PEPPOL

DEMONSTRATOR CLIENT

Developer Guide

Version 0.9.1

PEPPOL 2010-11-15

Borderless eProcurement

Let's make it happen!

Tables of Contents

1. Document Information 3
1.1. Document History 3
1.2. Editors 3
2. Introduction 4
3. Pre-Requisites 5
3.1. Eclipse 5
3.2. Java version 5
4. How to prepare your own workspace 6
4.1. Pre-Requisites 6
4.2. Overview 7
4.3. MANIFEST.MF 8
4.4. POM.XML 9
4.5. WP3Config.xml 9
4.6. BII07 ProcurementWithInvoiceDispute.bpel 10
4.7. BII19 AdvancedProcurement.bpel 11
4.8. BII01_CatalogueOnly.bpel 12
4.9. BII17_MultiPartyCatalogue.bpel 12
4.10. Folder structure 13
5. Source code layout 14
6. Lesson: Compiling the demonstrator client 21
7. Lesson: Setting up for local testing 21
8. Lesson: About BPEL 22
8.1. Creating a new BPEL 22
8.2. Folder structure 24
9. Lesson: Lime library 25
9.1. Folder structure 26
9.2. Set up parameters and functionality 27
10. How to create a “Demo Client” binary 28
11. Validation Engine 29

1. Document Information

1.1. Document History

Date	Version	Initials	Changes
2009-04-13	0.1.0	CDP	Initial
2009-04-29	0.7.0	JRR	Corrections
2009-10-16	0.7.1	JGB	Updates
2010-05-28	0.8.0	JGB	Updates and corrections
2010-09-01	0.9.0	JGB	Updates, new features and thorough review
2010-09-13	0.9.1	JFA	Updates

1.2. Editors

Initials	Name	Company
CDP	Carlos Dávila Pino	Alfa1lab
JRR	Jorge Reátegui Ravina	Alfa1lab
JGB	José Gonzales Biminchumo	Alfa1lab
JFA	Joan Farfán Armas	Alfa1lab

2. Introduction

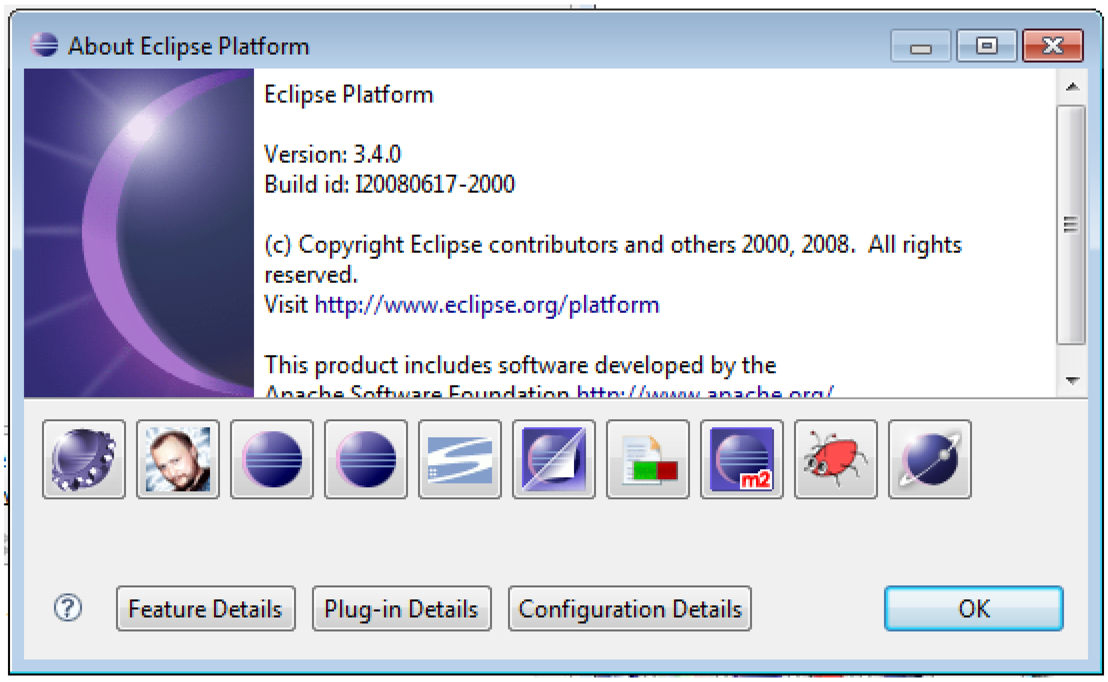
This document describes how to download the source code of “*DEMO Client*” through SVN (Eclipse Ganymedes plugin.) and how to create a development environment on your local machine.

The “Demo Client” is an open source project oriented to developers.

3. Pre-Requisites

3.1. Eclipse

Eclipse Ganymedes with SVN, MAVEN, ANT and BPEL. You can see the features at “*Help/About Eclipse platforms*”.



About Eclipse Platform

Eclipse Platform

Version: 3.4.0
Build id: I20080617-2000

(c) Copyright Eclipse contributors and others 2000, 2008. All rights reserved.
Visit http://www.eclipse.org/platform

This product includes software developed by the
Apache Software Foundation http://www.apache.org/

Figure 1: Some of the extra plug-ins that Eclipse Framework needs

3.2. Java version

It is necessary to install the latest JDK version for 32-bits. It is recommended to use version 20 (1.6.0_20 was used for development).

4. How to prepare your own workspace

To prepare your own workspace on Eclipse to work with the Demonstrator Client you have to install some plug-ins and download four different projects. This guide will provide you the link to download the plug-ins.

4.1. Pre-Requisites

1. Eclipse Ganymedes, you can download from http://eclipse.org/
2. Subversion (SVN) a plug-in to Eclipse, you can find a specification to download and install from: http://subeclipse.tigris.org/servlets/ProjectsProcess?pageID=p4wYuA
3. BPEL Designer a plug-in to Eclipse, install according to this guide: http://download.eclipse.org/technology/bpel/update-site/
4. To check the correct installation of BPEL and SVN, your wizard for creating new projects should look like the picture bellow:

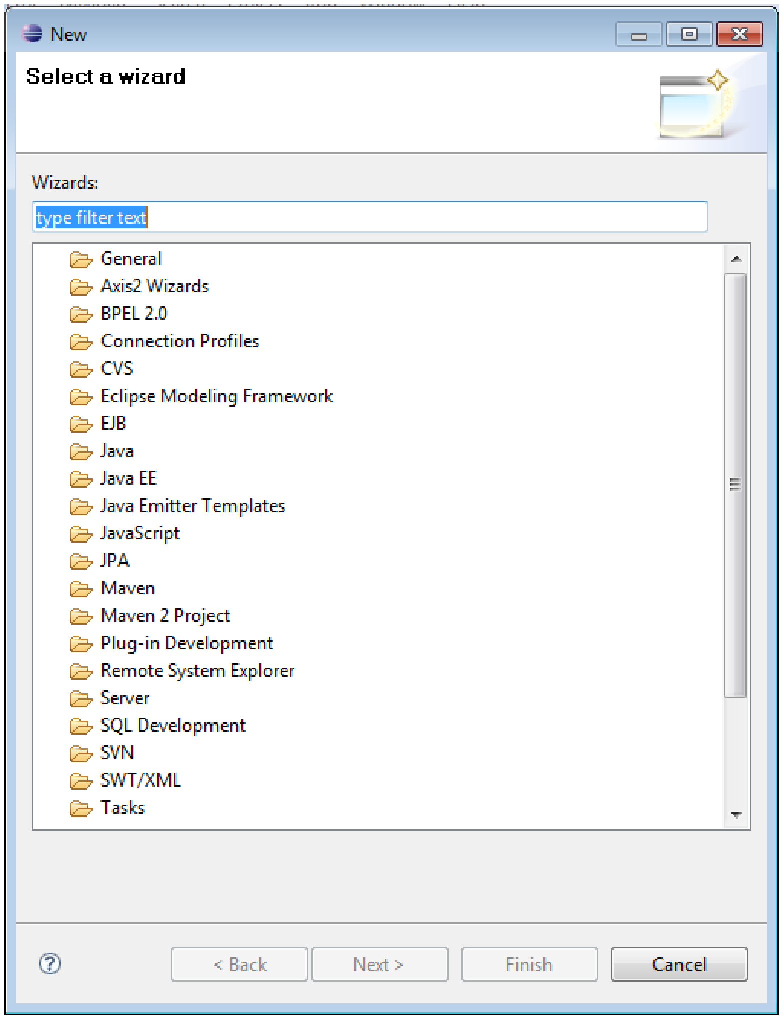
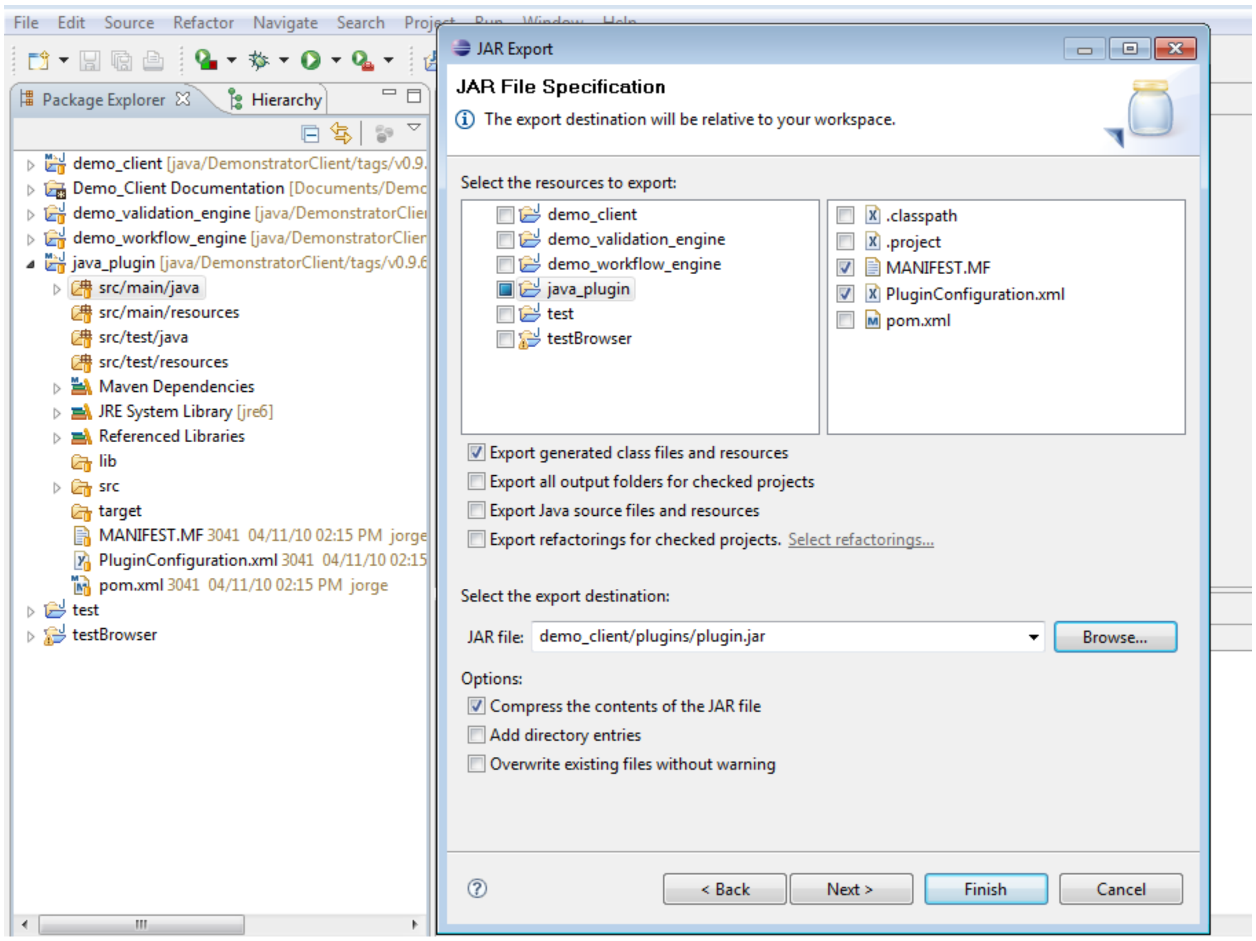


Figure 2: Kind of projects that Eclipse should allow (SVN, BPEL)

4.2. Overview

The Demonstrator Client project is split in four different Java Projects. The first one is the Demo client project (*demo_client*) which is the application itself (in charge of the visual parts), the second one is the Demo Workflow Engine (*demo_workflow_engine*) which contributes to the flow of the project and the other one is the Java Plug-in project (*java_plugin*) which supports the sending and receiving. This project deals directly with the transport libraries. To start developing with the demo client, first you have to import the project previously downloaded into to your workspace then you need to compile the Java Plug-in project and export it as a jar (plugin.jar). Then the plug-in jar needs to be placed into a folder within the Demo Client project (*demo_client/plugins/plugin.jar*). And finally the validation engine project (*validation_engine*) to validate documents in layers.



