# Welcome to the CEF eDelivery Webinar on Domibus 3.3

Start 10:00 (CET)

### **Ground Rules for the Live Webinar**



Please mute your microphone before the webinar starts



To chat with other participants and submit questions, please use the Chat function to the right of your screen

To connect your audio go to the Quick Start tab and connect your audio (dial-in, dial-out or connect via computer)





**CEF eDelivery**Webinar on Domibus 3.3

Adrien Ferial - DIGIT Cosmin Baciu - DIGIT

### Today's speakers

### **Adrien Ferial**

Adrien Ferial is the leader of the technical office of CEF eDelivery which is responsible for the evolutive maintenance of the sample implementations. He joined DIGIT in 2014 as a technical expert and has more than 10 years of experience in IT. Through his professional experience, he participated to multiple projects in software development and system analyses, including managing and implementing large, scalable, distributed systems.

### **Cosmin Baciu**

Cosmin Baciu is the technical leader of Domibus. He is an experienced Technical Expert/Java Architect with more than 10 years of experience actively involved in software requirement analysis, design and development phases of every project ensuring that the development adheres to the required standards. He has a strong educational background and he is passionate about architecture and Java related technologies.

### Agenda

1	Introduction to CEF eDelivery  Adrien Ferial – DIGIT	10'
2	Domibus 3.3	55'
	New features, improvements & fixed bugs Upgrading to Domibus 3.3 step by step	
	Cosmin Baciu - DIGIT	
3	Q&A	25'
	ΔII	

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### Introduction to CEF eDelivery

Adrien Ferial - DIGIT

### CEF eDelivery specifications

- •The approach employed by eDelivery is to promote the use of existing technical specifications and standards rather than to define new ones.
- •The profiling work of e-SENS and PEPPOL on these standards, i.e. constraining configuration choices, is equally taken on board. Even though eDelivery makes software available implementing these specifications, the use of commercial software or other Open Source software projects is also possible.

#### COMPONENT

#### **KEY SPECIFICATIONS**

**Access Point** 

e-SENS AS4 profile of the ebMS3/AS4 OASIS Standards

PEPPOL AS2 profile of AS2 and SBDH (for the eProcurement only)

Digital Certificates

ETSI – Electronic Signatures and Infrastructures profile

Connector

**ETSI REM for evidences** 

Service Metadata Locator (SML)

e-SENS Profile based on the OASIS BDXL Specification

> e-SENS ebCore Party ID Profile

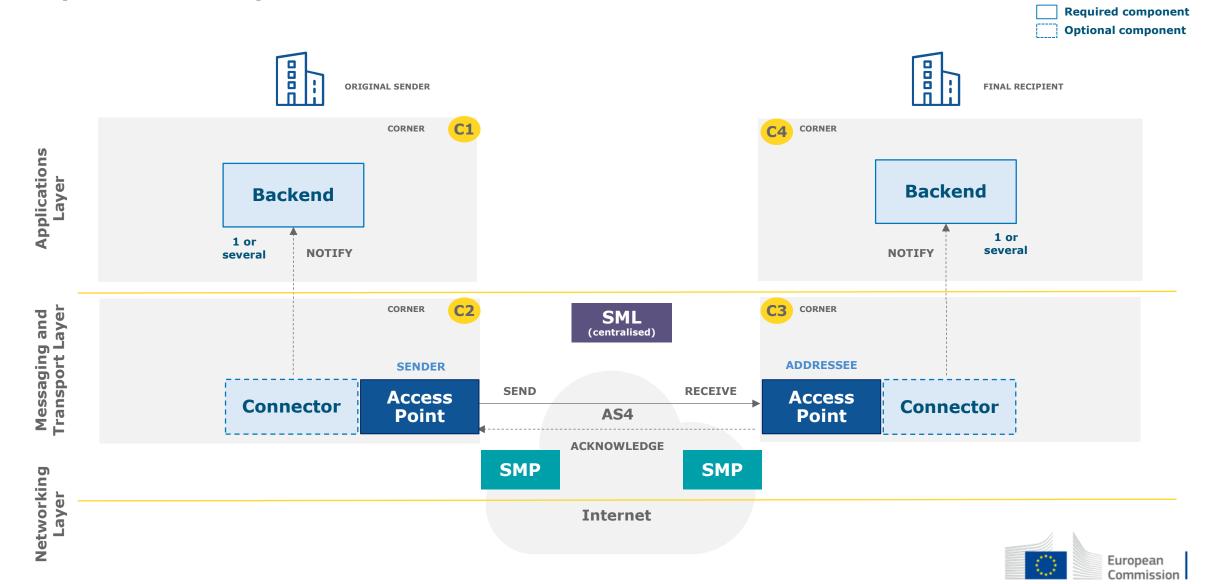
Service Metadata Publisher (SMP)

e-SENS Profile based on the OASIS BDX-SMP Specification



### eDelivery Messaging Infrastructure based on the 4-Corner Model

### **Dynamic discovery**



### CEF eDelivery Service offering

#### SOFTWARE

Sample software maintained by the EC (with documentation)

