76743965-63dc- 41aa-8cd1-993f1d407dd4@domibus.eu	domibus-blue 1	domibus-red	RECEIVED	NOT_REQUIRED	RECEIVING	USER_MESSAGE		2017-06-13 09:10:05GMT+2	0	0	urn:casis type:unro
	d4070f07-7c73-496b- 8a32-bbb01307ff7e@domibus.eu	071f8e1f-323c-4709- a804-968fb86b6276@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:32GMT+2	2017-04-08 18:22:32GMT+2	4	0	urn:oasis type:unre
	bb6fb463-0527-4a56-9cfb- 30e558ab4d71@domibus.eu	9c16857f-7367-4134-85f8- a365de2d7294@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:18:09GMT+2	2017-04-08 18:18:09GMT+2	4	0	urn:oasis type:unre
	b3ad97fa-cd31-4596-881d- 3d40a3dc0899@domibus.eu	3fbe4b28-6e9a- 461f-8169-7982702c6677@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:32GMT+2	2017-04-08 18:22:32GMT+2	4	0	um:oasis type:unre
	9e93cfeb-ffc2-48d0-9182- ec4eaf2435ea@domibus.eu	a1f2080c-0b2b-4cef- ae98-1f9fd101fd35@domibus.eu	domibus-blue	domibus-red	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-03-22 09:56:50GMT+1	2017-03-22 09:47:46GMT+1	4	3	urn:oasis type:unre
4.3	<		m										•
CEF Digital	0 selected / 26 total										н	1 2 3	> H

Figure 12 - Domibus Message Log

Remark:

The administration dashboard is reachable via the URL: http://your_server:your_port_number/domibus (Tomcat) http://your_server:your_port_number/domibus-wildfly (WildFly) http://your_server:your_port_number/domibus-weblogic (WebLogic)

6.4.3. Application Logging

6.4.3.1. Domibus log files

Domibus has are three log files:

- domibus-security.log : This log file contains all the security related information. For example, you can find information about the clients who connect to the application.
- domibus-business.log: This log file contains all the business related information. For example, when a message is sent or received, etc.
- domibus.log : This log file contains both the security and business logs plus miscellaneous logs like debug information, logs from one of the framework used by the application, etc.

Name	✓ Date modified	Туре
atomikos	26-Jun-17 10:04	Text Document
📄 business	22-Jun-17 13:53	Text Document
domibus	26-Jun-17 16:33	Text Document
security	22-Jun-17 13:53	Text Document

6.4.3.2. Logging properties

It is possible to modify the configuration of the logs by editing the logging properties in the file *cef_edelivery_path/domibus/conf/domibus/logback.xml*:

Name	Date modified	Туре
	06-Dec-16 08:52	File folder
keystores	06-Dec-16 08:52	File folder
h plugins	22-Jun-17 09:44	File folder
n policies	06-Dec-16 08:52	File folder
work	14-Jun-17 08:01	File folder
/// domibus	28-Jun-17 12:22	PROPERTIES File
🖭 logback	22-Jun-17 10:16	XML Document

6.4.3.3. Error Log page

To go to the error log page of the Domibus Admin Console, and select the "Error log" menu entry:

Domibus Administration Console	Error Log	
Messages		
\Xi Message Filter	AP Role	
Error Log	Period From:	
🛄 JMS Monitoring	Rows	
OT Truststore	10 -	
	ErrorSignalMessageId	AP R

This option lists all the error logs related to Message Transfers and includes the

ErrorSignalMessageId, **ErrorDetail** and **Timestamp**. The messages can be sorted by clicking on the up and down arrows which helps to search for specific messages.

Domibus					
Administration Console	Error Log	5			
	Signal Message Id	Message Id		Error detail	
Messages					
\Xi Message Filter	AP Role -	Error Code Error Time Period	From:	▼ 10:	
Error Log	H	_	di ta:		
PMode	Notified Time Period		10.	Q s	earch
JMS Monitoring	Rows				
Or Truststore	10 -				
	ErrorSignalMessa; AP Role	MessageInErrorId	ErrorCode	ErrorDetail	Timestamp 🗸
			EBMS_0003	No matching party found	2017-06-13 14:04:45GMT+2
			EBMS_0003	No matching party found	2017-06-13 14:04:36GMT+2
			EBMS_0001	No matching service found	2017-06-13 14:04:17GMT+2
		b57ccd57-6dd1-4603-8670-70eb43ace38b@domi	bus.eu EBMS_0010	Property profiling for this exchange does not include a property named [originalSendere]	2017-06-13 14:04:00GMT+2
			EBMS_0001	No matching action found	2017-06-13 14:03:22GMT+2
CEF Digital	5 total				

Figure 13 - Domibus – Error Log page

6.4.4. Queue Monitoring

Domibus uses JMS queues to handle the messages:

Destination type	JNDI name	Comment	Description
Queue	jms/domibus.internal.dispatch.queue	No redelivery because redelivery of MSH messages is handled via ebMS3/AS4	This queue is used for scheduling messages for sending via the MSH
Queue	jms/domibus.internal.notification.unknown		Notifications about received messages (by the MSH) that do not match any backend routing criteria will be sent to this queue. In production environment this queue should be monitored in order to handle those messages manually
Торіс	jms/domibus.internal.command		This topic is used for sending commands to all nodes in a cluster. For example, it is used after a PMode was uploaded in order to notify all nodes to update their PMode cache (in case caching is enabled)
Queue	jms/domibus.backend.jms.replyQueue		This queue is used for sending replies back to the sender of a message. Replies contain: a correlationId, ebMS3 messageId (if possible), error messages (if available)
Queue	jms/domibus.backend.jms.outQueue		Messages received by the MSH (that match the routing criteria for the JMS plugin) will be sent to this queue
Queue	jms/domibus.backend.jms.inQueue		This queue is the entry point for messages to be sent by the sending MSH
Queue	jms/domibus.backend.jms.errorNotifyConsumer		This queue is used to inform the receiver of a message that an error occurred during the processing of a received message
Queue	jms/domibus.backend.jms.errorNotifyProducer		This queue is used to inform the sender of a message that an error occurred during the processing of a message to be sent
Queue	jms/domibus.notification.jms		Used for sending notifications to the configured JMS plugin

Queue	jms/domibus.internal.notification.queue	This queue is used to notify the configured plugin about the status of the message to be sent
Queue	jms/domibus.notification.webservice	Used for sending notifications to the configured WS plugin
Queue	jms/domibus.DLQ	This is the Dead Letter Queue of the application. The messages from other queues that reached the retry limit are redirected to this queue

Table 3 - Queue Monitoring

All these queues can be monitored and managed using the **JMS Monitoring** page, which is accessible from the "JMS Monitoring" menu of the administration console:.