Package Explorer:
- demo_client [java/DemonstratorClient/tags/v0.9.
- Demo_Client Documentation [Documents/Demo
- demo_validation_engine [java/DemonstratorClie
- demo_workflow_engine [java/DemonstratorClier
- java_plugin [java/DemonstratorClient/tags/v0.9.6
  - src/main/java
  - src/main/resources
  - src/test/java
  - src/test/resources
  - Maven Dependencies
  - JRE System Library [jre6]
  - Referenced Libraries
  - lib
  - src
  - target
  - MANIFEST.MF 3041 04/11/10 02:15 PM jorge
  - PluginConfiguration.xml 3041 04/11/10 02:15
  - pom.xml 3041 04/11/10 02:15 PM jorge
- test
- testBrowser

JAR File Specification

The export destination will be relative to your workspace.

Select the resources to export:

- ☐ demo_client
- ☐ demo_validation_engine
- ☐ demo_workflow_engine
- ■ java_plugin
- ☐ test
- ☐ testBrowser

- ☐ .classpath
- ☐ .project
- ✓ MANIFEST.MF
- ✓ PluginConfiguration.xml
- ☐ pom.xml

- ✓ Export generated class files and resources
- ☐ Export all output folders for checked projects
- ☐ Export Java source files and resources
- ☐ Export refactorings for checked projects. Select refactorings...

Select the export destination:

JAR file: demo_client/plugins/plugin.jar

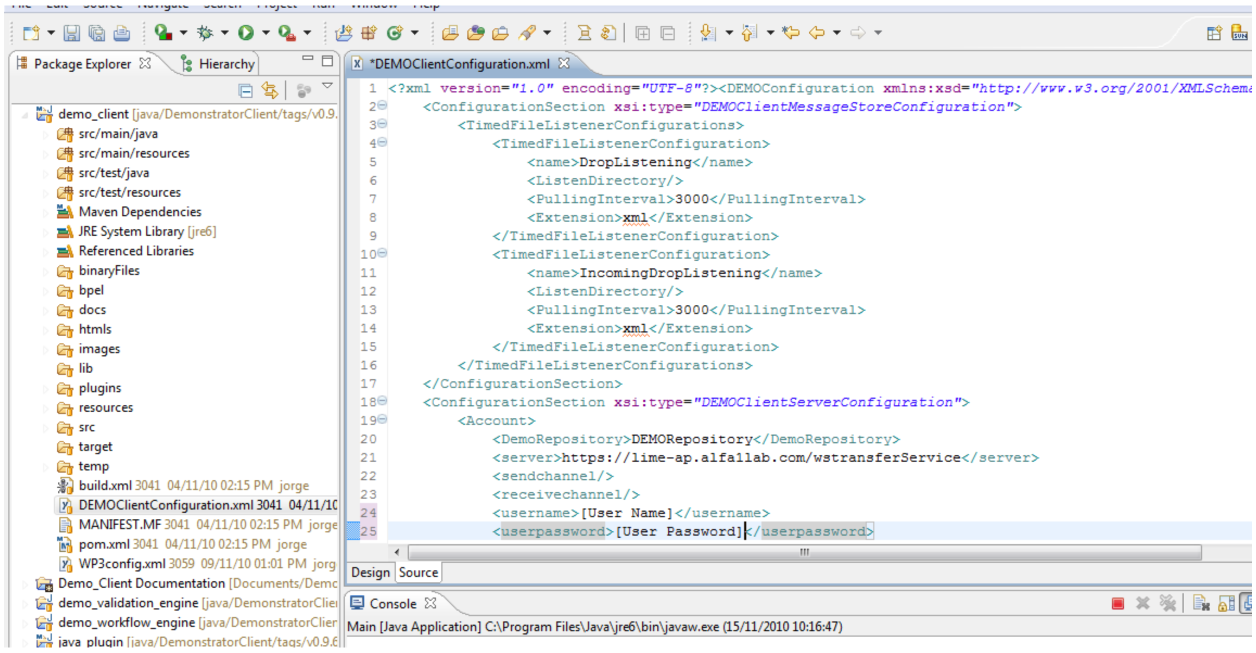
Options:

- ✓ Compress the contents of the JAR file
- ☐ Add directory entries
- ☐ Overwrite existing files without warning

Figure 3: Internal plug-ins

The demonstrator client contains classes that enable it to support and handle all types of xml documents this is expressed in an xml configuration file.

DemoClienConfiguration.xml: This is a file where the configuration of the client is stored (e.g. associations between document types and document namespace + document element name.


Package Explorer
Hierarchy
demo_client [java/DemonstratorClient/tags/v0.9.
src/main/java
src/main/resources
src/test/java
src/test/resources
Maven Dependencies
JRE System Library [jre6]
Referenced Libraries
binaryFiles
bpel
docs
htmls
images
lib
plugins
resources
src
target
temp
build.xml 3041 04/11/10 02:15 PM jorge
DEMOClientConfiguration.xml 3041 04/11/10
MANIFEST.MF 3041 04/11/10 02:15 PM jorge
pom.xml 3041 04/11/10 02:15 PM jorge
WP3config.xml 3059 09/11/10 01:01 PM jorg
Demo_Client Documentation [Documents/Demc
demo_validation_engine [java/DemonstratorClie
demo_workflow_engine [java/DemonstratorClier
java plugin [java/DemonstratorClient/tags/v0.9.6
*DEMOClientConfiguration.xml
Design
Source
Console

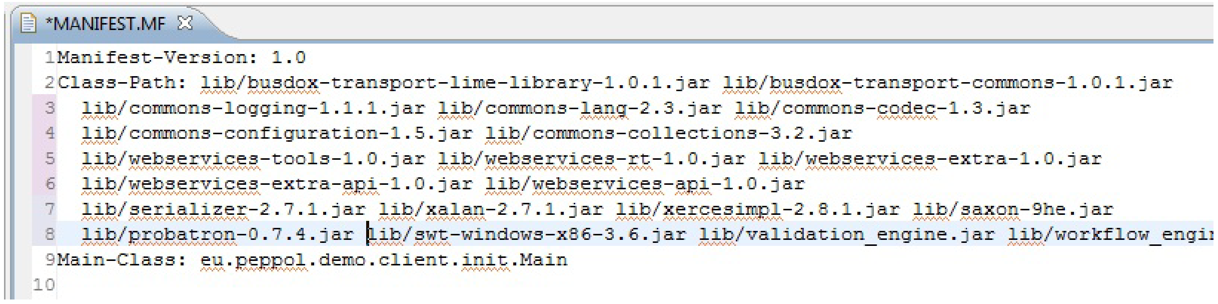
```xml
<?xml version="1.0" encoding="UTF-8"?><DEMOConfiguration xmlns:xsd="http://www.w3.org/2001/XMLSchema
    <ConfigurationSection xsi:type="DEMOClientMessageStoreConfiguration">
        <TimedFileListenerConfigurations>
            <TimedFileListenerConfiguration>
                <name>DropListening</name>
                <ListenDirectory/>
                <PullingInterval>3000</PullingInterval>
                <Extension>xml</Extension>
            </TimedFileListenerConfiguration>
            <TimedFileListenerConfiguration>
                <name>IncomingDropListening</name>
                <ListenDirectory/>
                <PullingInterval>3000</PullingInterval>
                <Extension>xml</Extension>
            </TimedFileListenerConfiguration>
        </TimedFileListenerConfigurations>
    </ConfigurationSection>
    <ConfigurationSection xsi:type="DEMOClientServerConfiguration">
        <Account>
            <DemoRepository>DEMORepository</DemoRepository>
            <server>https://lime-ap.alfallab.com/wstransferService</server>
            <sendchannel/>
            <receivechannel/>
            <username>[User Name]</username>
            <userpassword>[User Password]</userpassword>
```

```
Main [Java Application] C:\Program Files\Java\jre6\bin\javaw.exe (15/11/2010 10:16:47)
```

Figure 4: DEMOClientConfiguration.xml file

4.3. MANIFEST.MF

Contains a list of jars that the application requires to work once it's converted into a binary. This file is used to build and execute the Demo Client.



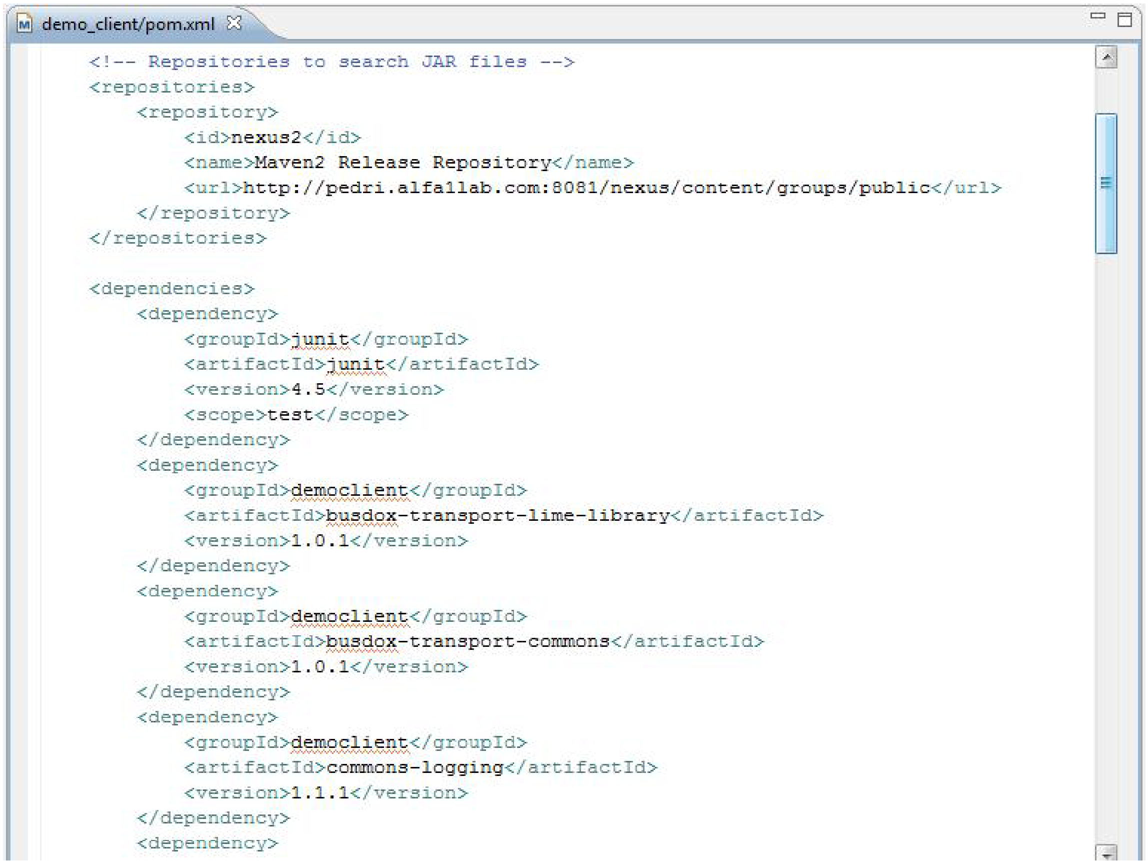
```
Manifest-Version: 1.0
Class-Path: lib/busdox-transport-lime-library-1.0.1.jar lib/busdox-transport-commons-1.0.1.jar
  lib/commons-logging-1.1.1.jar lib/commons-lang-2.3.jar lib/commons-codec-1.3.jar
  lib/commons-configuration-1.5.jar lib/commons-collections-3.2.jar
  lib/webservices-tools-1.0.jar lib/webservices-rt-1.0.jar lib/webservices-extra-1.0.jar
  lib/webservices-extra-api-1.0.jar lib/webservices-api-1.0.jar
  lib/serializer-2.7.1.jar lib/xalan-2.7.1.jar lib/xercesimpl-2.8.1.jar lib/saxon-9he.jar
  lib/probatron-0.7.4.jar lib/swt-windows-x86-3.6.jar lib/validation_engine.jar lib/workflow_engi
Main-Class: eu.peppol.demo.client.init.Main