**Access Point (AP)** 

Service Metadata

Publisher (SMP)
Service Metadata
Locator (SML)





### OPERATIONS SERVICES

Managed services

Public Key Infrastructure (PKI)

Service Metadata Locator (SML)



Connectivity testing

Conformance testing



Training & Deployment

Service Desk

#### STAKEHOLDER MANAGEMENT SERVICES

Onboarding services (for stakeholders)

Self-assessment tool (reuse approach)

Onboarding of new stakeholders

Community management services

Developers Community



#### (example) TECHNICAL SPECS OF EU-WIDE INITIATIVES

**Testing services** 

Available

Coming soon

Access point specifications

SMP specifications

SML specifications

Security control guidance

#### STANDARDS OF ESOs

**Connector specification** 



### Service offering Description (SoD)

All services are described in an SoD describing its purpose, the users for which it is for, its benefits and the process to obtain it



### Service Level Arrangements (SLA)

Documents that describe Service Level Targets to be reached when delivering Building Block Services.



### eLearning, videos, success stories

Some services feature multimedia such as eLearnings, instructional videos or success stories to help grasp what the service is about

### **CEF Digital platform**

CEF eDelivery service offering, and more about the building block, can be found online

CEF Digital >

Operations services

### Managed services

#### **OBJECTIVE OF THE SERVICE**

Sample software centrally hosted and managed by the EC, based on sample implementations that are based on technical specifications of CEF eDelivery.

The European Commission develops, maintains and provides software as a service for the following components of a CEF eDelivery solution:

- Public Key Infrastructure (PKI)
- Service Metadata Locator (SML)

These services facilitate the re-use of CEF eDelivery by different Policy Domains.

#### **BENEFITS**

- Reduced cost of hosting the service, which is sustained by the European Commission
- Full support by the European Commission
- Defined and agreed Service Levels



### **USERS**

**Policy Domains** 

### **STATUS**

- Service
- Documentation

### More info

**CEF Digital** 

### **Get started**

Operations services / Testing service

### Connectivity testing

#### **OBJECTIVE OF THE SERVICE**

Test if a newly installed AS4 Access Point, conformant with the CEF eDelivery specifications, can successfully communicate with the sample AS4 Access Point hosted by the European Commission. If successful, these tests confirm that the new Access Point is in all likelihood correctly deployed and configured.

The CEF Support Team facilitates the Connectivity Testing by making available a sample AS4 Access Point in a cloud environment, as well as providing guidelines and support during the testing process.

#### **BENEFITS**

- Confirm that newly deployed AS4 Access Points can successfully communicate with a neutral organization i.e. the sample Access Point of the European Commission;
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission



### **USERS**

Software Providers
Service Providers

### **STATUS**

- Service
- Documentation

#### More info

**CEF Digital** 

#### **Get started**

Operations services / Testing service

### Conformance testing

#### **OBJECTIVE OF THE SERVICE**

Verify that an implementation of the CEF eDelivery Access Point and SMP specifications, a software package either commercial or Open Source, conforms to the specifications of the CEF eDelivery Access Point.

The following specifications are tested within the scope of this service:

- e-SENS AS4 Profile
- e-SENS SMP Profile

The CEF eDelivery Team provides ready to use test cases, a testing platform, and supports the users of the CEF eDelivery Conformance Testing service during the entire testing process.

#### **BENEFITS**

- Confirm and assure your users/customers that your software package or implementation of the CEF eDelivery Access Point conforms to the CEF eDelivery specifications
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission



### **USERS**

Software Providers
Service Providers

### **STATUS**

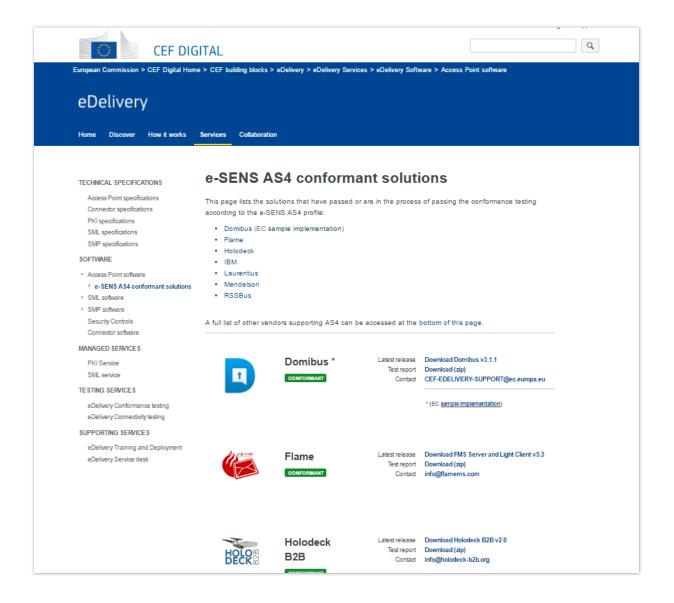
- Service
- Documentation

#### More info

**CEF Digital** 

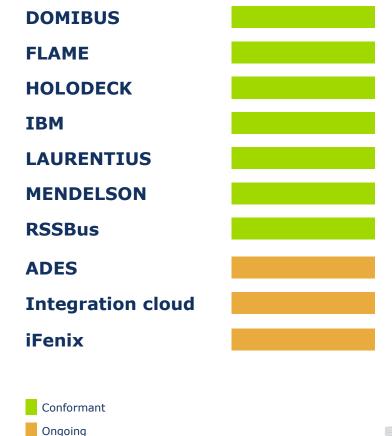
**Get started** 

### e-SENS AS4 conformant solutions



More information on CEF Digital

**Conformant Solutions >** 





### Software

### Sample software maintained by the EC

#### **OBJECTIVE OF THE SERVICE**

Standard software implementations of the technical specifications of CEF eDelivery. The European Commission maintains and develops sample software that is openly available to be re-used. The following components of a CEF eDelivery solution are provided:

- Access Point
- Service Metadata Publisher (SMP)
- Service Metadata Locator (SML)

Through the "Operational Management Board", CEF eDelivery stakeholders define the evolution of these solutions, by suggesting features that are then developed by the CEF's team.

#### **BENEFITS**

- Released under an open source license
- · Viable solutions for use in production environment
- Fully supported by the European Commission
- Based on market-driven technical specifications



### **USERS**

Software Providers Service Providers Policy Domains

### **STATUS**

- Service
- Documentation

### More info

**CEF Digital** 

**Get started** 

Operations services

### Supporting services

#### **OBJECTIVE OF THE SERVICE**

The CEF eDelivery team offers:

- Service Desk a Single Point of Contact (SPOC) to address questions, incidents, requests and changes reported by the Users with regards to the CEF eDelivery service offering.
- Training and deployment support Training sessions about the technical specifications
  underpinning the components of CEF eDelivery, the services offered by the Commission
  and its sample implementations, and interactive sessions to support in the deployment of
  the solution.

#### **BENEFITS**

- Day to day monitoring and 24h/7days service to maintain a high-level of availability and capacity of the CEF eDelivery Managed Services
- Proactive incident detection and resolution
- Increased autonomy of the Public Administration in handling and maintaining the CEF eDelivery components



#### **USERS**

Policy Domains
Software Providers
Service Providers

### **STATUS**

- Service
- Documentation

#### More info

**CEF Digital** 

#### **Get started**

Stakeholder management services

### Onboarding services

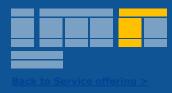
#### **OBJECTIVE OF THE SERVICE**

CEF offers onboarding services for new projects interested in re-using CEF eDelivery:

- Self-assessment tool a survey that maps the requirements of the users to the CEF eDelivery Service Offering. During the self-assessment, users assign different scores to the relevant requirements of their business system and the eDelivery messaging infrastructure. Based on the answers provided, the tool calculates how CEF eDelivery can help users achieve their goals by indicating which services provided by CEF eDelivery will allow them to meet their specified needs and requirements.
- Onboarding of new stakeholders A direct contact point for all policy domains
  interested in re-using CEF eDelivery, that will facilitate the understanding, adoption and
  deployment of the solutions.

#### **BENEFITS**

- · Business-driven and time-efficient assessment
- Comparability the self-assessment tool provides a benchmarking with use cases of other projects already re-using CEF eDelivery
- Direct and easy contact with the CEF eDelivery technical teams, through the onboarding services



### **USERS**

Service Providers
Policy Domains

### **STATUS**

- Service
- Documentation

#### More info

**CEF Digital** 

**Get started** 

Stakeholder management services

### Community management

#### **OBJECTIVE OF THE SERVICE**

Develop, expand and engage with a community of developers contributing to the evolution of CEF eDelivery's open source sample implementations.