Domibus Administration Console	JMS Mo	nito	ring				
Messages	[internal] domibus.notifica	ation.webserv	ice (6)	 From: 	👻 🗖 То:	*	
- Message Filter	Selector			JMS Type			Q Search
Error Log	L						
PMode	Rows 5 v						
Gr Truststore	ID	Content	Time 🗸	Custom prop	JMS prop	JMS Type	
	ID:D02D11203212D1T- 53131-1497346366956- 5:11:2:1:1	null	2017-06-13 14:09:36GMT+2	<pre>("MESSAGE_ID': "c07c04cb-b0a2-445d-9529- 33c36:3416fl @dombus.ex", "fmaReceiptern": "um oasis:names to: ebcore partyid- type umegistered C4", "originalQueue": "dombus.notificiation.webservice", "NOTIFICATION_TYPE": "MESSAGE_RECEIVED')</pre>	("IMSMessageID": "ID D02D11203212DIT- 5331-14973465695-65-511-2-1-1", "IMSDestination": "queue //domibus notification.webservice", "JMSDeliveryMode": "PERSISTENT")		
	ID:D02D11203212DIT- 53131-1497346368956- 5:10:4:1:1	null	2017-06-13 14:07:34GMT+2	('MESSAGE_ID': '65dd29a0-f8ae-4e19-a9e7- 7687ca5855e0@dombux.et', 'finalRecipient': 'uru coais: names tc ebcore partyid- trpe unregistered C4', 'originalQueue'; 'dombus.notificition.webservice', 'NOTIFICATION_TYPE'; 'MESSAGE_RECEIVED')	("IMSMessageID": "ID D02D11203212DIT- 53313-149734656956-5:10:41:1", "JMSDestination"; "queue:/domibus notification.webservice", "queue:/domibus notification.webservice", "JMSDeliveryMode": "PERSISTENT")		
CEF Digital Connecting Europe	ID:D02D11203212DIT- 53131-1497346368956- 5:10:2:1:1	null	2017-06-13 14:07:13GMT+2	("MESSAGE_ID": "d3215914-0584-db89-9806- 4108c76d678e@domibus.eu", "fmalRecipient": "um coasis names to echocre partyid- type unregistered.C4", "original/Queue", "domibus.notification.webservice", "NOTIFICATION_TYPE":	("IMSMessageID": "ID D02D11203212DIT- 53131-1497346368956-5:10:2:1:1", "IMSDestination": "queue.//dombus.notification.webservice", "IMSDeliveryMode": "PERSISTENT")		

Figure 14 - Domibus – JMS Monitoring page

In the **Source** field, we have all the queues listed along with the number of messages pending in each queue:



If a queue is used internally by the application core, its name will start with **[internal].** A regular expression is used to identify all the internal queues. The value for this regular expression can be adapted in the property **domibus.jms.internalQueue.expression** from the file *cef_edelivery_path/conf/domibus.properties*

In the JMS Monitoring page the following operations can be performed:

1. Inspecting and filtering the messages from a queue based on the following fields:

- a. Signal Message id: identifier of an error signal message
- b. Message id: identifier of a message
- c. Error detail: text of the error (full)
- d. AP Role: role of the AP
- e. Error Code: structured code of the error
- f. Source: the source queue of the messages
- g. Error or Notified Time Period: time interval that will filter the messages based on the send dates
- h. JMS type: the JMS header JMSType
- i. Selector: the JMS message selector expression

Remark:

For more info on the JMS message headers and on the JMS message selector, please check the official documentation <u>https://docs.oracle.com/cd/E19798-01/821-1841/bnces/index.html</u>

- 2. Move message
 - a. Move a message from the DLQ to the original queue:
 - Select a JMS message from the DLQ and press the Move button

JMS Moni	toring		
Source [internal] domibus.DLQ (1)		→ 🐻 From:	▼ 10:
Selector		JMS Type	
Rows			
D	JMS Type	Time 🗸	Content
D:D02D11203212DIT- 51830-1497345785037-5:2:1660:1:	1	2017-06-13 11:37:06GMT+2	mull
1 selected / 1 total	Move 👕 Delete		

- Select the original queue from the "Destination" dropdown list in the dialog box:

JMS Monit	oring			
Source [internal] domibus.DLQ (1)		- 🔂 From:	- 🛱 To:	
Selector		JMS Type		_
Rous 5 • ID	JMS Type	Time +	Content	Custom prop
ID:D02D11203212DIT- 51830-1497345785037-5:2:1660:1:1	CL WZ CL [int	2017-06-13 11-37-06GMT+2 ick on "OK" to confirm that you want to move th ARNING: This operation will be executed imme ick on "Cancel" to leave the messae unforched mean email domibus notification webservice (5)	cult he selected messages diately and cannot be reverted.	("MESSAGE_ID": a151-30321251e56: "originalQueue": "dombus.notificati: "NOTIFICATION_ "MESSAGE_SENT
1 selected / 1 total	ve Delete	C Ok	Cancel	

- Press the "**Ok**" button in the dialog, and the message will be move to the original queue

<u>Note</u>: the details of a message can be looked into by double-clicking it in the message list:

leader		
Source domibus.DLQ		
d D:D02D11203212DIT-51830-14973457	85037-5:2:1660:1:1	
^{Time stamp} Jun 13, 2017, 11:37:06 AM		
JMS Type		
Custom Properties		
"MESSAGE_ID": "8fd3312b-7de5-4ff "originalQueue": "domibus.notificatior	9-a151-30321251e56f@domibus.eu", 1.webservice",	
"NOTIFICATION_TYPE": "MESSAGE_{ }	SEND_SUCCESS"	11.
Properties MSNessageD ID:D02D11203212DIT-51830-14973457	85037-5:2:1660:1:1	
JMSDestination queue://domibus.DLQ		
JMSDe live ry Mode PERSISTENT		
JMS Type		
Content		
null		

(Click Ok to exit the dialog).

- b. Move multiple messages from the DLQ to the original queue
 - Select multiple JMS message from the DLQ and press the Move button

T Domibus Administration Console	JMS Monito	ring				
E lifessages	[internal] domibus.DLQ (3)		- 🐻 From	- 🔂 To:	-	
👾 Message Filter	Selector		JMS Type			Q Search
Error Log						
Pliode	Rovs					
JMS Monitoring	5 ~					
Or Trustatore	D	JMS Type	Time 🗸	Content	Custom prop	JMS prop
	ID D02D112033112D15 31830-1407345785017.5.3.1040611		2017-06-13 14:07:140MT+2		("MISSAGE_ID": "a011994.40%+40%+0005 4108/c?d0%Bgfoombox.ev", "criganalQarae"; "Aombus aosfistatos: webservice", "YOTIFICATION_TYPE"; "MISSAGE_SIND_SUCCESS")	(*/MSMessageID*, *ID:D02D11203212D1T- 51180-1497345785073-53:14606-11*, */MSDentation*,*genera/doctine.DL(0*, */MSDentation*,*genera/doctine.DL(0*, */MSDentation*,*genera/doctine.DL(0*,*)
	ID-ID02D(12012)20171- 51830-1497345785037-5-4:19204-1:1				("MESEAGE_ID","66746936 b972-4845-Stel:145-b;18/2/7/Pig6ombon.es", "organiza/keese"; "Aomibus.nosfisciano.webservice", "NOTIFICATION_TYPE"; "MESEAGE_SEND_SUCCESS")	(*2NSMessageID*, *10.D02D1120321201T- 51830-1497345785937-5-4-1920-1-1*, *2MSD-stantasion*, *quene:/dom/buil/DLQ*, *2MSD-diveryMode*: *PERSISTENT*)
	ID-D02DH1203312D7T- 51830-1497345785037-5-2:1660-1:1				(*MESSAGE_ID*: *8403128-7465-489- al51-802123164fgblomhus.m*, *organg/kewe*; *domihus.nonfactation.webseries*, *NOTIFECATION_TYPE*; *MESSAGE_SEND_SUCCESS*)	(*2MSMessageID*, *10.D02011203212017- 51130-1497345715037-5:21660-1:1*, *2MSD-stanston*, *quesse /domitou.DLQ*, *2MSD-diveryMode*, *PERSISTENT*)
	3 selected / 3 total					
	🕲 Cancel 📄 Save 🗾 Nove	Delete				

Select the original queue from the Destination dropdown list, and click ok.

[internal] domibus.DLQ (3)		✓ Co From:	👻 🗖 То:	
Selector		JMS Type		
15				
D	JMS Type	Time 🗸	Content	Custom
ID-D02D/1203212DIT- 51830-1497345785037-5:3:19606:1:1		2017-06-13 14:07:14GMT+2 Click on "Ok" to confirm that you want to move th WARNING: This operation will be executed immed Clickers "Concentration will be executed immed	null e selected messages liately and cannot be reverted.	{ "MES "d32159 4108c70 "origina "domibi "NOTH "MESS
ID:D02D11203212DIT- 51830-1497345785037-5:4:19204:1:1		Destination [internal] domibus.notification.webservice (3)		{ "MES b972-4t "origina
		C ∧ Ok	Cancel	"domib "NOTII "MESS.
ID:D02DI1203212DIT- 51830-1497345785037-5:2:1660:1:1		2017-06-13 11:37:06GMT+2	null	{ "MES a151-30 "origina "domibi "NOTU

Remark:

Please make sure that all the selected messages came from the same source queue. Use the filtering capabilities to ensure this.