```

Figure 5: Manifest.MF with basic plug-ins that the Client needs for a binary version

4.4. POM.XML

Contains the structure of libraries the maven project will download using nexus.



demo_client/pom.xml

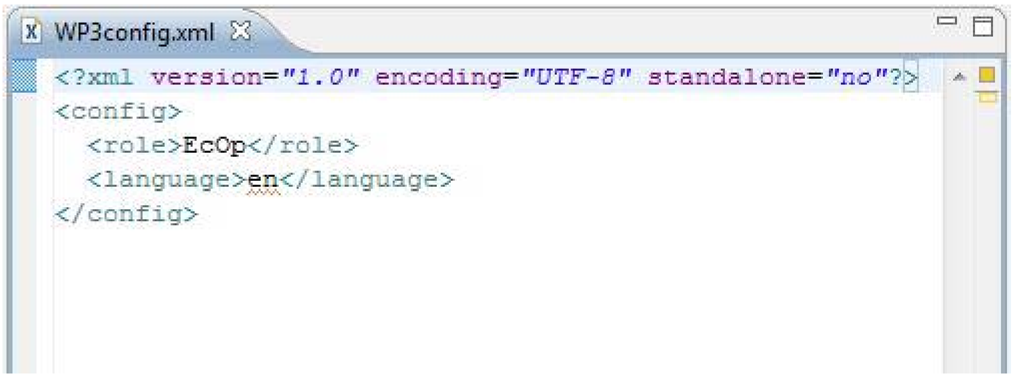
```
<!-- Repositories to search JAR files -->
<repositories>
    <repository>
        <id>nexus2</id>
        <name>Maven2 Release Repository</name>
        <url>http://pedri.alfa1lab.com:8081/nexus/content/groups/public</url>
    </repository>
</repositories>

<dependencies>
    <dependency>
        <groupId>junit</groupId>
        <artifactId>junit</artifactId>
        <version>4.5</version>
        <scope>test</scope>
    </dependency>
    <dependency>
        <groupId>democlient</groupId>
        <artifactId>busdox-transport-lime-library</artifactId>
        <version>1.0.1</version>
    </dependency>
    <dependency>
        <groupId>democlient</groupId>
        <artifactId>busdox-transport-commons</artifactId>
        <version>1.0.1</version>
    </dependency>
    <dependency>
        <groupId>democlient</groupId>
        <artifactId>commons-logging</artifactId>
        <version>1.1.1</version>
    </dependency>
    <dependency>
```

Figure 6: File that downloads basic plug-ins trough maven

4.5. WP3Config.xml

This file allows the Demo Client to choose between two possible roles (Contract authority or Economic Operator). The Client now allows changing it trough the User Interface.