Among the 5 components that the CEF eDelivery team develops, CEF manages an online community of developers interested in contributing to the code of the sample implementations.

#### **BENEFITS**

- · Cost effective development
- Wide set of skills
- Faster response to emerging requirements



### **USERS**

Developers



- Service
- Documentation

### More info

**CEF Digital** 

### **Get started**

# 2

### Domibus 3.3

Cosmin Baciu - DIGIT

### Content



New features, improvements & fixed bugs



Upgrading to Domibus 3.3 step by step





# New features, improvements & fixed bugs

### New features & improvements



- New Administration console
- New Domibus plugin: File System Plugin
- Handling of messages of up to 2GB
- Improved performance
- Simplified configuration using a single property file
- Support for PULL
- Improved logging

- New API for message monitoring
- New API to log the acknowledgements from C3 to C4
- Configurable HTTP chunking between C2 and C3
- Custom truststore for SSL communication
- Possibility to notify the plugins each time the message status changes
- Possibility to resend failed messages
- Possibility to download the Pmode configuration file





**LIVE DEMO** 

# New Administration console

### New features & improvements

### **New Domibus plugin: File System Plugin**

- It provides a file system interface for Domibus
- The FS Plugin uses a main location comprised of four folders acting as an interface for the backend:

**OUT** – Contains the messages that need to be sent to Domibus(C2)

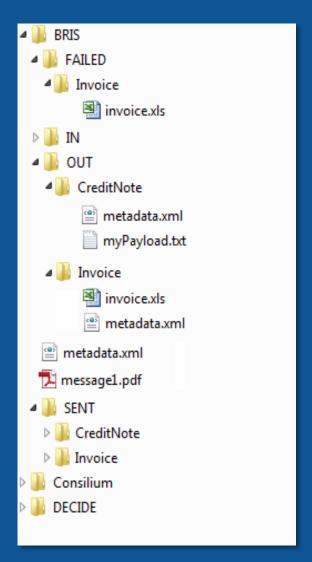
**IN** – Contains the received messages

**SENT** – Contains the messages sent successfully to Domibus(C2)

**FAILED** – Contains the messages that failed to be sent to Domibus(C2)

- The FS Plugin supports the configuration of multiple domains, each domain location has the same structure as the main location described above
- The file **metadata.xml** contains the template of the AS4 metadata that will be used by the FS Plugin together with the file being sent to create the **User Message** that will be sent to Domibus







### New features & improvements Handling of messages of up to 2GB

- Supports transfers between Access Points of files up to 2 GB using Java 8
- Using Java 7 the limitation is 1 GB due to a limitation in Java 7 version
- HTTP chunking is activated by default for large files optimization
- A threshold(default 100MB) is used to activate the chunking, this is to optimize the performance for sending small files

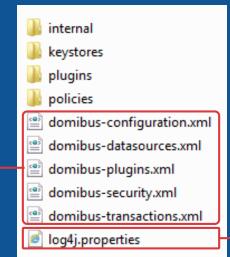
### New features & improvements

### Simplified configuration using a single property file

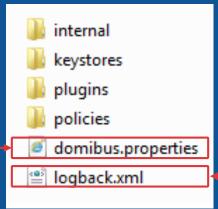
- No more Spring xml files in the domibus.config.location directory
- Only one configuration file is used domibus.properties
- All the properties present in the old Spring XML files have been migrated in the domibus.properties



### **Domibus 3.2.x**



### **Domibus 3.3**

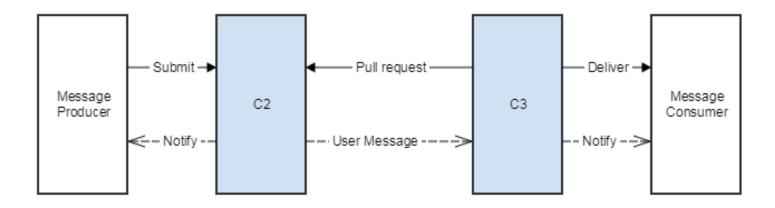




### 图

### New features & improvements **Support for PULL**

- C1 submit the message to C2
- C2 just stores the message and waits for pull requests
- C3 sends a pull request to C2 in order to retrieve the message