- 3. Delete message(s)
 - a. Delete one or more messages from one queue:
 - Select one or several JMS messages from the source queue and press the **Delete** button:

Domibus Administration Console	JMS Monitor	ring				
Messages	[internal] domibus.DLQ (3)		- 🛱 From:	~ 13	To: •	
😇 Message Filter	Selector		JMS Type			Q, Search
🛤 Error Log						
Pilode	Rom					
JMS Monitoring	5					
Ov Trustatore	D	JMS Type	Time 🗸	Content	Custom prop	JMS prop
	10-1002011301212017. 51830-1497345735037-5-3-19606-1:1		2017-06-13 14:07:14GMT-2	ad .	(*14555461, D)* *10319914 disp 4 dieb 9805 4105(*161T & glanche an*, *argestüben* *denben anderdasie weberwise*, *VOTBROATION, TYTE* *194514405 (1955) SUCCEST ()	{ "INSMemageID": "ID D02D11201212D1T- 3180-14973475037-30_31900-81:1", "IMSDetinoeryMode": "IPERSISTENT" }
	ID-D02D11203212DIT. 51830-1497345785037-54:19204.1:1				("MESSAGE_ED"-"46746955 1977-404-881-430-01676"/F036ambas.ms", "empirical/beam" "Somiton andicatora selentrice", "NOTIFICATION_TYPE" "MESSAGE_SEND_SUCCESS")	("MSMessageID", "ID-D02D11203212D1T- 51139-14973457155037.5.4.19204.1.1", "MSD-estimation", "genese identifying DLQ", "MSD-linenyMode", "PERSISTENT")
	ID-D02D51201212DIT- 51830-1497345785037-5:2:1660:1:1		2017-06-13 11:37:060MT+2	auli	(*MESRAGE_ID***1813)12b-7465-487- a131-3021211c64fgBdembaa ew*, "originalQueen", "dombtu confidation weberrior", "NOTIFICATION_TYPE", "MESRAGE_SEND_SUCCESS")	(*1NS3AmageID** *1D.D02D11203212D07- 51830-1497345785037-5221660-1:1*, *7MSD-intention** *14emetra.doc.nls.a.DLQ*, *7MSD-inveryMode*: *PERSISTENT* }
	2 selected / 3 total					
	🕲 Cancel 📄 Save 💌 Meye	Delete				

- The selected messages are then immediately removed from the screen, but please note that no operation occurs immediately in the actual JMS queues:

Domibus Administration Console	JMS Monito	oring				
Hessages	[internal] domibus.DLQ (3)		- 🐻 From	- 🗂 -		
\Xi lilessage Filter	Selector		JHS Type			Q, Search
Errer Log						1 A
PMcde	Em					
INTS Monitoring	5 -					
O- Trustatore	D	ZMS Type	Time ~	Content	Costom prop	7MS prop
	ID-D02D012012212D07- 51830-1407345785037-5/2/1660/1:1		2017-66-13 11:37:06GMT+2	ndi	("MESSAGE_ID": "16333126-7665-489- a151-30321251c546@dombon.eu", "fonginalQuout": "NOTIFICATION_TYPE": "MESSAGE_SEND_SUCCESS")	{ "7M83desagelD": "ID_D02DH1303212DHT- 51180-1407345785037-52:1660:1.1", "7M85Destination": "questa: idonibus DLQ", "7M85DelirosyMode": "PERSISTENT" }
	0 selected / 1 total					
	Cancel 🔒 Save 🕑 Move	n 🗑 Deade.				

- You may repeat the operation several times.
- In case of error, it is still possible to cancel these operations, by clicking on the "Cancel" button (which will reset the list of messages as it was since the last "Save" operation):

Console	JMS Monitor	ing				
Messages	[internal] domibus.DLQ (3)		- 🔀 from:	- 🔀 To:		
\Xi lifessage Filter	Selector		JIES Type			Q Search
Error Log						
PMode	Ross					
JMS Monitoring	5 · ·					
Or Trustatore	D	JMS Type	Time v	Content	Costom prop	JMS prop
	ID-D02D112032112DIT- 51830-1497345785037-5-2:1660-1:1		2017-06-13 11:37:06GMT+2	Bin	("MESSAGE_ID": "860312b-76e5-469- a151-00321251e566@domitos.es", "originalQuere": "Ananius natification: webservice", "NOTIFICATION_TYPE": "MESSAGE_SEND_SUCCESS")	("IMSMessageID": 'ID:D02D11203212D1T- 51810-149724578597.5:2:1660:1:1', "IMSDestination": "genee.i/dombus.DLQ", "IMSDeliveryMode": "PERSISTENT")
	0 selected / 1 total					
	😨 Cancel 🖻 Seve 💌 Move	Delete				

- When all needed operations are done, you still need to <u>confirm</u> all these operations for them to take effect by clicking on the "**Save**" button:

Administration Console	JMS Monito	ring				
Hossages	[internal] domibus.DLQ (3)		- 🖾 From:	- 13	To: •	
🐺 Hessage Filter	Selector		JMS Type			Q Search
Error Log						
Pitode	Raus					
JMS Monitoring	6 *					
Ov Trustatore	D	JMS Type	Time ~	Content	Custom prop	JMS prop
	ID:D02D(1203212D)T- 51830-1497345785037-5-2:1660:1:1		2017-06-13 11:37:06GMT+2	llee	("MESSAGE_ID": "#663112b-7645-489- a131-3031231c646@domilou au", "onginalQueen", "domitou notification weberrier", "NOTIFICATION_TYPE". "MESSAGE_SEND_SUCCESS")	("MSMessagelD": "ID.D02D11203212DIT- 51830.1497345782037-521.16061:11", "MSDestination": "genese/idomibus.DLQ", "IMSDeliveryMode": "PERSISTENT")
	0 selected / 1 total					
	Cencel 🔁 Save	Evicta				

6.4.5. Configuration of the queues

Queues should be configured appropriately and according to the backend system needs and redelivery policy.

6.4.5.1. Tomcat

Domibus uses ActiveMQ as JMS broker. The various queues are configured in the *cef_edelivery_path*/domibus/conf/domibus/internal/activemq.xml file.

Please see <u>ActiveMQ redelivery policy</u> and configure the parameters below:

Access to the JMS messaging subsystem is protected by a username and a password in clear text defined in Domibus properties file *cef_edelivery_path/domibus/conf/domibus/domibus.properties'*

It is recommended to change the password for the default user:

```
activeMQ.username=<mark>domibus</mark>
activeMQ.password=<mark>changeit</mark>
```

Remark:

The user(activeMQ.username) and the password(activeMQ.password) defined in the domibus.properties file are referenced in the authentication section of the provided activemq.xmlfile..

6.4.5.2. WebLogic

Please use the admin console of WebLogic to configure the re-delivery limit and delay.

6.4.5.3. WildFly

Please use the admin console of WildFly to configure the re-delivery limit and delay.

7. DATA ARCHIVING

7.1. What's archiving?

Data archiving is the method of moving message that have been processed successfully or unsuccessfully by the access point to an external storage location for long-term retention.

Archiving data involves older data that have been processed at the communication level by the access points but that is still significant to the business and may be needed for future reference, or data that must be retained for legal constraints.

Data archives are indexed and searchable to allow easy retrieval,

It is not recommended to use Domibus as an archiving solution. Nevertheless, if it is really needed to keep the data, it is possible to set the Data Retention Policy so the data can be extracted from the database through the webservices or by an external archiving tool.