WP3config.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<config>
  <role>EcOp</role>
  <language>en</language>
</config>
```

Figure 7: WP3config.xml

4.6. BII07 ProcurementWithInvoiceDispute.bpel

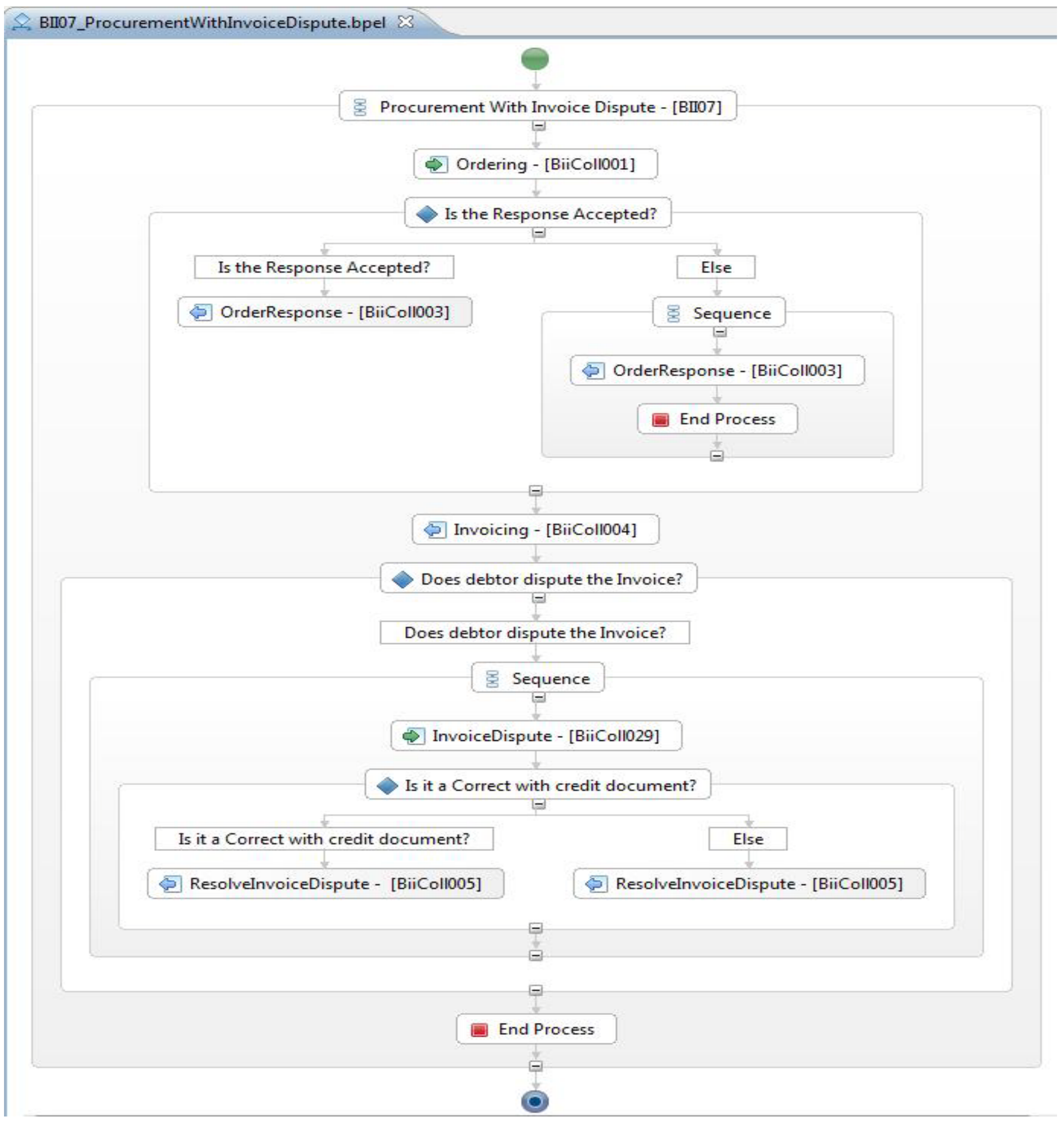

BII07_ProcurementWithInvoiceDispute.bpel
Procurement With Invoice Dispute - [BII07]
Ordering - [BiiColl001]
Is the Response Accepted?
Is the Response Accepted?
Else
OrderResponse - [BiiColl003]
Sequence
OrderResponse - [BiiColl003]
End Process
Invoicing - [BiiColl004]
Does debtor dispute the Invoice?
Does debtor dispute the Invoice?
Sequence
InvoiceDispute - [BiiColl029]
Is it a Correct with credit document?
Is it a Correct with credit document?
Else
ResolveInvoiceDispute - [BiiColl005]
ResolveInvoiceDispute - [BiiColl005]
End Process

Figure 8: BII07

4.7. BII19 AdvancedProcurement.bpel

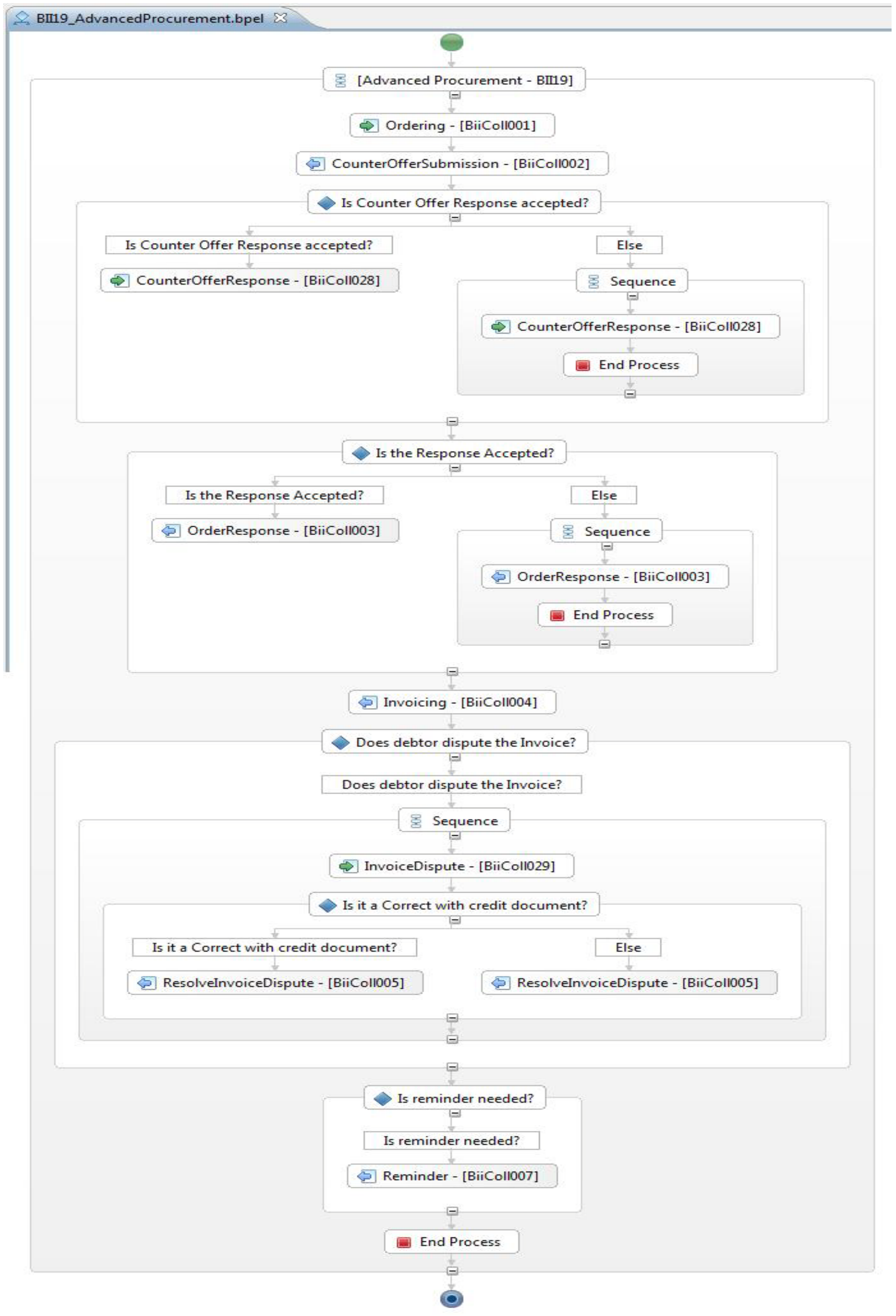

BII19_AdvancedProcurement.bpel
[Advanced Procurement - BII19]
Ordering - [BiiColl001]
CounterOfferSubmission - [BiiColl002]
Is Counter Offer Response accepted?
Is Counter Offer Response accepted?
Else
CounterOfferResponse - [BiiColl028]
Sequence
CounterOfferResponse - [BiiColl028]
End Process
Is the Response Accepted?
Is the Response Accepted?
Else
OrderResponse - [BiiColl003]
Sequence
OrderResponse - [BiiColl003]
End Process
Invoicing - [BiiColl004]
Does debtor dispute the Invoice?
Does debtor dispute the Invoice?
Sequence
InvoiceDispute - [BiiColl029]
Is it a Correct with credit document?
Is it a Correct with credit document?
Else
ResolveInvoiceDispute - [BiiColl005]
ResolveInvoiceDispute - [BiiColl005]
Is reminder needed?
Is reminder needed?
Reminder - [BiiColl007]
End Process

Figure 9: BII19

4.8. BII01_CatalogueOnly.bpel

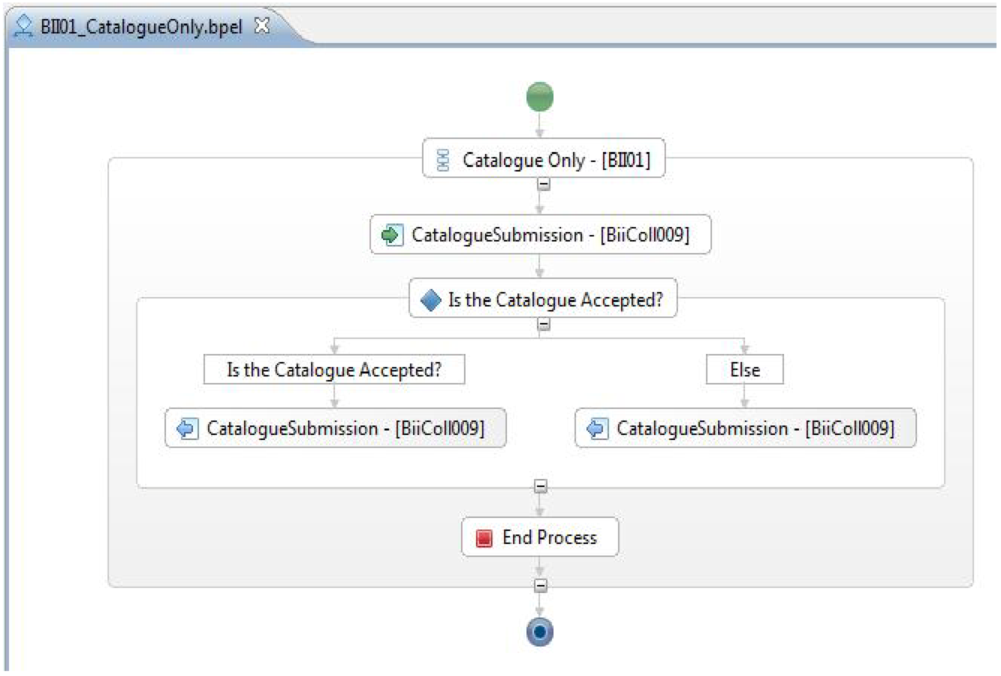

BII01_CatalogueOnly.bpel
Catalogue Only - [BII01]
CatalogueSubmission - [BiiColl009]
Is the Catalogue Accepted?
Is the Catalogue Accepted?
Else
CatalogueSubmission - [BiiColl009]
CatalogueSubmission - [BiiColl009]
End Process

Figure 10: BII01

4.9. BII17_MultiPartyCatalogue.bpel

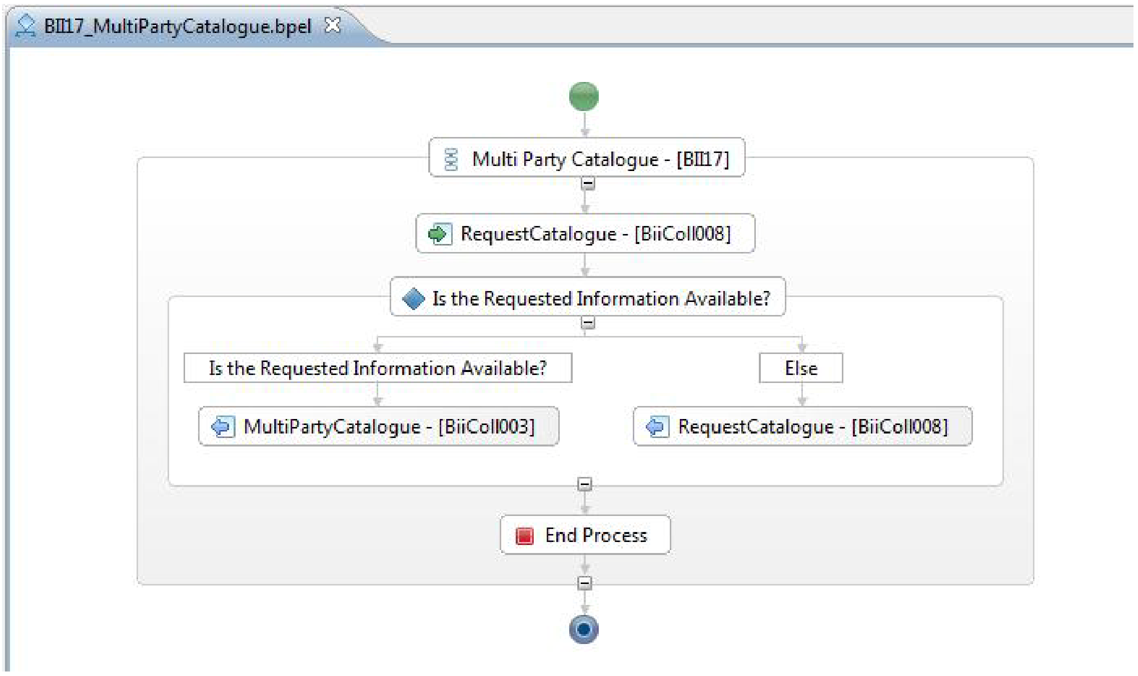
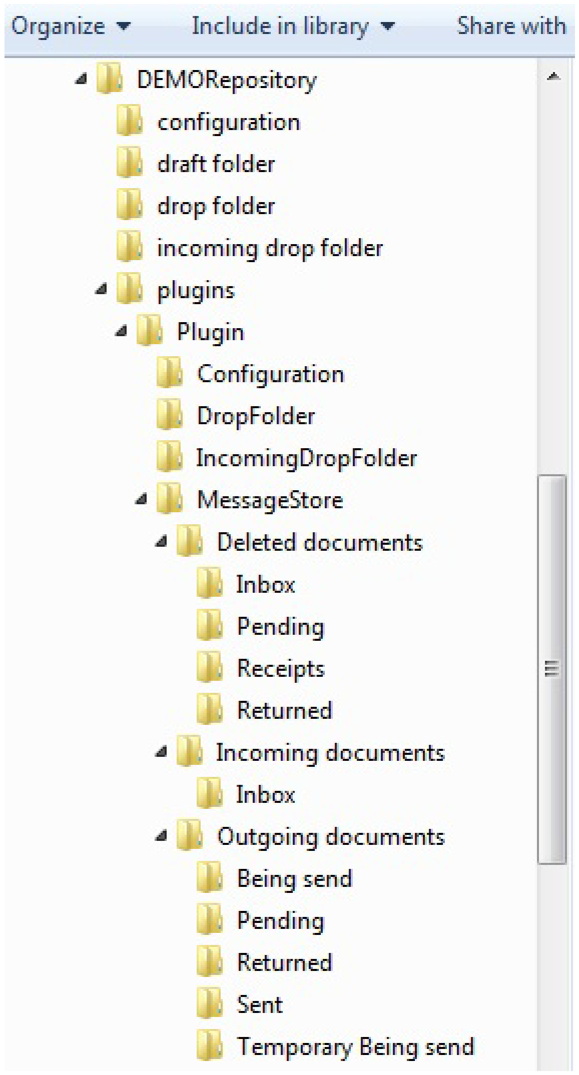

BII17_MultiPartyCatalogue.bpel
Multi Party Catalogue - [BII17]
RequestCatalogue - [BiiColl008]
Is the Requested Information Available?
Is the Requested Information Available?
Else
MultiPartyCatalogue - [BiiColl003]
RequestCatalogue - [BiiColl008]
End Process

Figure 11: BII17

4.10. Folder structure

The client requires a folder structure to be in place for handling documents that are being created, sent or received. This structure is automatically created by the application the first time it is run. If it is deleted by accident the application will create it again. It is possible to create more than one "*DemoRepository*" folders in one computer but it is not possible to change a folder´s location once it is created.