### New features & improvements Improved logging

- The logging framework has been migrated from Log4j to the more performant Logback framework
- log4j.properties file has been replaced by logback.xml
- 2 new log files have been created:
  - **business.log** contains all the business related information Eg: MSHWebservice:181 [BUSINESS BUS-001] Message successfully received
  - **security.log** contains all the security related information

    Eg: MessageSender:149 [SECURITY SEC-012] X509Certificate invalid or not found



### 图

### New features & improvements New API for message monitoring

- Accessible via the Java API and REST
- Gives the possibility to:
  - get the messages that failed to be sent(having the status SEND\_FAILURE)
  - resend a failed message with status SEND\_FAILURE
  - know how long a message has been in a failed status
  - get a history of delivery attempts



### New features & improvements New API to log the acknowledgements from C3 to C4

- Accessible via the Java API and REST
- Used to acknowledge when a message is:
  - a) delivered from C3 to the backend
  - b) processed by the backend
- Typical use cases:
  - a) a message is received by C3 from C2: the plugin that handles the message registers an acknowledgment before delivering the message to the backend
  - b) a message is processed by the backend and it informs C3 via the plugin; the plugin registers an acknowledgment that the message has been processed by the backend



### New features & improvements Custom truststore for SSL communication

- The truststore used for establishing the TLS connection can be configured in Domibus using the clientauthentication.xml configuration file
- One way/Two way SSL are supported

```
<a href="http-conf:tlsClientParameters">http-conf="http://cxf.apache.</a>
<a href="http://cxf.apache.">http-conf="http://cxf.apache.</a>
    <security:trustManagers>
       <security:keyStore type="JKS" password="test123" file="${domibus.config.location}/keystores/trustore ssl.jks"/>
    </security:trustManagers>
    <security:keyManagers keyPassword="1234">
       <security:keyStore type="JKS" password="123456" file="${domibus.config.location}/keystore ssl.jks"/>
    </security:keyManagers>
    <security:cipherSuitesFilter>
        <security:include>.* EXPORT .*</security:include>
       <security:include>.* EXPORT1024 .*</security:include>
        <security:include>.*_WITH_DES_.*</security:include>
       <security:include>.* WITH AES .*</security:include>
        <security:include>.* WITH NULL .*</security:include>
        <security:exclude>.* DH anon .*</security:exclude>
    </security:cipherSuitesFilter>
</http-conf:tlsClientParameters>
```



### 图

### New features & improvements Possibility to resend failed messages

- Domibus provides the ability to resend a failed message (status SEND FAILURE)
- This can be done in the **Messages** screen and only if the payload of the message has not been yet deleted

### Fixed bugs

- RedeliveryPolicy is not taken into account in ActiveMQ
- Restart is required after a truststore update
- Domibus checks by default the validity of the sender and the receiver certificates before sending the message
- Dynamic discovery in a mixed configuration
- Messages page: the value for the "Next Attempt" column was not cleared after the message status changed to acknowledged/failed
- Receiving an incomplete message triggers NPE
- WebLogic: listPendingMessages does not return the entire list of pending messages in a cluster Weblogic environment
- WebLogic(cluster): the total number of messages in the queue is not displayed correctly



### Known issues & limitations

- The Admin Console cannot be used in IE (not EDGE)
- LDAP CRLs are not supported
- Default WS Plugin: domibus-backend.xsd violates Unique Particle Attribution
- Sending a message to the same Access Point is not possible
- Sending payloads in the AS4 message body is not supported when payloads are saved on the database; a workaround is to save the payloads on the file disk by configuring the domibus.attachment.storage.location property





# Upgrading to Domibus 3.3 step by step



### STATE OF THE PARTY OF THE PARTY

### Upgrading to Domibus 3.3 step by step(Tomcat) Prerequisites

- Un-deploy the current war installation of Domibus
- Upgrade to 3.2.5 if an older version of Domibus is installed. Detailed instructions can be found as usual in the upgrade-info.txt