7.2. Data Retention Policy

A data retention policy is a business's established procedure for continuous information storage for operational, legal or compliance reasons

The data retention policy needs to be defined based on the business needs and constraints.

In Domibus, the data retention policy can be found here in the PMode file:

```
<mpcs>
  <mpc name="defaultMpc"
    qualifiedName="http://docs.oasis-open.org/ebxml-
    msg/ebms/v3.0/ns/core/200704/defaultMPC"
    enabled="true"
    default="true"
    retention_downloaded="0"
    retention_undownloaded="14400"/>
  </mpcs>
```

In the sample PMode configuration of Domibus, the data retention policy is set to **14400 minutes** (10 days) if the message is not downloaded. This means that if the message is not downloaded, it will be deleted then only the metadata containing the information of the receiver and the acknowledgement.

The data retention policy is also set to **0 minutes** if the message is downloaded. This means that the message will be instantaneously deleted as soon as it is downloaded. Those two parameters can be configured to meet the needs of the business.

7.3. Data Extraction

In order to keep the metadata and the payload of the message for a defined amount of time, that exceeds the one set in the PMode, it is recommended to extract it to an external storage. As long as the retention worker does not delete it, data can be extracted through the webservices or through an external archiving tool.

For more information, please refer to the Data Model provided in the "Domibus Software Architecture Document" that be found in [REF6].

8. NON REPUDIATION

In order to guarantee non-repudiation, the sending Access Point (C2) is storing the full **SignalMessage**, including the **MessageInfo** and the Receipt (that contains the **NonRepudiationInformation** for each part) and the signature of the receipt by the receiver Access Point (C3).

This will guarantee that the receiver Access Point (C3) of the message cannot deny having received a message from the sender Access Point (C2) at the moment of the sending. However if the initial sender (C1) wants to be sure that the final recipient (C4) cannot deny having received a specific content inside this message the sender must be able to show the specific content that was used to produce the receiver Access Point's (C3) signature.

Domibus, as a sending Access Point (C2), keeps track of the metadata of the sent messages but does not store the message payloads itself. Therefore, it is recommended that the initial sender (C1) stores the message payloads safely for the time needed to guarantee non-repudiation of the sent messages.

In order to guarantee non-repudiation, the receiving Access Point (C3) is storing the full UserMessage and the associated signature of the sender (C2).

This will guarantee that the sender Access Point (C2) of the message cannot deny having sent a message to the receiver at the moment of the sending. However if the final recipient (C4) wants to be sure that the sender cannot deny having sent a specific content inside this message the final recipient (C4) must be able to show the specific content that was used to produce the sender Access Point 's signature (C2).

Domibus, as a receiving Access Point (C3), keeps track of the metadata of the received messages and stores the message payloads itself only for the (limited) duration configured in the retention period (specified in the PMode). Therefore, it is recommended that the final recipient (C4) either stores the message payloads safely or aligns the retention period on the receiving Access Point (C3) with the time needed to guarantee non-repudiation of the received messages.

9. TROUBLESHOOTING

9.1. Failed to obtain DB connection from datasource

SEVERE: Exception sending context initialized event to listener instance of class org.springframework.web.context.ContextLoaderListener org.springframework.beans.factory.BeanCreationException: Error creating bean with name 'org.springframework.scheduling.quartz.SchedulerFactoryBean#0' defined in ServletContext resource [/WEB-INF/msh-config.xml]: Invocation of init method failed; nested exception is org.quartz.JobPersistenceException: Failed to obtain DB connection from datasource 'springTxDataSource.org.springframework.scheduling.quartz.SchedulerFactoryBean#0': com.atomikos.jdbc.AtomikosSQLException: Failed to grow the connection pool [See nested exception: com.atomikos.jdbc.AtomikosSQLException: Failed to grow the connection pool] at org.springframework.beans.factory.support.AbstractAutowireCapableBeanFactory.initi alizeBean(AbstractAutowireCapableBeanFactory.java:1578) at org.springframework.beans.factory.support.AbstractAutowireCapableBeanFactory.doCre ateBean(AbstractAutowireCapableBeanFactory.java:545) at org.springframework.beans.factory.support.AbstractAutowireCapableBeanFactory.creat eBean(AbstractAutowireCapableBeanFactory.java:482) at org.springframework.beans.factory.support.AbstractBeanFactory\$1.getObject(Abstract BeanFactory.java:305) at org.springframework.beans.factory.support.DefaultSingletonBeanRegistry.getSingleto n(DefaultSingletonBeanRegistry.java:230) at org.springframework.beans.factory.support.AbstractBeanFactory.doGetBean(AbstractBe anFactory.java:301) SEVERE: One or more listeners failed to start. Full details will be found in the appropriate container log file May 11, 2016 10:12:43 AM org.apache.catalina.util.SessionIdGeneratorBase createSecureRandom INFO: Creation of SecureRandom instance for session ID generation using [SHA1PRNG] took [13,256] milliseconds. May 11, 2016 10:12:43 AM org.apache.catalina.core.StandardContext startInternal SEVERE: Context [/domibus] startup failed due to previous errors May 11, 2016 10:12:43 AM org.apache.catalina.core.ApplicationContext log INFO: Closing Spring root WebApplicationContext May 11, 2016 10:12:43 AM org.apache.catalina.core.ApplicationContext log INFO: Shutting down log4j

Solution: Setup the password properly in the domibus.properties

9.2. Exception sending context initialized event to listener instance of class

SEVERE: Exception sending context initialized event to listener instance of class org.springframework.web.context.ContextLoaderListener org.springframework.beans.factory.BeanCreationException: Error creating bean with name 'entityManagerFactory' defined in URL [file:///home/edelivery/domibusf1/conf/domibus/domibus-datasources.xml]: Cannot resolve reference to bean 'domibusJDBC-XADataSource' while setting bean property 'dataSource'; nested exception is org.springframework.beans.factory.BeanCreationException: Error creating bean with name 'domibusJDBC-XADataSource' defined in URL [file:///home/edelivery/domibusf1/conf/domibus/domibus-datasources.xml]: Invocation of init method failed; nested exception is com.atomikos.jdbc.AtomikosSQLException: The class 'com.mysql.jdbc.jdbc2.optional.MysqlXADataSource' specified by property 'xaDataSourceClassName' could not be found in the classpath. Please make sure the spelling is correct, and that the required jar(s) are in the classpath.

Solution: Add MySQL connector in domibus/lib folder

9.3. Neither the JAVA_HOME nor the JRE_HOME environment variable is defined

Neither the JAVA_HOME nor the JRE_HOME environment variable is defined At least one of these environment variable is needed to run this program

Solution: Set JAVA_HOME variable or/and JRE_HOME

9.4. Cannot access Admin Console

http://your_server:your_port_number/domibus
No SEVER errors in logs but no admin option in browser under

Solution: Check if the firewall is open for port_no (e.g. 8080).