```
DEMORepository
    configuration
    draft folder
    drop folder
    incoming drop folder
    plugins
        Plugin
            Configuration
            DropFolder
            IncomingDropFolder
            MessageStore
                Deleted documents
                    Inbox
                    Pending
                    Receipts
                    Returned
                Incoming documents
                    Inbox
                Outgoing documents
                    Being send
                    Pending
                    Returned
                    Sent
                    Temporary Being send
```

Figure 12: Folder structure

5. Source code layout

Path	Document	Description
java/DemonstratorClient/tags/v9.6.10/		PEPPOL source root
demo_client		Demonstrator client root folder
/bpel/	BII07_SimpleProcurement.bpel	BPEL document that describe the flow of the simple profile.
	BII19_AdvancedProcurement.bpel	BPEL document that describe the flow of the advanced profile.
	BII01_CatalogueOnly.bpel	Profile with catalogues.
	BII03_BasicOrderOnly.bpel	
	BII04_BasicInvoiceOnly.bpel	
	BII06_Procurement.bpel	
	PreAward.bpel	
	BII17_MultiPartyCatalogue.bpel	Profile with catalogues.
/htmls/	html.html	HTML interface for the documents
	validationResult.html	HTML for the interface of the validation
	Index.html	HTML interface for the documents creation
/htmls/css	OIOUBL.css	
	autoComplete.css	
	Calendar.css	
	displayStyle.css	
	Style.css	
/htmls/img	Images	
/htmls/js	js-disableRightClick.js	Javascript methods to disable right clicks.

	Js-autoComplete.js	Javascript methods to auto complete fields
	js-documentsCreation.js	Javascript methods to the document creation
	js-tabber.js	Javascrpit to tab.
	js-validationResult.js	Javascript validate results of the document creation.
/htmls/js/documents	types	All supported documents with their own java scripts methods
/htmls/js/calendar	calendar_db.js	
	calendar_eu.js	
/lib/		Libraries used by the Client.
/plugins/		Repository of plug-ins
/resources/		Schemas needed to validate various document types.
/resources/CSVConverter/CSV examples v1.0	BiiCoreTrdm018.csv, BiiCoreTrdm019.csv, BiiCoreTrdm054.csv, BiiCoreTrdm055.csv, BiiCoreTrdm057.csv, BiiCoreTrdm058.csv	Some templates examples to import CSV documents.
/resources/CSVConverter/export	CsvExportModel.xsl	The structure to do the export csv document.
/resources/CSVConverter/	BiiCoreTrdm018.xslt, BiiCoreTrdm019.xslt, BiiCoreTrdm054.xslt, BiiCoreTrdm055.xslt, BiiCoreTrdm057.xslt, BiiCoreTrdm058.xslt	Xslt files to build the interface.
/resources/GUIXSL/AcceptCatalogue	AcceptCatalogue-Template.xsl, AcceptCatalogue.xml, details.xsl	Group of document to implement the “document interface creation”.
/resources/GUIXSL/AcceptCounterOffer	AcceptCounterOffer-Template.xsl, AcceptCounterOffer.xml, details.xsl	
/resources/GUIXSL/AcceptOrder	AcceptOrder-Template.xsl, AcceptOrder.xml, details.xsl	
/resources/GUIXSL/Catalogue	Catalogue-Template.xsl, Catalogue.xml, catalogueLine.xsl, contractorCustomer.xsl, details.xsl, sellerSupplier.xsl	

/resources/GUIXSL/CatalogueRequest	CatalogueRequest-Template.xsl, CatalogueRequest.xml, catalogueRequestLine.xsl, details.xsl, providerParty.xsl, receiverParty.xsl	
/resources/GUIXSL/CorrectWithCredit	CorrectWithCredit-Template.xsl, CorrectWithCredit.xml, details.xsl	
/resources/GUIXSL/CorrectWithDebit	CorrectWithDebit-Template.xsl, CorrectWithDebit.xml, details.xsl	
/resources/GUIXSL/DisputeInvoice	details.xsl, DisputeInvoice-Template.xsl, DisputeInvoice.xml	
/resources/GUIXSL/IssueReminder	details.xsl, IssueReminder-Template.xsl, IssueReminder.xml	
/resources/GUIXSL/MultiPartyCatalogue	catalogueLine.xsl, contractorCustomer.xsl, details.xsl, MultiPartyCatalogue-Template.xsl, MultiPartyCatalogue.xml, sellerSupplier.xsl	
/resources/GUIXSL/RejectCatalogue	details.xsl, RejectCatalogue-Template.xsl, RejectCatalogue.xml	
/resources/GUIXSL/RejectCatalogueRequest	details.xsl, RejectCatalogueRequest-Template.xsl, RejectCatalogueRequest.xml	
/resources/GUIXSL/RejectCounterOffer	details.xsl, RejectCounterOffer-Template.xsl, RejectCounterOffer.xml	
/resources/GUIXSL/RejectOrder	details.xsl, RejectOrder-Template.xsl, RejectOrder.xml	
/resources/GUIXSL/SubmitCounterOffer	details.xsl, SubmitCounterOffer-Template.xsl, SubmitCounterOffer.xml	
/resources/GUIXSL/SubmitInvoice	details.xsl, SubmitInvoice-Template.xsl, SubmitInvoice.xml,	
/resources/GUIXSL/SubmitOrder	details.xsl, SubmitOrder-Template.xsl, SubmitOrder.xml	
/resources/I18N/display/	OIOUBL_Headlines_default.xml, OIOUBL_Headlines_en.xml	Internationalization files
/resources/documents creation/	peppol_default.xsl, peppol_en.xsl	Templates
/resources/ODSConverter/functions	functions v1.0.xsl	File use to participate of the ods import files
/resources/ODSConverter/ODS examples v1.0	BiiCoreTrdm019.ods	Ods Template to use for import ods file.

/resources/ODSConverter/	BiiCoreTrdm019.xsl	
/resources/UI	MessageUndeliverable.xsl	File used to notify the user that the message was undeliverable.
/resources/UI/OIOUBL v2.01/Stylesheets	OIOUBL_AcceptCatalogue.xsl	Stylesheet for each kind of document.
	OIOUBL_AcceptCounterOffer.xsl	
	OIOUBL_AcceptOrder.xsl	
	OIOUBL_Catalogue.xsl	
	OIOUBL_CatalogueRequest.xsl	
	OIOUBL_CommonTemplates.xsl	
	OIOUBL_CorrectWithCredit.xsl	
	OIOUBL_CorrectWithDebit.xsl	
	OIOUBL_DisputeInvoice.xsl	
	OIOUBL_IssueReminder.xsl	
	OIOUBL_MultiPartyCatalogue.xsl	
	OIOUBL_RejectCatalogue.xsl	
	OIOUBL_RejectCatalogueRequest.xsl	
	OIOUBL_RejectCounterOffer.xsl	
	OIOUBL_RejectOrder.xsl	
	OIOUBL_SubmitCounterOffer.xsl	
	OIOUBL_SubmitInvoice.xsl	
	OIOUBL_SubmitOrder.xsl	
/resources/ValidationEngine/layers/BII01	BiiCoreTrdm019_Layer.xml	About validations