### Upgrading to Domibus 3.3 step by step **Database migration**

- 1. Execute the database migration script
  - a) mysql5innoDb-3.2.5-to-3.3-migration.ddl for MySQL
  - b) oracle10g-3.2.5-to-3.3-migration.ddl for Oracle
- 2. Execute the manual migration of the configured users by executing the following SQL script

```
INSERT INTO TB_USER_ROLE (ID_PK, ROLE_NAME) VALUES ('1', 'ROLE ADMIN');
INSERT INTO TB_USER_ROLE (ID_PK, ROLE_NAME) VALUES ('2', /'ROLE_USER');
INSERT INTO TB USER (ID PK, USER NAME, USER PASSWORD, JSER ENABLED) VALUES ('1', 'admin', '$2a$10$5uKS72xK2ArGDgb2CwjYnOzQcOmB7CPxK6fz2MGcDBM9vJ4rUq136', 1);
INSERT INTO TB_USER (ID_PK, USER_NAME, USER_PASSWORD, USER_ENABLED) VALUES ('2', 'user', '$2a$10$HApapHvDStTEwjjneMCvxuqUKVyycXZRfXMwjU0rRmaWMsjW0p/Zu, 1);
INSERT INTO TB USER ROLES (USER ID, ROLE ID) VALUES ('1', '1');
INSERT INTO TB_USER_ROLES (USER_ID, ROLE_ID) VALUES ('1', '2');
INSERT INTO THE USER ROLES (USER ID, ROLE ID) VALUES ('2', '2');
   <sec:authentication-manager id="authenticationManagerForAdminConsole">
       <sec:authentication-provider>
            <sec:password-encoder ref="bcryptEncoder"/>
            <sec:user-service>
                <sec:user name="user" password=†$2a$10$HApapHvDStTEwjjneMCvxuqUKVyycXZRfXMwjU0rRmaWMsjWQp/Zu"</p>
                            authorities="ROLE USER"/>
                <sec:user name="admin" password=\$2a\$10\$5uKS72xK2ArGDqb2CwjYnOzQcOmB7CPxK6fz2MGcDBM9vJ4rUq136"</pre>
                            authorities="ROLE USER, ROLE ADMIN"/>
            </sec:user-service>
       </sec:authentication-provider>
   </sec:authentication-manager>
```



### STATE OF THE PARTY OF THE PARTY

### Upgrading to Domibus 3.3 step by step Update the log configuration from log4j.properties to logback.xml

- Copy the logback.xml from the distributed application server configuration into the domibus.config.location configuration directory
- Adapt the log appenders if necessary
- log4j.properties is not used anymore and it can be deleted

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### Upgrading to Domibus 3.3 step by step Update the ehcache.xml and activemq.xml configuration

 Adapt the cache configuration in the file domibus.config.location/internal/ehcache.xml by adding the following lines:

2. Copy the **activemq.xml** file from the Domibus 3.3 distribution and override the existing one

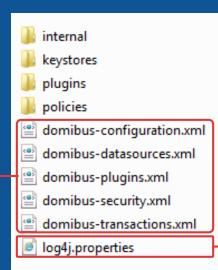
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### Upgrading to Domibus 3.3 step by step Configure the Domibus properties

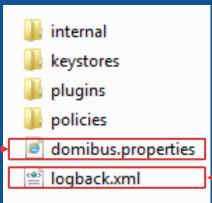
 Copy the domibus.properties configuration file from the distributed application server configuration into the domibus.config.location configuration directory



### **Domibus 3.2.x**



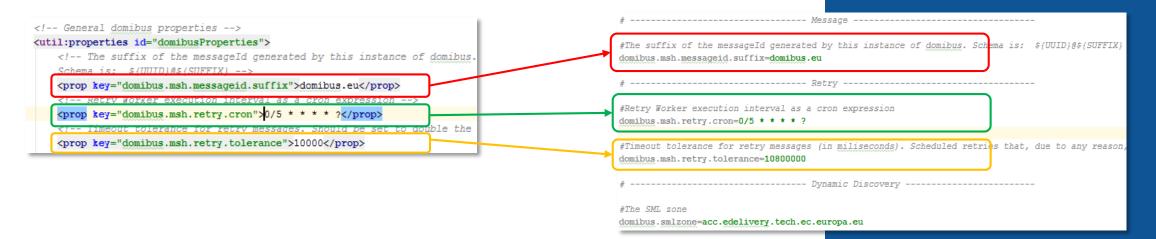
### **Domibus 3.3**





## Upgrading to Domibus 3.3 step by step Configure the Domibus properties from domibus-configuration.xml

- 1. All the properties names from the old **domibus-configuration.xml** file have been kept the same in the **domibus-properties** with the following exceptions:
  - a) domibus.certificate.validation.enabled renamed to domibus.receiver.certificate.validation.onsending
  - **b) domibus.msh.retry.tolerance** value changed to 10800000