9.5. Handshake Failure

Full stack trace below:

```
org.apache.cxf.interceptor.Fault: Could not write attachments.
at
org.apache.cxf.interceptor.AttachmentOutInterceptor.handleMessage(AttachmentOutInt
erceptor.java:74)
at
org.apache.cxf.phase.PhaseInterceptorChain.doIntercept(PhaseInterceptorChain.java:
308)
at org.apache.cxf.endpoint.ClientImpl.doInvoke(ClientImpl.java:514)
at org.apache.cxf.endpoint.ClientImpl.invoke(ClientImpl.java:423)
at org.apache.cxf.endpoint.ClientImpl.invoke(ClientImpl.java:324)
```

at org.apache.cxf.endpoint.ClientImpl.invoke(ClientImpl.java:277) at org.apache.cxf.endpoint.ClientImpl.invokeWrapped(ClientImpl.java:312) at org.apache.cxf.jaxws.DispatchImpl.invoke(DispatchImpl.java:327) at org.apache.cxf.jaxws.DispatchImpl.invoke(DispatchImpl.java:246) at eu.domibus.ebms3.sender.MSHDispatcher.dispatch(MSHDispatcher.java:126) at eu.domibus.ebms3.sender.MSHDispatcher\$\$FastClassBySpringCGLIB\$\$105974a1.invoke(<ge nerated>) at org.springframework.cglib.proxy.MethodProxy.invoke(MethodProxy.java:204) at org.springframework.aop.framework.CglibAopProxy\$CglibMethodInvocation.invokeJoinpo int(CglibAopProxy.java:717) at org.springframework.aop.framework.ReflectiveMethodInvocation.proceed(ReflectiveMet hodInvocation.java:157) at org.springframework.transaction.interceptor.TransactionInterceptor\$1.proceedWithIn vocation(TransactionInterceptor.java:99) at org.springframework.transaction.interceptor.TransactionAspectSupport.invokeWithinT ransaction(TransactionAspectSupport.java:281) at org.springframework.transaction.interceptor.TransactionInterceptor.invoke(Transact ionInterceptor.java:96) at org.springframework.aop.framework.ReflectiveMethodInvocation.proceed(ReflectiveMet hodInvocation.java:179) at org.springframework.aop.framework.CglibAopProxy\$DynamicAdvisedInterceptor.intercep t(CglibAopProxy.java:653) at eu.domibus.ebms3.sender.MSHDispatcher\$\$EnhancerBySpringCGLIB\$\$da53e95a.dispatch(<g enerated>) at eu.domibus.ebms3.sender.MessageSender.sendUserMessage(MessageSender.java:116) at eu.domibus.ebms3.sender.MessageSender.onMessage(MessageSender.java:195) at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method) at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:57) at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java: 43) at java.lang.reflect.Method.invoke(Method.java:606) at org.springframework.aop.support.AopUtils.invokeJoinpointUsingReflection(AopUtils.j ava:302) at org.springframework.aop.framework.ReflectiveMethodInvocation.invokeJoinpoint(Refle ctiveMethodInvocation.java:190) at org.springframework.aop.framework.ReflectiveMethodInvocation.proceed(ReflectiveMet hodInvocation.java:157) at org.springframework.transaction.interceptor.TransactionInterceptor\$1.proceedWithIn vocation(TransactionInterceptor.java:99) at org.springframework.transaction.interceptor.TransactionAspectSupport.invokeWithinT ransaction(TransactionAspectSupport.java:281) at org.springframework.transaction.interceptor.TransactionInterceptor.invoke(Transact

ionInterceptor.java:96)

at	
org.springframework.aop.frame hodInvocation.java:179)	ework.ReflectiveMethodInvocation.proceed(ReflectiveMet
<pre>ac org.springframework.aop.frame a:207)</pre>	ework.JdkDynamicAopProxy.invoke(JdkDynamicAopProxy.jav
at com.sun.proxy.\$Proxy163.or	nMessage(Unknown Source)
org.springframework.jms.liste (AbstractMessageListenerConta	ener.AbstractMessageListenerContainer.doInvokeListener ainer.java:746)
org.springframework.jms.liste bstractMessageListenerContain at	ener.AbstractMessageListenerContainer.invokeListener(A ner.java:684)
<pre>org.springframework.jms.liste r(AbstractMessageListenerCont at</pre>	ener.AbstractMessageListenerContainer.doExecuteListene tainer.java:651)
org.springframework.jms.liste AndExecute(AbstractPollingMes	ener.AbstractPollingMessageListenerContainer.doReceive ssageListenerContainer.java:315)
org.springframework.jms.liste dExecute(AbstractPollingMessa	ener.AbstractPollingMessageListenerContainer.receiveAn ageListenerContainer.java:233)
org.springframework.jms.liste nerInvoker.invokeListener(De	ener.DefaultMessageListenerContainer\$AsyncMessageListe faultMessageListenerContainer.java:1150)
org.springframework.jms.liste nerInvoker.executeOngoingLoop	ener.DefaultMessageListenerContainer\$AsyncMessageListe o(DefaultMessageListenerContainer.java:1142)
org.springframework.jms.liste nerInvoker.run(DefaultMessage at java lang Thread run(Thread	ener.DefaultMessageListenerContainer\$AsyncMessageListe eListenerContainer.java:1039) ad java:745)
Caused by: javax.net.ssl.SSL	HandshakeException: Received fatal alert:
at sun.security.ssl.Alerts.ge at sun.security.ssl.Alerts.ge	etSSLException(Alerts.java:192) etSSLException(Alerts.java:154)
at sun.security.ssl.SSLSocket	tImpl.readRecord(SSLSocketImpl.java:1979)
at sun.security.ssl.SSLSocket at sun.security.ssl.SSLSocket at sun.security.ssl.SSLSocket at sun.security.ssl.SSLSocket	<pre>tImpl.performInitialHandshake(SSLSocketImpl.java:1332) tImpl.startHandshake(SSLSocketImpl.java:1359) tImpl.startHandshake(SSLSocketImpl.java:1343) tHtpsClient_afterConnect(HttpsClient_java:563)</pre>
at	
<pre>sun.net.www.protocol.https.At gateHttpsURLConnection.java:: at</pre>	<pre>ostractDelegateHttpsURLConnection.connect(AbstractDele 185)</pre>
sun.net.www.protocol.http.Htt :1092)	tpURLConnection.getOutputStream(HttpURLConnection.java
at sun.net.www.protocol.https.H ¹ onImpl.java:250)	ttpsURLConnectionImpl.getOutputStream(HttpsURLConnecti
at org.apache.cxf.transport.http tream.setupWrappedStream(URLG	<pre>o.URLConnectionHTTPConduit\$URLConnectionWrappedOutputS ConnectionHTTPConduit.java:236)</pre>
at org.apache.cxf.transport.http ching(HTTPConduit.java:1302)	o.HTTPConduit\$WrappedOutputStream.handleHeadersTrustCa
at org.apache.cxf.transport.http duit.java:1262)	o.HTTPConduit\$WrappedOutputStream.onFirstWrite(HTTPCon

at
<pre>org.apache.cxf.transport.http.URLConnectionHTTPConduit\$URLConnectionWrappedOutputS tream.onFirstWrite(URLConnectionHTTPConduit.java:267) at</pre>
<pre>org.apache.cxf.io.AbstractWrappedOutputStream.write(AbstractWrappedOutputStream.ja va:47)</pre>
at
<pre>org.apache.cxf.io.AbstractThresholdOutputStream.write(AbstractThresholdOutputStrea m.java:69)</pre>
at
org.apache.cxf.io.AbstractWrappedOutputStream.write(AbstractWrappedOutputStream.ja va:60)
at
<pre>org.apache.cxf.io.CacheAndWriteOutputStream.write(CacheAndWriteOutputStream.java:8 9)</pre>
at
<pre>org.apache.cxf.attachment.AttachmentSerializer.writeProlog(AttachmentSerializer.ja va:172)</pre>
at
<pre>org.apache.cxf.interceptor.AttachmentOutInterceptor.handleMessage(AttachmentOutInt erceptor.java:72)</pre>
43 more

<u>Solution:</u> If you receive this error, then it's likely that you configured the client with TLSv1.1 while the server only accepts TLSv1.2.

10. ANNEX **1** – **TLS CONFIGURATION**

10.1. TLS Configuration

10.1.1. Transport Layer Security in Domibus

One way of implementing TLS for AS4 e-Sens is to use the TLS in the Domibus Message Handler (MSH) described below, otherwise this would have to be handled at a higher level (e.g. Application Server, Proxy, etc...)

To enable secure communication at the transport layer (TLS) between a sending and a receiving MSH (Access Point), both the client and the server need to be configured accordingly.