	BiiCoreTrdm057_Layer.xml	
	BiiCoreTrdm058_Layer.xml	
/resources/ValidationEngine/layers/BII07	BiiCoreTrdm001_Layer.xml	Layers to validate the

		BII01 profile
	BiiCoreTrdm002_Layer.xml	
	BiiCoreTrdm003_Layer.xml	
	BiiCoreTrdm010_Layer.xml	
	BiiCoreTrdm013_Layer.xml	
	BiiCoreTrdm014_Layer.xml	
	BiiCoreTrdm015_Layer.xml	
/resources/ValidationEngine/layers/BII17	BiiCoreTrdm018_Layer.xml	Layers to validate the BII17 profile
	BiiCoreTrdm054_Layer.xml	
	BiiCoreTrdm055_Layer.xml	
/resources/ValidationEngine/layers/BII19	BiiCoreTrdm001_Layer.xml	Layers to validate the BII19 profile
	BiiCoreTrdm002_Layer.xml	
	BiiCoreTrdm003_Layer.xml	
	BiiCoreTrdm004_Layer.xml	
	BiiCoreTrdm005_Layer.xml	
	BiiCoreTrdm006_Layer.xml	
	BiiCoreTrdm010_Layer.xml	
	BiiCoreTrdm013_Layer.xml	
	BiiCoreTrdm014_Layer.xml	
	BiiCoreTrdm015_Layer.xml	
	BiiCoreTrdm017_Layer.xml	
/resources/ValidationEngine/testing/xml+sch/	add_bad_namespace.xml	files that works with schematrons.
	add_bad.xml	
	add_good_namespace.xml	

	add_good.out.xml	
	add_good.xml	
	add_namespace.sch	
	add.sch	
Resources/ValidationResult/	validationResult.xml	Files to validate.
	validationResult.xsl	
Resources/temp/xmlDocuments/	OIOUBL_AcceptCatalogue.xml	Temporal templates documents
	OIOUBL_AcceptCounterOffer.xml	
	OIOUBL_AcceptOrder.xml	
	OIOUBL_Catalogue_Base.xml	
	OIOUBL_Catalogue.xml	
	OIOUBL_CatalogueRequest_Base.xml	
	OIOUBL_CatalogueRequest.xml	
	OIOUBL_CorrectWithCredit.xml	
	OIOUBL_CorrectWithDebit.xml	
	OIOUBL_DisputeInvoice.xml	
	OIOUBL_IssueReminder.xml	
	OIOUBL_MultiPartyCatalogue_Base.xml	
	OIOUBL_MultiPartyCatalogue.xml	
	OIOUBL_RejectCatalogue.xml	
	OIOUBL_RejectCatalogueRequest.xml	
	OIOUBL_RejectCounterOffer.xml	
	OIOUBL_RejectOrder.xml	
	OIOUBL_SubmitCounterOffer.xml	

	OIOUBL_SubmitInvoice.xml	
	OIOUBL_SubmitOrder.xml	
/resources/temp/	/baseDocuments/…	The structure of the documents that need to load some data based in other document.
	Communications.xml	This file will save data for the communication between clients.
	Contacts.xml	This file saves data for each contact.
	ProfileList.xml	This file contains the structure for all kind of profiles that the client works.
	temp.xml	This file contains data save for the business transaction process.
build.xml		File to build a binary from Eclipse.
DEMOClientConfiguration.xml		Save data to configure the name of the repository, endpoints, etc/
MANIFEST.MF		This file contains the sign of the author, reference to libraries and the name of the main class to allow the application run.
pom.xml		This file is created to download the libraries from a repository.
WP3config.xml		To configure what kind of authority contractor you are.

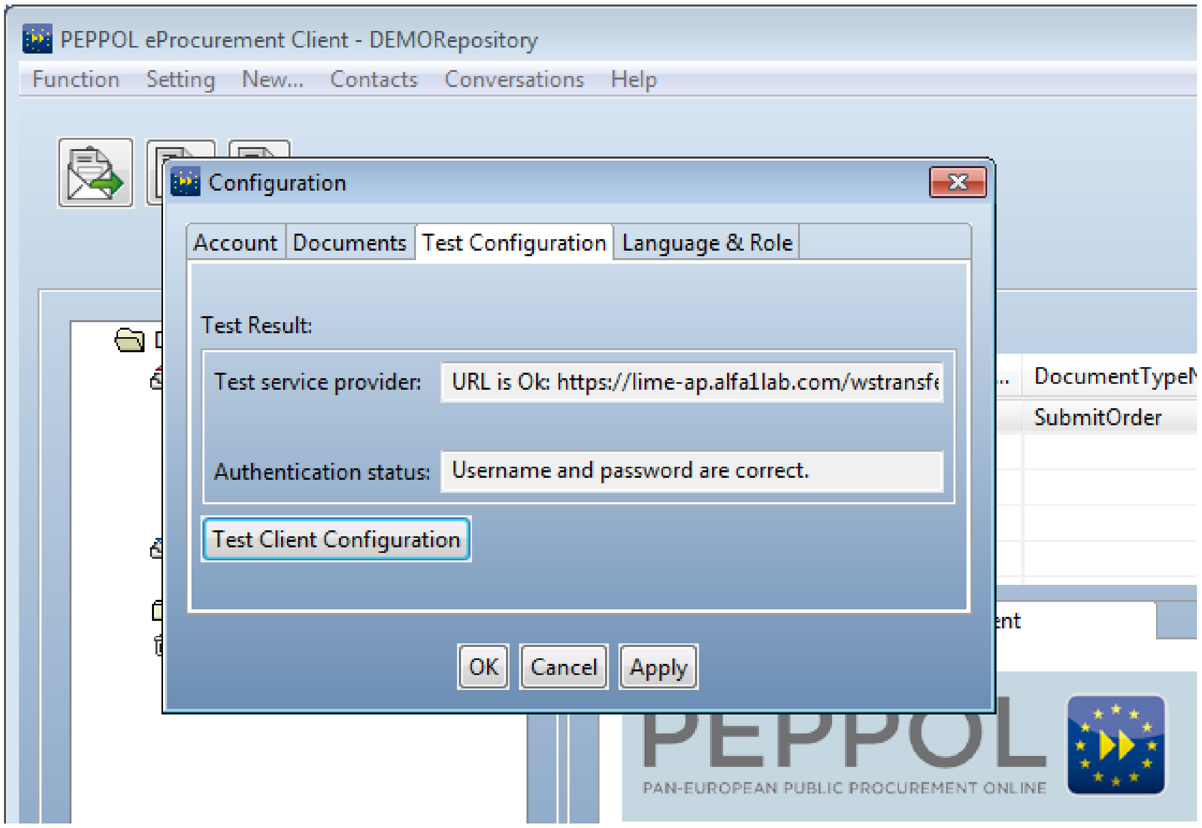
6. Lesson: Compiling the demonstrator client

To compile the demonstrator client, first you have to download the source code from SVN Repository, using eclipse.

- Demo Client
  https://svn.forge.osor.eu/svn/peppol/java/DemonstratorClient/tags/v0.9.6.10/demo_client/
- Workflow Engine
  https://svn.forge.osor.eu/svn/peppol/java/DemonstratorClient/tags/v0.9.6.10/demo_validation_engine/
- Java Plug-in
  https://svn.forge.osor.eu/svn/peppol/java/DemonstratorClient/tags/v0.9.6.10/java_plugin/
- Validation Engine
  https://svn.forge.osor.eu/svn/peppol/java/DemonstratorClient/tags/v1.0.0.14/demo_validation_engine

7. Lesson: Setting up for local testing

To test the Client's connection against an Access Point service, open the configuration and go to Test Configuration tab and press *Test Client Configuration*


PEPPOL eProcurement Client - DEMORepository
Function Setting New... Contacts Conversations Help
Configuration
Account Documents Test Configuration Language & Role
DocumentType
SubmitOrder
Test Client Configuration
OK Cancel Apply
PEPPOL
PAN-EUROPEAN PUBLIC PROCUREMENT ONLINE

Test Result:

Test service provider: URL is Ok: https://lime-ap.alfa1lab.com/wstransfe

Authentication status: Username and password are correct.

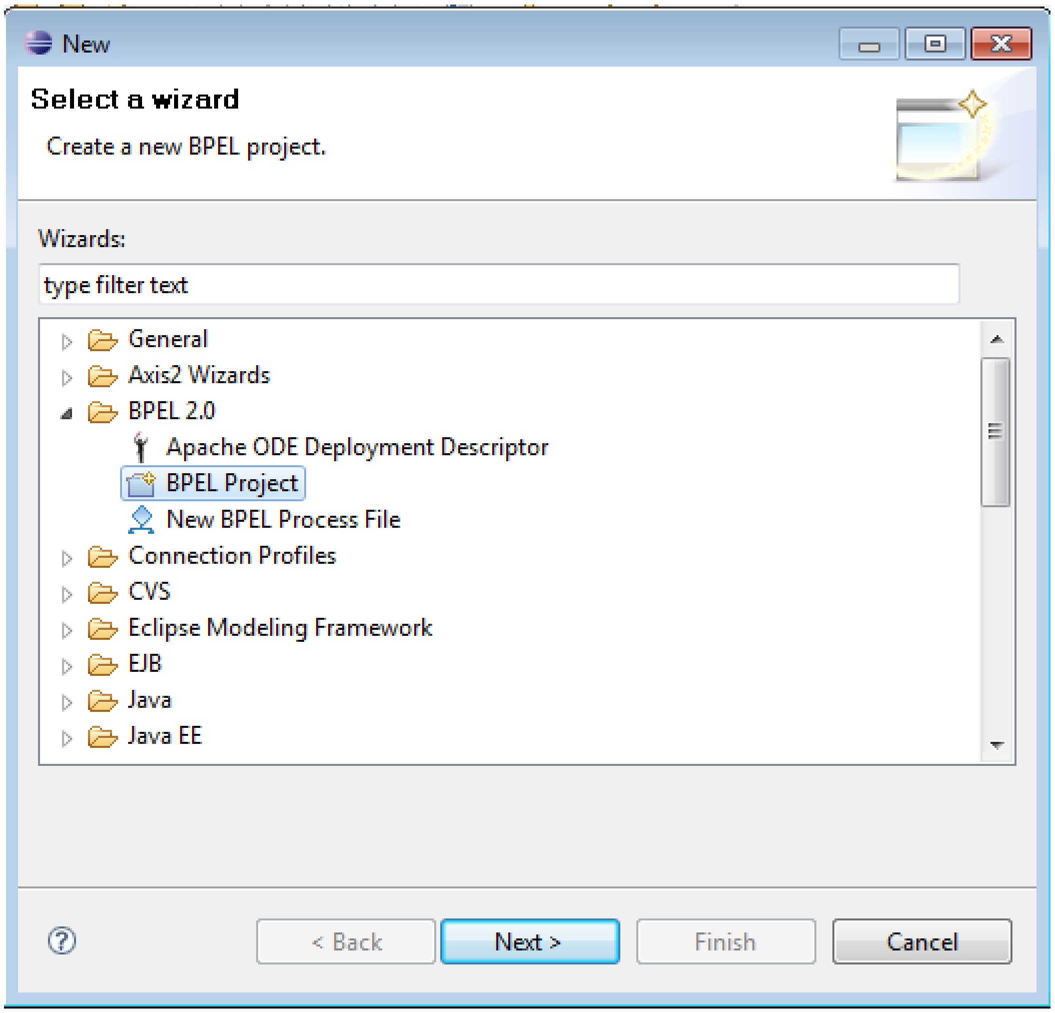
Figure 13: Testing account configuration

8. Lesson: About BPEL

BPEL (Business Process Execution Language) is now working with the business process of Demonstrator Client. BPEL allows creating the flow of a process with dynamic tools within the Eclipse wizard. After building a diagram flow, BPEL will create different files in your workspace. One of the files has the *.bpel* extension similar to an *.xml* file; you can parse the file using any library for parsing XML.

8.1. Creating a new BPEL

Start creating a new BPEL Project as the picture bellow:



New

Select a wizard

Create a new BPEL project.

Wizards:

type filter text

- General
- Axis2 Wizards
- BPEL 2.0
  - Apache ODE Deployment Descriptor
  - BPEL Project
  - New BPEL Process File
- Connection Profiles
- CVS
- Eclipse Modeling Framework
- EJB
- Java
- Java EE

< Back | Next > | Finish | Cancel

Figure 14: Choosing BPEL Project

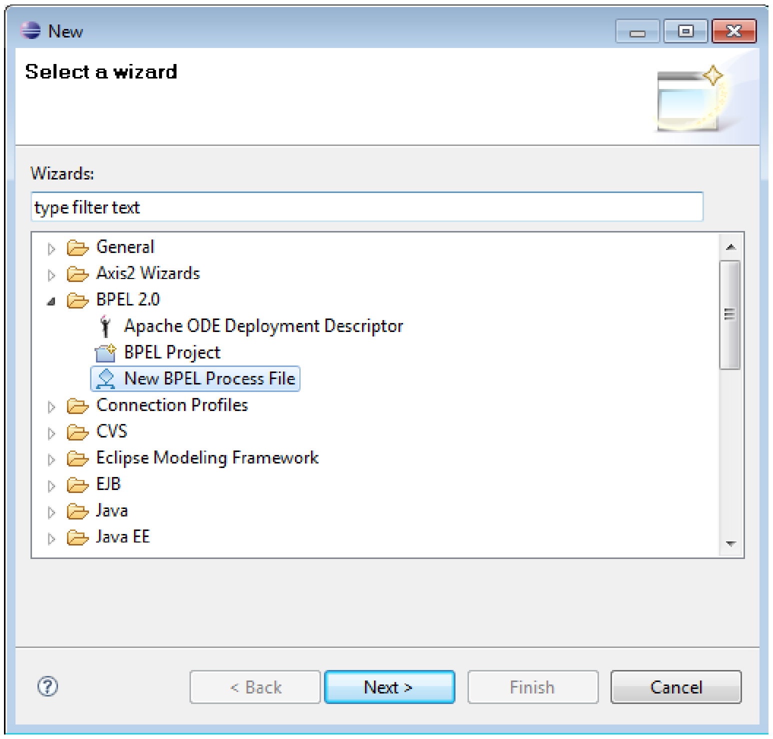
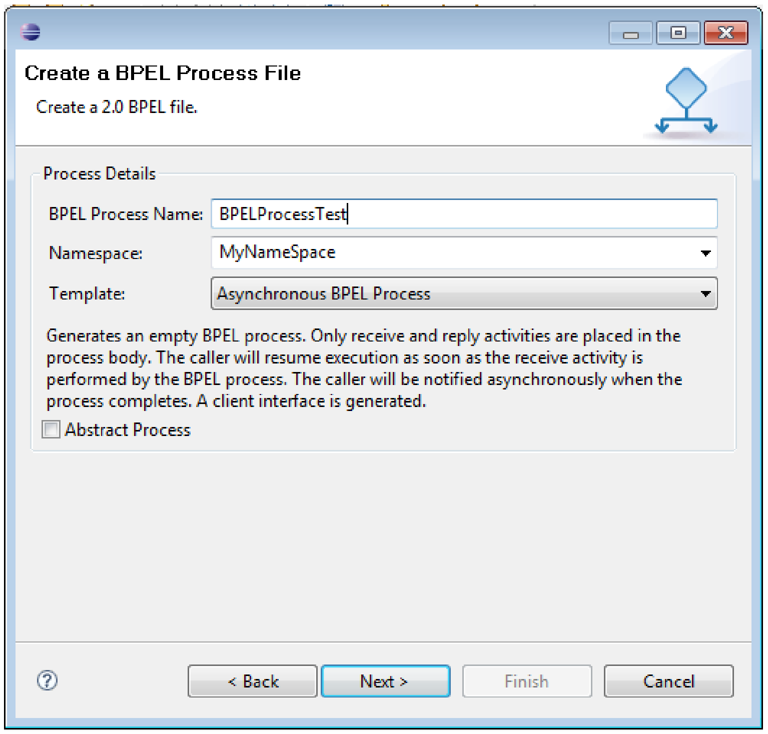


Figure 15: New BPEL Process File



BPEL Process Name: BPELProcessTest

Namespace: MyNameSpace

Template: Asynchronous BPEL Process

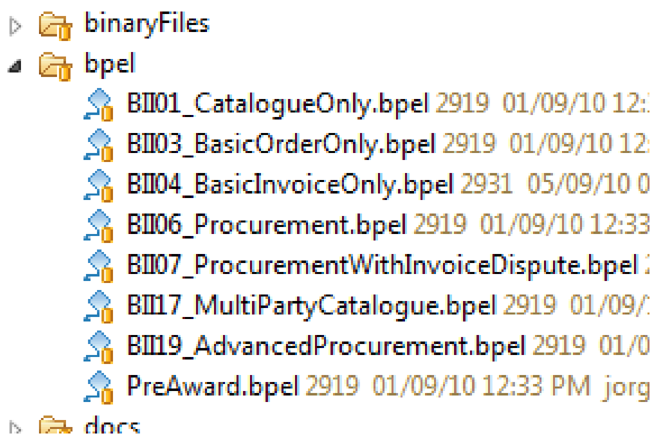
Generates an empty BPEL process. Only receive and reply activities are placed in the process body. The caller will resume execution as soon as the receive activity is performed by the BPEL process. The caller will be notified asynchronously when the process completes. A client interface is generated.

☐ Abstract Process

Figure 16: Fill BPEL project information

Then you have to select your BPEL Process file and finally create your own BPEL Model.

8.2. Folder structure

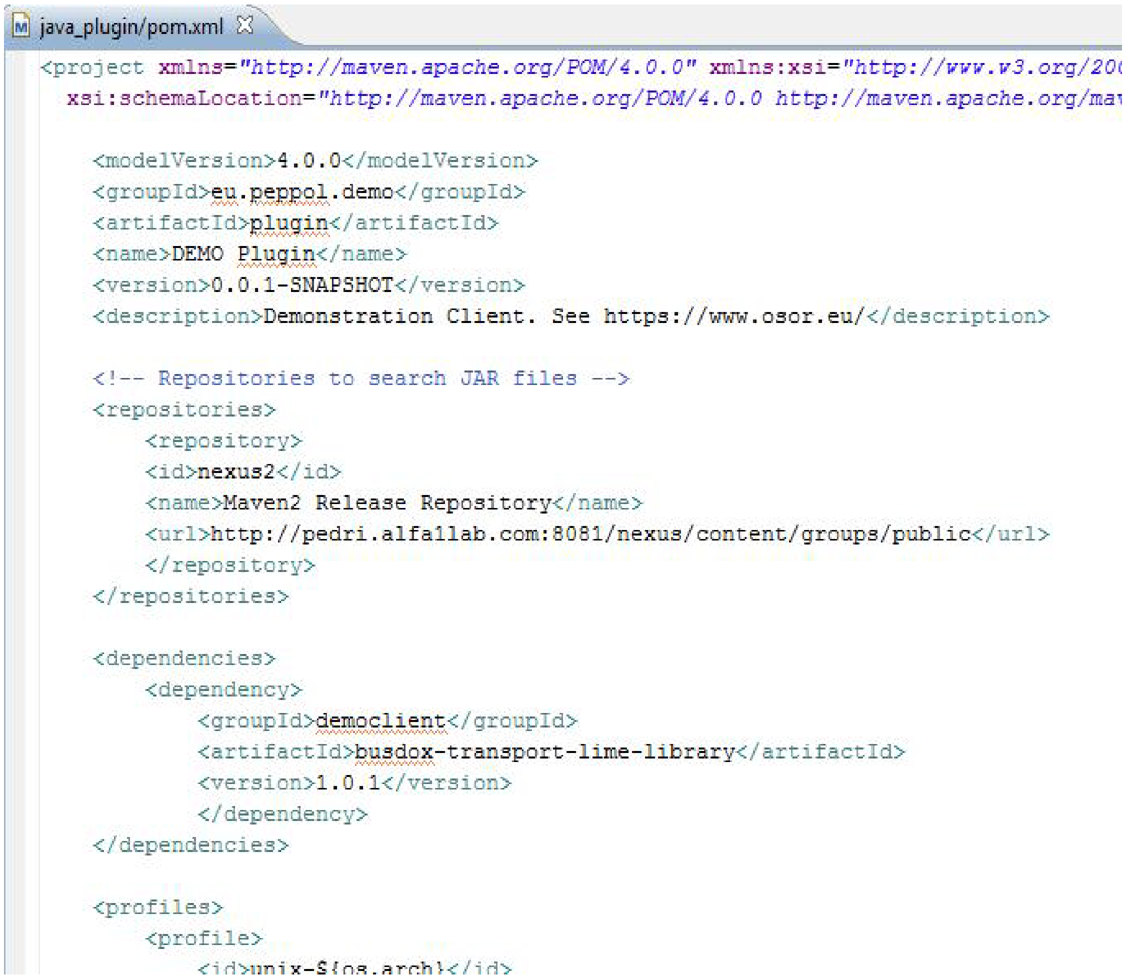