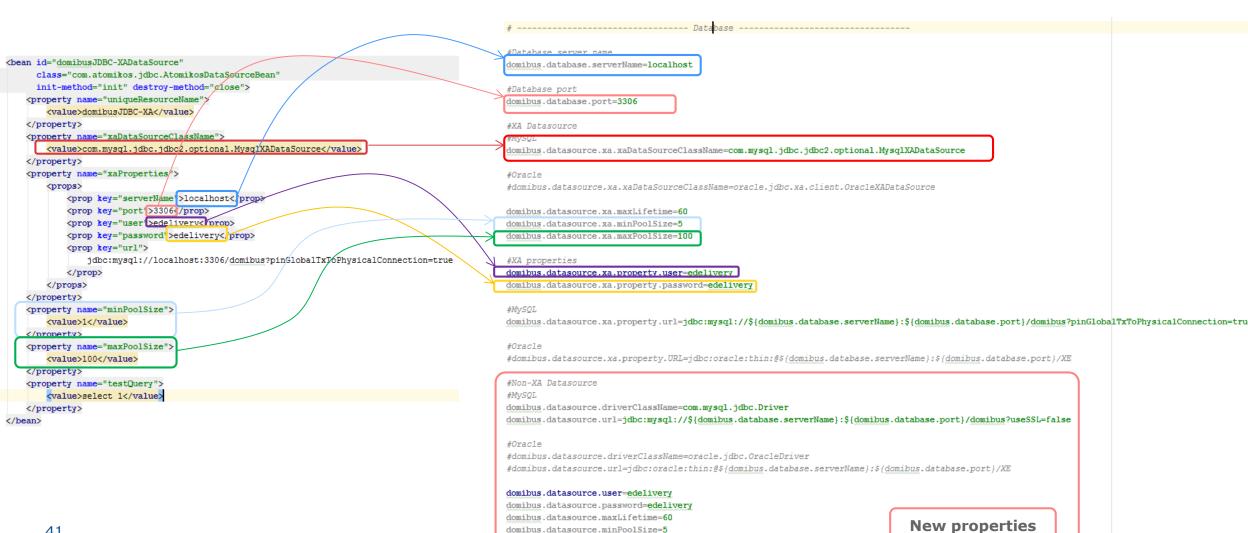
### Upgrading to Domibus 3.3 step by step Configure the Domibus properties from domibus-security.xml

```
<bean id="keystorePasswordCallback" class="eu.domibus.ebms3.security.SimpleKeystorePasswordCallback">
   cproperty name="passwordStore">
      <util:map>
                           "-value="test123"/>-
       </util:map>
                                                                                                                                  ----- Keystore/Truststore ------
   </property>
</bean>
                                                                                                                            #The location of the keystore
                                                                                                                            domibus.security.keystore.location=${domibus.config.location}/keystores/gateway keystore.jks
<!-- Properties for keystore with private key -->
<util:properties id="keystoreProperties">
                                                                                                                            #The type of the used keystore
   <!-- The crypto provider to be used -->
                                                                                                                            domibus.security.keystore.type=jks
    key="org.apache.ws.security.crypto.provider">org.apache.wss4j.common.crypto.Merlin
   <!-- Type of the used keystore -->
                                                                                                                            #The password used to load the keystore
    key="org.apache.ws.security.crypto.merlin.keystore.type">jks
                                                                                                                            domibus.security.keystore.password=test123
   <!-- The password used to load the keystore -->
    key="org.apache.ws.security.crypto.merlin.keystore.password">test123
                                                                                                                            #Private key
   <!-- The keystore alias to use for decryption and signing. -->
                                                                                                                            #The alias from the keystore of the private key
   key="org.apache.ws.security.crypto.merlin.keystore.alias">blue gw</prep>
                                                                                                                            domibus.security.key.private.alias=blue gw
   <!-- The location of the keystore -->
   #The private key password
                                                                                                                            domibus.security.key.private.password=test123
<!-- Properties for trustStore with public keys for the partners -->
                                                                                                                            #Truststore
<util:properties id="trustStoreProperties">
                                                                                                                            #The location of the truststore
   <!-- The crypto provider to be used -->
                                                                                                                            domibus.security.truststore.location=${domibus.config.location}/keystores/gateway truststore.jk
    key="org.apache.ws.security.crypto.provider">eu.domibus.wss4j.common.crypto.Merlin
   <!-- Type of the used keystore ---
                                                                                                                            #Type of the used truststore
    key="org.apache.ws.security.crypto.merlin.trustStore.type">jks
                                                                                                                            domibus.security.truststore.type=jks
   <!-- The password used to load the keystore -->
    key="org.apache.ws.security.crypto.merlin.keystore.private.password">test123
                                                                                                                            #The password used to load the trustStore
   <!-- The password used to load the trustStore -->
                                                                                                                           domibus.security.truststore.password=test123
    key="org.apache.ws.security.crypto.merlin.trustStore.password">test123
   key="org.apache.ws.security.crypto.merlin.load.cacerts">false</prep>
   <!-- The location and name of the trustStore -->
   </util:properties>
```