The client is used in the initiator MSH to send the request and is therefore configured via CXF while the server is configured at container/application server level.

10.1.2. Client side configuration (One Way SSL)

The tlsClientParameters are configured in

cef_edelivery_path/conf/domibus/clientauthentication.xml file:

```
<http-conf:tlsClientParameters disableCNCheck="true"
secureSocketProtocol="TLSv1.2"
xmlns:http-
conf="http://cxf.apache.org/transports/http/configuration"
xmlns:security="http://cxf.apache.org/configuration/security">
<security://cxf.apache.org/configuration/security">
<security:trustManagers>
<security:trustManagers>
<security:keyStore type="JKS" password="your_trustore_password"
file="${domibus.config.location}/keystores/your_tr
ustore_ssl.jks"/>
</security:trustManagers>
```

Remark:

your_trustore_ssl is used at the transport layer (SSL) while your_trustore, described in §5.1.2 – "Certificates" is used by Domibus to encrypt and sign (WS-Security)

When the **clientauthentication.xml** file is present and the endpoint of the receiving MSH is *https://*, the TLS parameters are added via the CXF framework to the send request.

The version of the TLS must be specified by setting secureSocketProtocol="TLSv1.2".

If you use self-signed certificates you need to set disableCNCheck="true".

The attribute **disableCNCheck** specifies if JSSE should omit checking if the host name specified in the URL matches that of the Common Name (CN) on the server's certificate. Default is false; this attribute should not be set to true during production use cf.[REF7].

Remark:

TLSv1.2 is mandatory for AS4 e-Sens Profile.

10.1.3. Client side configuration (Two Way SSL)

The same as One Way SSL but the **tlsClientParameters** gets configured with both *trustManagers* and *keystoreManagers*. The **clientauthentication.xml** file should look like this:

Remark:

your_trustore_ssl and your_keystore_ssl are used at the transport layer (SSL) while your_trustore and your_keystore, described in §5.1.2 - Certificates" are used by Domibus to encrypt and sign (WS-Security)

Two Way SSL is optional based on the AS4 e-Sens Profile.

10.1.4. Server side configuration

10.1.4.1. Tomcat 8

In Server.xml, add a new connector having **SSLEnabled** attribute set to true:

```
<Connector SSLEnabled="true"

protocol="org.apache.coyote.http11.Http11NioProtocol"

port="8443" maxThreads="200"

scheme="https" secure="true"

keystoreFile="${domibus.config.location}/keystores/your_keystore

_ssl.jks" keystorePass="your_keystore_password"

_clientAuth="false" sslProtocol="TLS" />
```

The keystore jks location and password must be specified, otherwise the default one will be considered.

TLS version can also be specified.

The above connector has **clientAuth="false"** this means that only the server has to authenticate himself (One Way SSL). To configure Two Way SSL, which is optional based on the *AS4 e-Sens* Profile, in Server.xml, set **clientAuth="true"** and provide the location of the *your_truststore_ssl.jks* so that the server can verify the client:

<connector <="" sslenabled="true" th=""></connector>
<pre>protocol="org.apache.coyote.http11.Http11NioProtocol"</pre>
port="8443" maxThreads="200"
scheme="https" secure="true"
<pre>keystoreFile="\${domibus.config.location}/keystores/your_keystore</pre>
_ssl.jks" keystorePass="your_keystore_password"
<pre>truststoreFile="\${domibus.config.location}/keystores/your_trusts</pre>
<pre>tore_ssl.jks" truststorePass="your_trustore_password"</pre>
<pre>clientAuth="true" sslProtocol="TLS" /></pre>
10.1.4.2. WebLogic

1. Specify the use of SSL on default port 7002

Go to Servers \rightarrow select server name \rightarrow Configuration \rightarrow General then **click** on **Client Cert Proxy** Enabled

SSL Listen Port:	7002
🗹 🕂 Client Cert Proxy Enabled	

2. Add keystore and truststore:

Go to Servers \rightarrow select server name \rightarrow Configuration \rightarrow Keystores and SSL tabs and use **Custom Identity and Custom Trust** then set keystore and trustore jks.

To disable basic authentication at WebLogic level:

By default WebLogic performs its own basic authentication check before passing the request to Domibus. Instead, we want basic authentication to be performed by Domibus so we disable it at application server level.

In DOMAIN_HOME/config/config.xml add:

<enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>

10.1.4.3. Wildfly 9

In file *cef_edelivery_path*/domibus/standalone/configuration/standalone-full.xml:

• add the keystore and trustore jks to the ApplicationRealm:

• add https-listener to default-server:

10.1.4.4. Configure Basic and Certificates authentication in SoapUI

Go to File → Preferences → HTTP Settings and check Adds authentication information to outgoing requests

ngs	HTTP Version:	
Setti	User-Agent Header:	
НТТР	Request compression:	None ᅌ
	Response compression:	Accept compressed responses from hosts
ngs	Disable Response Decompression:	Disable decompression of compressed responses
Setti	Close connections after request:	Closes the HTTP connection after each SOAP request
0XV	Chunking Threshold:	
Pr	Authenticate Preemptively:	Adds authentication information to outgoing request
gs	Expect-Continue:	Adds Expect-Continue header to outgoing request
ettin	Pre-encoded Endpoints:	URI contains encoded endpoints, don't try to re-encode
SL S	Normalize Forward Slashes:	\square Replaces duplicate forward slashes in HTTP request endpoints with a single slash

Go to File \rightarrow Preferences \rightarrow SSL Settings and add the **KeyStore**, **KeyStore** Password and check the requires client authentication

Soa Set	pUI Preferences global SoapUI settings		
roxy Settings HTTP Settings	KeyStore: KeyStore Password: Enable Mock SSL: Mock Port: Mock KeyStore: Mock Password: Mock Key Password:	hibus_c2/conf/domibus/keystores/gateway_keystore.jks ••••••• enable SSL for Mock Services	Browse
SSL Settings P	Mock TrustStore: Mock TrustStore Password: Client Authentication:	requires client authentication	Browse

To pass Basic Authentication, in the Auth tab, click Add New Authorization and select Basic. Enter user and password (e.g: Username = *admin*; Password = *123456*)

	<pre><ns:action>TClLegl</ns:action></pre>		
sion	Image: Second		
	<pre><rr></rr></pre>		
	<pre><r "="" 1pt="" border:="" mime="" style="border: 1pt style</td></tr><tr><td></td><td></ns:MessageProperties></td></tr><tr><td>s 🕨</td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td>Instract Property names " type="">t evt (um)</r></pre>		
age	Chs:Propercy name- Minerype >text/xmi		
uge			
	Authorization: Pacie		
	Basic V		
albost			
amost			
	Username:		
	admin		
ervice	Password:		
ane			
uge			

	Auth (Basic) Headers (0) Attachments (0) WS-A WS-RM IMS He		
TP Se	še		
	Acceptions (2) Deguest Log (12)		
	Assertions (3) Request Log (12)		

10.1.4.5. PMode update

If you enable HTTPS then your PMode Configuration Manager needs to make sure that all other endpoint PModes are modified accordingly.

With the SSL connector configured as above, the MSH endpoint is now: https://your_domibus_host:8443/domibus/services/msh

The PMode needs to be updated accordingly and uploaded via the Admin Console:

Example:

```
<party name="party_id_name1"
endpoint=
"https://
party_id_name1_hostname:8443/domibus/services/msh" allowChunking="false">
```

11. DYNAMIC DISCOVERY OF UNKNOWN PARTICIPANTS

11.1. Overview

In a dynamic discovery setup, the sender and/or the receiver parties and their capabilities are not configured in advance.

The sending Access Point will dynamically retrieve the necessary information for setting up an interoperability process from the Service Metadata Publisher (SMP). The SMP stores the interoperability metadata which is a set of information on the end entity recipient (its identifier, supported business documents and processes in which it accepts those documents) and AP (metadata which includes technical configuration information on the receiving endpoint, such as the transport protocol and its address) cf.[REF8].