```
▷ binaryFiles
◢ bpel
    BII01_CatalogueOnly.bpel 2919  01/09/10 12:
    BII03_BasicOrderOnly.bpel 2919  01/09/10 12
    BII04_BasicInvoiceOnly.bpel 2931  05/09/10 0
    BII06_Procurement.bpel 2919  01/09/10 12:33
    BII07_ProcurementWithInvoiceDispute.bpel
    BII17_MultiPartyCatalogue.bpel 2919  01/09/
    BII19_AdvancedProcurement.bpel 2919  01/0
    PreAward.bpel 2919  01/09/10 12:33 PM  jorg
▷ docs
```

Figure 17: Current Profiles that Demonstrator Client supports

9. Lesson: Lime library

The documents will be sent from one client to another using the transport libraries. You can see the libraries referenced in the pom.xml file located into the Java Plug-in project.



```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/20
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/ma

    <modelVersion>4.0.0</modelVersion>
    <groupId>eu.peppol.demo</groupId>
    <artifactId>plugin</artifactId>
    <name>DEMO Plugin</name>
    <version>0.0.1-SNAPSHOT</version>
    <description>Demonstration Client. See https://www.osor.eu/</description>

    <!-- Repositories to search JAR files -->
    <repositories>
        <repository>
        <id>nexus2</id>
        <name>Maven2 Release Repository</name>
        <url>http://pedri.alfa1lab.com:8081/nexus/content/groups/public</url>
        </repository>
    </repositories>

    <dependencies>
        <dependency>
            <groupId>democlient</groupId>
            <artifactId>busdox-transport-lime-library</artifactId>
            <version>1.0.1</version>
            </dependency>
    </dependencies>

    <profiles>
        <profile>
            <id>unix-${os.arch}</id>
```

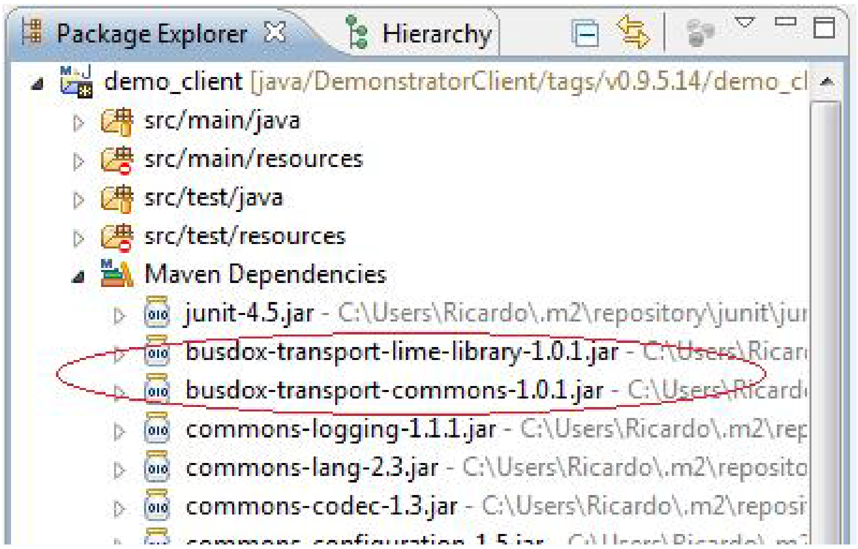
Figure 18: Importing the lime library from maven

Demonstrator Client uses Nexus (see this link for references: http://nexus.sonatype.org/ as a repository to download libraries.

The libraries the demo client uses for the document interchange through the transport libraries are *busdox-transport-lime-library-1.0.1.jar* and *busdox-transport-common-1.0.1.jar*.

9.1. Folder structure

/demo_client/src/eu/demo/client/transport/LightWeightProfileHandler.java	The main class that use the lime library
Maven Dependencies/busdox-transport-lime-library-1.0.1.jar	Path of the library
Maven Dependencies/busdox-transport-commons-1.0.1.jar	Path of the library
/java_plugin/pom.xml	For the libraries referenced
/demo_client/DEMOClientConfiguration.xml	To see the exact parameters information for sending and receiving documents review the last lines in this xml.



```
demo_client [java/DemonstratorClient/tags/v0.9.5.14/demo_cl
  src/main/java
  src/main/resources
  src/test/java
  src/test/resources
  Maven Dependencies
    junit-4.5.jar - C:\Users\Ricardo\.m2\repository\junit\ju
    busdox-transport-lime-library-1.0.1.jar - C:\Users\Ricar
    busdox-transport-commons-1.0.1.jar - C:\Users\Ricard
    commons-logging-1.1.1.jar - C:\Users\Ricardo\.m2\rep
    commons-lang-2.3.jar - C:\Users\Ricardo\.m2\reposito
    commons-codec-1.3.jar - C:\Users\Ricardo\.m2\reposi
```

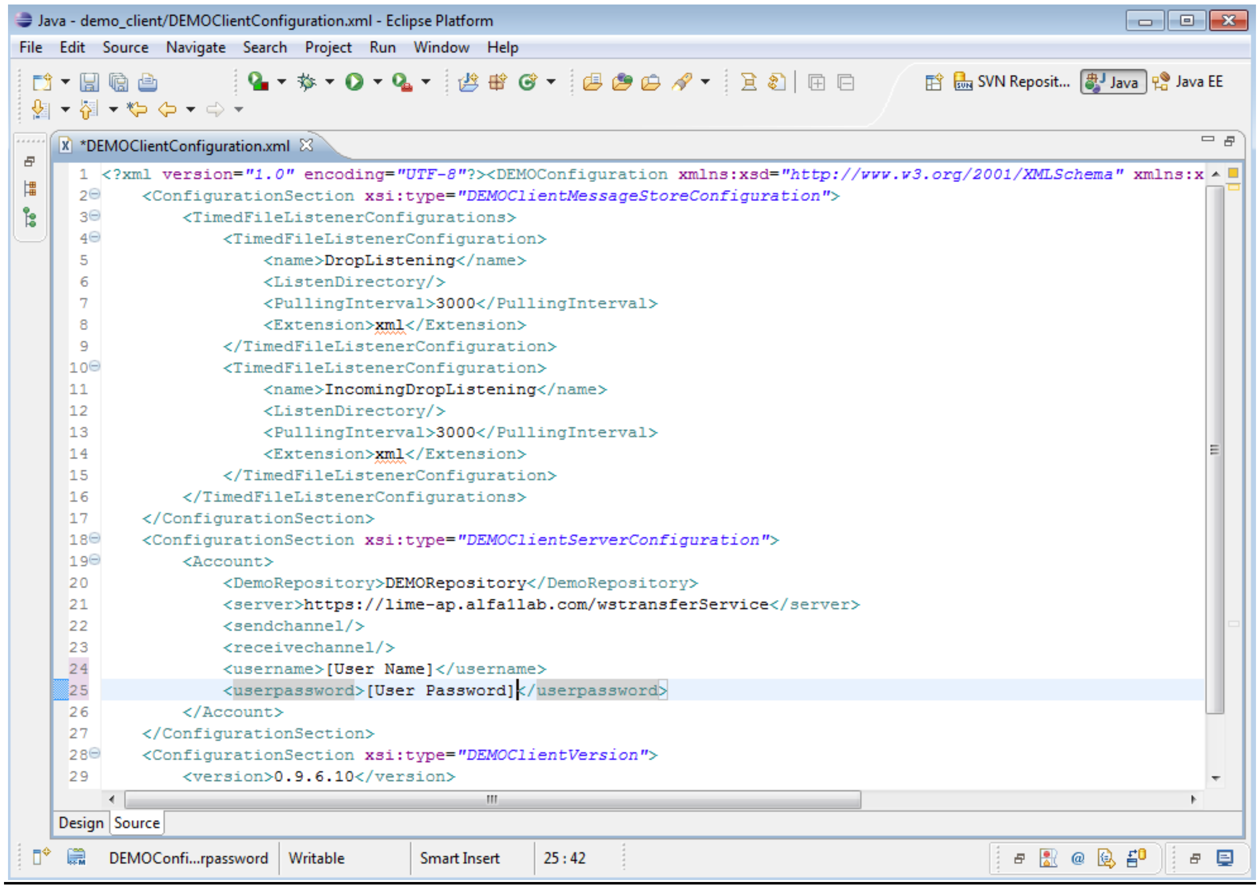
Figure 19: Imported Lime library

9.2. Set up parameters and functionality

There is a Java class into the demo client project called *LightWeightProfileHandler.java* that will be used to handle the lime library, set up parameters and use some inner methods to create the connection.

First you have to see the main parameters for the main communication.

- DEMOClientConfiguration.xml


Java - demo_client/DEMOClientConfiguration.xml - Eclipse Platform
File Edit Source Navigate Search Project Run Window Help
SVN Reposit... Java Java EE
*DEMOClientConfiguration.xml
Design Source
DEMOConfi...rpassword Writable Smart Insert 25 : 42