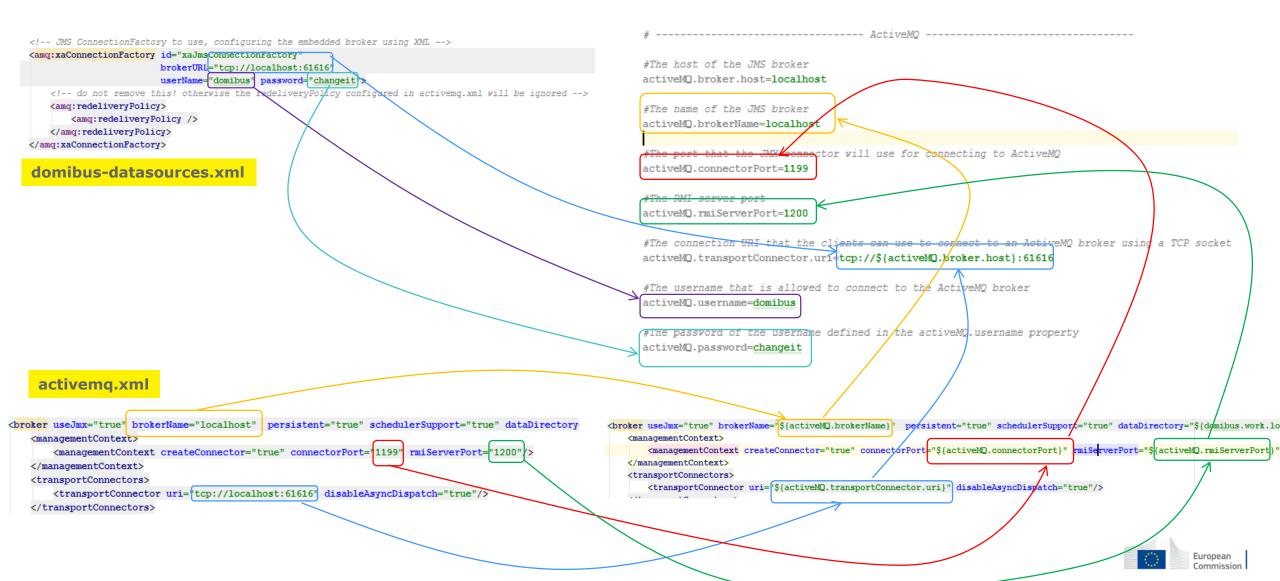
### Upgrading to Domibus 3.3 step by step Configure the Domibus properties from domibus-datasources.xml



domibus.datasource.maxPoolSize=100



### Upgrading to Domibus 3.3 step by step Configure the Domibus properties from domibus-datasources.xml and activemq.xml





### STATE OF THE PARTY OF THE PARTY

### Upgrading to Domibus 3.3 step by step Install the Domibus 3.3 war

- Install the new Domibus war file and optionally the default plugins
- For WebLogic and WildFly the procedure is similar

### Roadmap



### **Domibus 4.0 (Q1 2018)**

Java 8+ only

Advanced features for administration console:

- ping remote access points
- history off PMode changes
- configurable alerts and notifications
- export tables data as CSV files

Multi-tenancy: support for multiple domains

Audit trails

Support for Wildfly 10



https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Domibus



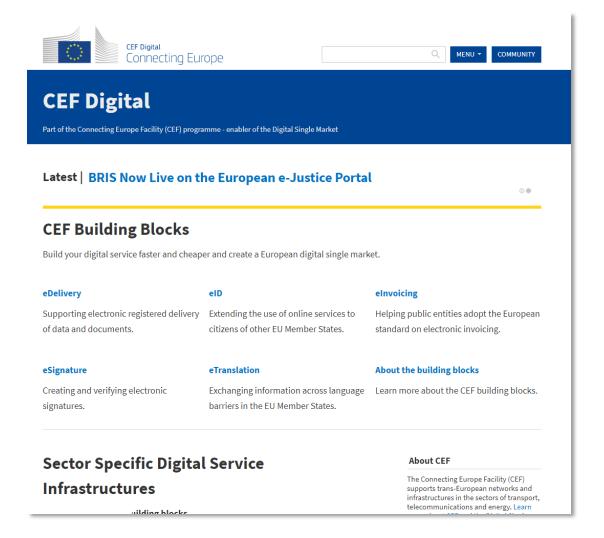
# 3

Q&A

All

### Find out more on CEF Digital

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## REUSE

### **Contact us**



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