The receiving AP registers its metadata in the SMP and configures the PMode to be able to accept messages from trusted senders that are not previously configured in the PMode. The receiving AP will have to configure one process in its PMode for each SMP entry.

The mapping between the PMode process and the SMP entry is defined in 11.3 - PMode configuration for PEPPOL" and 11.8 - PMode configuration for OASIS".

Please note that the sender does not have to register in the SMP and the receiver merely extracts its identifier from the received message.

The following sections describe how to configure Domibus AP in order to use Dynamic Discovery (§11.3 – "PMode configuration for PEPPOL", §11.4 – "Policy and certificates for PEPPOL", §11.8 – "PMode configuration for OASIS", §11.9 – "Policy and certificates for OASIS").

11.2. Domibus configuration for PEPPOL

To enable the integration with the SMP/SML components, Domibus requires some changes in the **domibus.properties** configuration file which include:

1. Add the following properties to enable the usage of the PEPPOL dynamic discovery client:

<prop key="domibus.dynamic.discovery.client.specification">PEPPOL</prop></prop>

2. The dynamic discovery client is using certificates to access the SMP. These certificates are different in TEST and PRODUCTION, therefore we need to specify the Mode the dynamic discovery client is using by setting the following property:

<prop key="domibus.dynamic.discovery.peppolclient.mode">TEST</prop>

- 3. Set the property "domibus.smlzone"
- 4. The bean "pModeProvider" must be configured with "eu.domibus.ebms3.common.dao.DynamicDiscoveryPModeProvider"

<bean id="pModeProvider"
class="eu.domibus.ebms3.common.dao.DynamicDiscoveryPModeProvider"/>

11.3. PMode configuration for PEPPOL

11.3.1. Sender PMode

In a dynamic process the receiver of the messages is not known beforehand and therefore the **PMode.Responder** parameter SHOULD NOT be set.

The dynamic process must include a leg which maps the configured entry (action, service and service type – cf. 11.5 – "Message format for PEPPOL") of the Receiver in the SMP.

The security policy to be used in the leg is (see §5.1.1 – "Security Policies" in for more information):

security="eSensPolicy_CA"

Remark:

eSensPolicy.v2.0_CA is also supported

Sample Sender PMODE configuration extract:

```
<services>
  <service name="testService1"</pre>
     value="urn:www.cenbii.eu:profile:bii05:ver2.0"
     type="cenbii-procid-ubl"/>
</services>
<actions>
  <action name="tc1Action"</pre>
     value="urn:oasis:names:specification:ubl:schema:xsd:CreditNote-
2::CreditNote##urn:www.cenbii...."/>
</actions>
<securities>
  <security name="eSensPolicy"</pre>
     policy="eSensPolicy.xml"
    signatureMethod="RSA_SHA256"/>
  <security name="eSensPolicy_CA"</pre>
     policy="eSensPolicy.v2.0_CA.xml"
     signatureMethod="RSA SHA256"/>
</securities>
<legConfigurations>
  <legConfiguration name="pushTestcase1tc1Action"</pre>
  service="testService1"
  action="tc1Action"
  defaultMpc="defaultMpc"
  reliability="AS4Reliability"
  security="eSensPolicy_CA"
  receptionAwareness="receptionAwareness"
  propertySet="ecodexPropertySet"
  payloadProfile="MessageProfile"
  errorHandling="demoErrorHandling"
  compressPayloads="true"/>
</legConfigurations>
cess name="tc1Process"
  agreement="agreementEmpty"
  mep="oneway"
  inding="push"
  initiatorRole="defaultInitiatorRole"
  responderRole="defaultResponderRole">
```

```
<initiatorParties>
    <initiatorParty name="senderalias"/>
    </initiatorParties>
    <!-- no responderParties element -->
    <legs>
        <leg name="pushTestcase1tc1Action"/>
        </legs>
</process>
```

11.3.2. <u>Receiver PMode</u>

Dynamic configuration of the receiver is similar to the configuration of the sender, except that the roles are swapped: the sender of the messages is not known beforehand; consequently the **PMode.Initiator** parameter SHOULD NOT be set.

11.4. Policy and certificates for PEPPOL

The receiver must include the certificate of the trusted authority(ies) in its trustore. Its will accept only messages that were signed with certificates issued by these trusted authority(ies). (cf. §13 - Annex 1 - Usage of certificates in PEPPOL and OASIS for more information).

11.5. Message format for PEPPOL

When dynamic discovery is used, the "to" field should not be statically configured in the PMode (the "to" field may even be omitted in the message). The lookup is performed by C2 based on the **finalRecipient** message property.

Example of message using the finalRecipient for dynamic discovery:

```
<ns:UserMessage>
  <ns:PartyInfo>
    <ns:From>
      <ns:PartyId type="urn:oasis:names:tc:ebcore:partyid-
type:unregistered">senderalias</ns:PartyId>
      <ns:Role>http://docs.oasis-open.org/ebxml-
msg/ebms/v3.0/ns/core/200704/initiator</ns:Role>
    </ns:From>
  <ns:To>
    </ns:To>
  </ns:PartyInfo>
  <ns:CollaborationInfo>
    <ns:Service type="cenbii-procid-
ubl">urn:www.cenbii.eu:profile:bii05:ver2.0</ns:Service>
             <ns:Action>urn:oasis:names:specification:ubl:schema:xsd:CreditNote-
2::CreditNote##urn:www.cenbii.eu:transaction:biitrns014:ver2.0:extended:urn:www.pe
ppol.eu:bis:peppol5a:ver2.0::2.1</ns:Action>
  </ns:CollaborationInfo>
    <ns:MessageProperties>
      <ns:Property name="originalSender">urn:oasis:names:tc:ebcore:partyid-
type:unregistered:C1</ns:Property>
      <ns:Property name="finalRecipient" type="iso6523-actorid-</pre>
upis">0007:9340033829test1</ns:Property>
    </ns:MessageProperties>
</ns:UserMessage>
```

11.6. SMP entry

The following table describes the mapping between the PMode static configuration and the dynamic SMP records structure:

SMP Endpoint registration record	PMode attributes
ServiceMetadata/ServiceInformation/ProcessIdentifier	PMode[1].BusinessInfo.Service
ServiceInformation/Processlist/Process/ProcessIdentifier/ @scheme	PMode[1].BusinessInfo.Service/@Type
ServiceMetadata/ServiceInformation/DocumentIdentifier	Pmode[1].BusinessInfo.Action
ServiceInformation/Processlist/Process/ServiceEndpointLis t/Endpoint/EndpointReference/Address	Pmode[].Protocol.Address

Table 4 - SMP Entry Mapping

The Service Metadata Record also provides the receiving end's certificate. This certificate can be used to encrypt the message to be sent to the receiver. The certificate can also provide the name of the gateway for this PMode by using the Certificate's CNAME as the PMode identifier cf.[REF9].

11.7. Domibus configuration for OASIS

To enable the integration with the SMP/SML components, Domibus requires some changes in the **domibus.properties** configuration file:

1. Add the following properties to enable the usage of the OASIS dynamic discovery client:

<prop key="domibus.dynamic.discovery.client.specification">OASIS </prop>

<u>Note</u>: this property is not mandatory as it defaults to the above value.

- 2. Set the property "domibus.smlzone", e.g. "ehealth.acc.edelivery.tech.ec.europa.eu"
- 3. The bean "pModeProvider" must be configured with "eu.domibus.ebms3.common.dao.DynamicDiscoveryPModeProvider"

<bean id="pModeProvider"
class="eu.domibus.ebms3.common.dao.DynamicDiscoveryPModeProvider"/>

11.8. PMode configuration for OASIS

11.8.1. Sender PMode

In a dynamic process the receiver of the messages is not known beforehand and therefore the **PMode.Responder** parameter SHOULD NOT be set.