```
<?xml version="1.0" encoding="UTF-8"?><DEMOConfiguration xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:x
    <ConfigurationSection xsi:type="DEMOClientMessageStoreConfiguration">
        <TimedFileListenerConfigurations>
            <TimedFileListenerConfiguration>
                <name>DropListening</name>
                <ListenDirectory/>
                <PullingInterval>3000</PullingInterval>
                <Extension>xml</Extension>
            </TimedFileListenerConfiguration>
            <TimedFileListenerConfiguration>
                <name>IncomingDropListening</name>
                <ListenDirectory/>
                <PullingInterval>3000</PullingInterval>
                <Extension>xml</Extension>
            </TimedFileListenerConfiguration>
        </TimedFileListenerConfigurations>
    </ConfigurationSection>
    <ConfigurationSection xsi:type="DEMOClientServerConfiguration">
        <Account>
            <DemoRepository>DEMORepository</DemoRepository>
            <server>https://lime-ap.alfallab.com/wstransferService</server>
            <sendchannel/>
            <receivechannel/>
            <username>[User Name]</username>
            <userpassword>[User Password]</userpassword>
        </Account>
    </ConfigurationSection>
    <ConfigurationSection xsi:type="DEMOClientVersion">
        <version>0.9.6.10</version>
```

Figure 20: DEMOClientConfiguration.xml

10. How to create a "*Demo Client*" binary

To create your own binary from Eclipse it will be used ANT plug-in. First open the ANT view, drag the "build.xml" to the ant window and double click on it.

Every file will be created in your home folder.

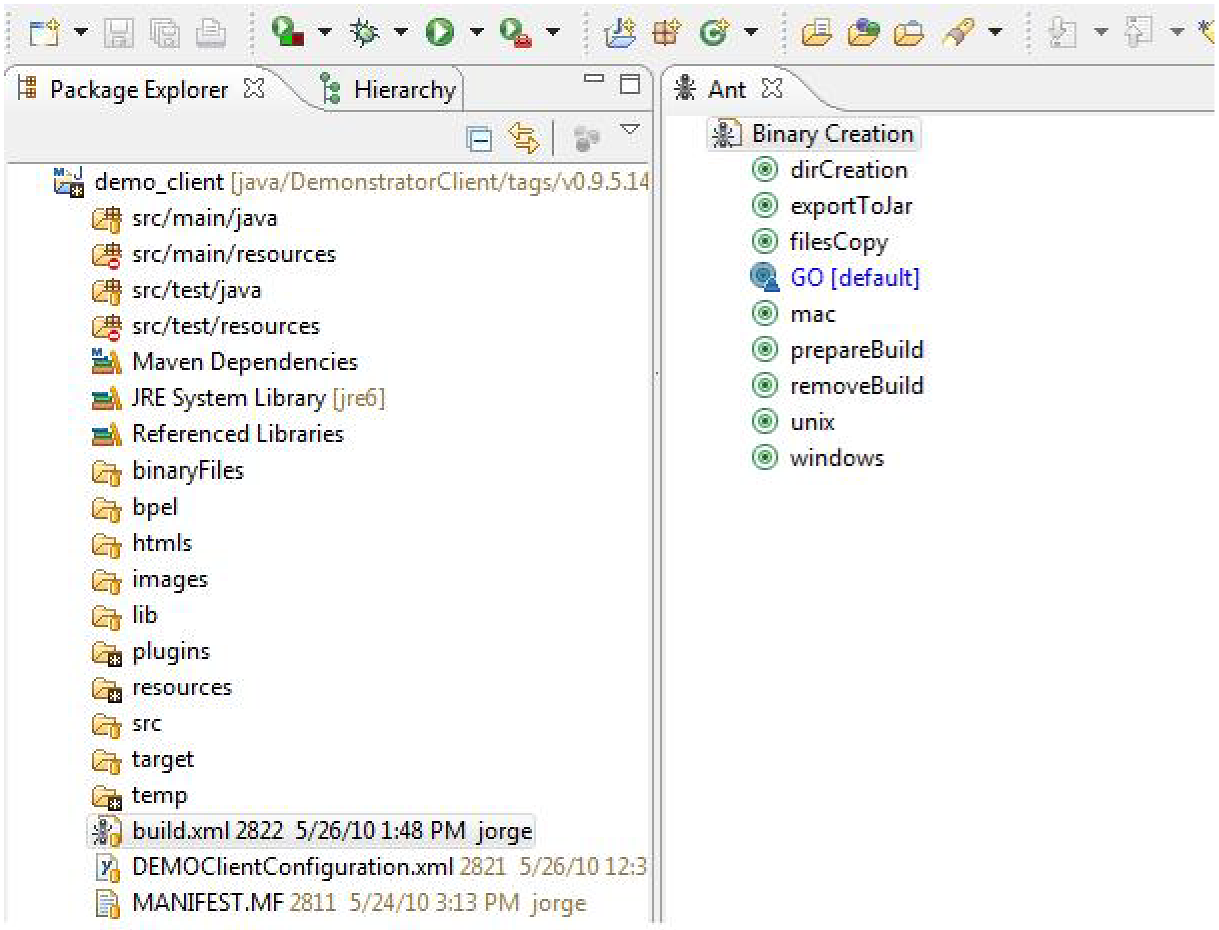
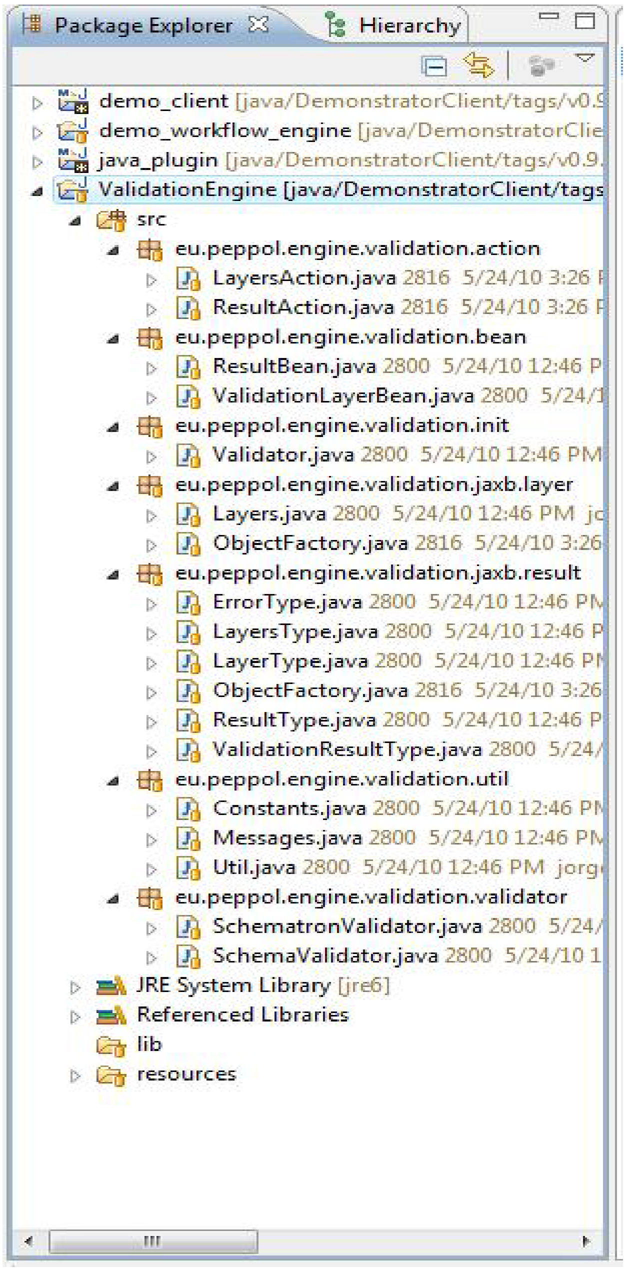


Figure 21: Creating a binary trough Ant

11. Validation Engine

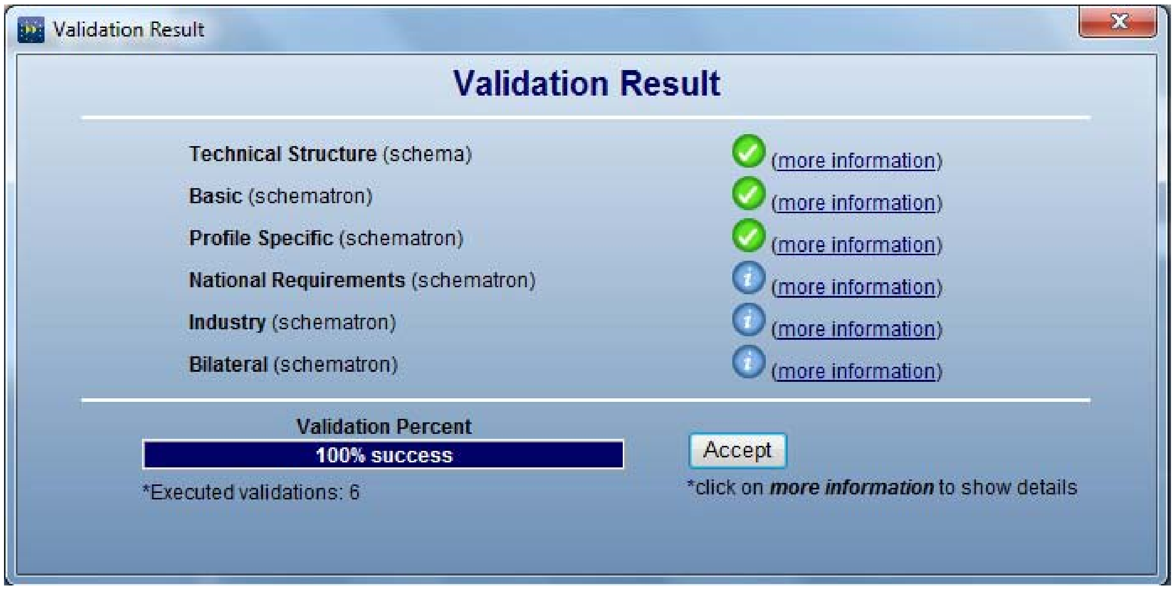
This project is part of "*Demonstrator client*" development. The validation engine was built as a plug-in project that allows the client to perform validation by layers.



```
▷ demo_client [java/DemonstratorClient/tags/v0.9
▷ demo_workflow_engine [java/DemonstratorClie
▷ java_plugin [java/DemonstratorClient/tags/v0.9.
◢ ValidationEngine [java/DemonstratorClient/tags
   ◢ src
      ◢ eu.peppol.engine.validation.action
         ▷ LayersAction.java 2816  5/24/10 3:26 P
         ▷ ResultAction.java 2816  5/24/10 3:26 P
      ◢ eu.peppol.engine.validation.bean
         ▷ ResultBean.java 2800  5/24/10 12:46 P
         ▷ ValidationLayerBean.java 2800  5/24/1
      ◢ eu.peppol.engine.validation.init
         ▷ Validator.java 2800  5/24/10 12:46 PM
      ◢ eu.peppol.engine.validation.jaxb.layer
         ▷ Layers.java 2800  5/24/10 12:46 PM  jo
         ▷ ObjectFactory.java 2816  5/24/10 3:26
      ◢ eu.peppol.engine.validation.jaxb.result
         ▷ ErrorType.java 2800  5/24/10 12:46 PM
         ▷ LayersType.java 2800  5/24/10 12:46 P
         ▷ LayerType.java 2800  5/24/10 12:46 PM
         ▷ ObjectFactory.java 2816  5/24/10 3:26
         ▷ ResultType.java 2800  5/24/10 12:46 P
         ▷ ValidationResultType.java 2800  5/24/
      ◢ eu.peppol.engine.validation.util
         ▷ Constants.java 2800  5/24/10 12:46 PM
         ▷ Messages.java 2800  5/24/10 12:46 PM
         ▷ Util.java 2800  5/24/10 12:46 PM  jorg
      ◢ eu.peppol.engine.validation.validator
         ▷ SchematronValidator.java 2800  5/24/
         ▷ SchemaValidator.java 2800  5/24/10 1
   ▷ JRE System Library [jre6]
   ▷ Referenced Libraries
     lib
   ▷ resources
```

Figure 22: Source of the Validation Engine Project

When you run up the client you will see the function of the validation engine pressing the button "*Validate*" in the document creation interface.



Validation Result

Technical Structure (schema)	✓ (more information)
Basic (schematron)	✓ (more information)
Profile Specific (schematron)	✓ (more information)
National Requirements (schematron)	ⓘ (more information)
Industry (schematron)	ⓘ (more information)
Bilateral (schematron)	ⓘ (more information)

Validation Percent

100% success

*Executed validations: 6

*click on ***more information*** to show details

Figure 23: Example of a Validation Result