The dynamic process must include a leg which maps the configured entry (action, service and service type – cf. 11.5 – "Message format for PEPPOL") of the Receiver in the SMP.

The security policy to be used in the leg is (see §5.1.1 – "Security Policies" in for more information):

security="eSensPolicy_CA"

Remark:

eSensPolicy.v2.0_CA is also supported

Sample Sender PMODE configuration extract:

<services></services>
<pre><service <="" name="testService1" pre=""></service></pre>
<pre>value="urn:www.cenbii.eu:profile:bii05:ver2.0"</pre>
type="cenbii-procid-ubl"/>
<actions></actions>
<action <="" name="tc1Action" td=""></action>
value="'your-schema-
<pre>name'::urn:oasis:names:specification:ubl:schema:xsd:CreditNote-</pre>
<pre>2::CreditNote##urn:www.cenbii"/></pre>
<securities></securities>
<security <="" name="eSensPolicy" td=""></security>
<pre>policy="eSensPolicy.xml"</pre>
<pre>signatureMethod="RSA_SHA256"/></pre>
<security <="" name="eSensPolicy_CA" td=""></security>
<pre>policy="eSensPolicy.v2.0_CA.xml"</pre>
<pre>signatureMethod="RSA_SHA256"/></pre>
<legconfigurations></legconfigurations>
<legconfiguration <="" name="pushTestcase1tc1Action" td=""></legconfiguration>
<pre>service="testService1"</pre>
action="tc1Action"
<pre>defaultMpc="defaultMpc"</pre>
reliability="AS4Reliability"
<pre>security="eSensPolicy_CA"</pre>
<pre>receptionAwareness="receptionAwareness"</pre>
<pre>propertySet="ecodexPropertySet"</pre>
<pre>payloadProfile="MessageProfile"</pre>
errorHandling="demoErrorHandling"
compressPayloads="true"/>
<process <="" name="tc1Process" td=""></process>
<pre>agreement="agreementEmpty"</pre>
<pre>mep="oneway"</pre>
inding="push"
<pre>initiatorRole="defaultInitiatorRole"</pre>

Remark:

Schema name should be added to action value. e.g: ehealth-actoridqns::urn:oasis:names:specification:ubl:schema:xsd:CreditNote-2::CreditNote##urn:www.cenbii...

11.8.2. <u>Receiver PMode</u>

Dynamic configuration of the receiver is similar to the configuration of the sender, except that the roles are swapped: the sender of the messages is not known beforehand; consequently the **PMode.Initiator** parameter SHOULD NOT be set.

11.9. Policy and certificates for OASIS

The receiver must include the certificate of the trusted authority(ies) in its trustore. Its will only accept messages that were signed with certificates issued by these trusted authority(ies).

The sender truststore must embed the SMP public certificate. This certificate is used by the AP to validate the identity of the used SMP (cf. §13 - Annex 1 - Usage of certificates in PEPPOL and OASIS for more information).

11.10. Message format for OASIS

When dynamic discovery is used, the "to" field should not be statically configured in the PMode (the "to" field may even be omitted in the message). The lookup is performed by C2 based on the **finalRecipient** message property.

<u>Note</u>: For the OASIS client, in the PMode "action" value, the document scheme must be included with the document ID (for PEPPOL client, only document ID is needed).

Example of message using the finalRecipient for dynamic discovery:

```
<ns:UserMessage>
  <ns:PartyInfo>
    <ns:From>
      <ns:PartyId type="urn:oasis:names:tc:ebcore:partyid-
type:unregistered">senderalias</ns:PartyId>
      <ns:Role>http://docs.oasis-open.org/ebxml-
msg/ebms/v3.0/ns/core/200704/initiator</ns:Role>
    </ns:From>
  <ns:To>
    </ns:To>
  </ns:PartyInfo>
  <ns:CollaborationInfo>
    <ns:Service type="cenbii-procid-
ubl">urn:www.cenbii.eu:profile:bii05:ver2.0</ns:Service>
      <ns:Action>'your_schema_name'::urn:oasis:names:specification:ubl:schema:xsd
:CreditNote-
2::CreditNote##urn:www.cenbii.eu:transaction:biitrns014:ver2.0:extended:urn:www.pe
ppol.eu:bis:peppol5a:ver2.0::2.1</ns:Action>
  </ns:CollaborationInfo>
    <ns:MessageProperties>
      <ns:Property name="originalSender">urn:oasis:names:tc:ebcore:partyid-
type:unregistered:C1</ns:Property>
      <ns:Property name="finalRecipient" type="iso6523-actorid-</pre>
upis">0007:9340033829test1</ns:Property>
    </ns:MessageProperties>
</ns:UserMessage>
```

12. MESSAGE PULLING

12.1. Setup

In order to configure message pulling the process section should be configure with mep as oneway and binding as pull like in the following configuration:

```
cess name="tc1Process"
  agreement="agreementEmpty"
  mep="oneway"
  binding="pull"
  initiatorRole="defaultInitiatorRole"
  responderRole="defaultResponderRole">
  <initiatorParties>
     <initiatorParty name="initiatoralias"/>
  </initiatorParties >
  <responderParties>
     <responderParty name="receiveralias"/>
  </responderParties>
  <!-- no initiatorParties element -->
  <legs>
     <leg name="pushTestcase1tc1Action"/>
  </legs>
</process>
```

12.2. Configuration restriction

A correctly configured one way pull process should only contains one responder party.

Different legConfiguration with the same mpc should not be configured in the same pull process or across different pull process es.

<legconfiguration <="" li="" name="pushTestcase1tc2Action"></legconfiguration>	
	<pre>service="testService1"</pre>
	action="tc2Action"
	defaultMpc="defaultMpc"
	reliability="AS4Reliability"
	<pre>security="eSensPolicy"</pre>
<pre>receptionAwareness="receptionAwareness"</pre>	
	<pre>propertySet="ecodexPropertySet"</pre>
	<pre>payloadProfile="MessageProfile"</pre>
errorHandling="demoErrorHandling"	
	<pre>compressPayloads="true"/></pre>

13. ANNEX **1** - USAGE OF CERTIFICATES IN PEPPOL AND OASIS

		C2		C3	
		Keystore	Truststore	Keystore	Truststore
	Certificate:	Sender's (issued by CA)	Empty	Receiver's	CA's
		C2 signs the message with its	C2 discover C3's public	C3 signs the receipt with its	The receiver trusts all
PEPPOL	Note:	private key	certificate from the SMP	private key	senders who's certificate were issue dby these CA's
	Certificate:	Sender's (issued by CA)	SMP's	Receiver's	CA's
OASIS	Note:	C2 signs the message with its private key	C2 discover C3's public certificate from the SMP To trust the SMP, the sender needs its public certificate	C3 signs the receipt with its private key	The receiver trusts all senders who's certificate were issue dby these CA's

14. ANNEX 2 – DOCUMENT PARTS

15. LIST OF FIGURES

Figure 1 - Diagram representing the Deployment of Domibus in a Cluster on WebLogic	22
Figure 2 - Diagram representing the Deployment of Domibus in a Cluster on Tomcat	37
Figure 3 - Diagram representing the Deployment of Domibus in a Cluster on WildFly	50
Figure 4 - Message Service Handler diagram	53
Figure 5 - PMode view	64
Figure 6 - Login to administration dashboard	75
Figure 7 - Configuration upload	76
Figure 8 - PMode uploading	80

16. LIST OF TABLES

Table 1 - Domibus Properties	60
Table 2 - Domibus PMode configuration to ebMS3 mapping	74
Table 3 - Queue Monitoring	
Table 4 - SMP Entry Mapping	118
Table 4 - SMP Entry Mapping	

17. CONTACT INFORMATION

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