

Using Adobe Document Services in the SAP NetWeaver Enterprise Procurement Model (EPM) Installation and Configuration Documentation

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DISCLAIMER

The SAP NetWeaver Enterprise Procurement Model (EPM) is an application intended to be used for demonstration and testing purposes. While the scope of EPM is complex enough to be used as basis for testing and demonstration of SAP NetWeaver technologies it is not a full-fledged application for a productive system environment. Product support is not offered.

The following is only meant to be an example for demonstration purposes and not intended to be used in a productive environment. Any use by the customer is therefore at own risk.

ADOBE DOCUMENT SERVICES TECHNOLOGY IN THE SAP NETWEAVER ENTERPRISE PROCUREMENT MODEL

EPM applies the Adobe Document Services (ADS) technology in several scenarios which showcase the integration of the Adobe infrastructure with SAP NetWeaver. Adobe interactive forms are used in several scenarios that allow editing of offline and online forms and the usage of E-mail in conjunction with interactive forms.

This document provides a description of the prerequisites and configuration steps that are required to use ADS technology in EPM as well as a description of the proposed scenarios and the configuration steps specific to the scenarios.

The following section will give you a brief description of EPM scenarios that use Adobe Document Services technology.

Stock Worker Scenario

The Stock Worker scenario demonstrates how offline interactive forms can be processed by the SAP NetWeaver backend. To showcase the integration, the user assumes the role of a stock worker: A worker at the fictive company ITelO walks through the stock bins in the company and jots down product names and quantities which need to be ordered in a PDF form on a laptop. The stock worker sends the PDF form as a mail attachment to the backend. The backend creates the necessary purchase orders and sends back an e-mail response with the IDs of the Purchase Orders created by the system as well as any errors that have been encountered. The note on the Purchase Order Header will indicate that it was created in response to a PDF request form sent by the user in an e-mail. This is a complete **offline** scenario.

Inventory Manager Scenario

An inventory manager gets purchase requisitions and creates EPM purchase orders. He enters his data on his computer in a Web Dynpro based interactive form. The form is embedded in a Web Dynpro environment. This is an **online** scenario.

Purchaser Scenario

A purchaser can change the purchase order e.g. quantities because he knows the pricing and can optimize quantities and can also create or delete entire items of the purchase order. The purchaser modifies purchase orders on his computer in an interactive form. The form is embedded in a Web Dynpro environment but does some local checks and calculations directly on the frontend using Java Script routines and communicates with the backend using Web Services.

Purchase Manager Scenario

In this scenario an EPM Purchase Order (PO) is sent as a PDF document attachment in an E-mail to a purchase manager who then accepts or rejects the PO by clicking on buttons in the offline form. He can neither change quantities nor add or delete items but can accept or reject the PO. The Purchase Manager's decision is sent to the backend in the form of a separate e-mail message for each form. The message is processed in the backend accordingly to set the status of the PO. This is also a complete **offline** scenario.

INSTALLATION AND CONFIGURATION

In order to use Adobe Document Services technology in EPM as described, you have to make sure that the technical prerequisites are met and some installation and configuration steps are executed. The following will give you an overview of these prerequisites.

Availability

- NetWeaver 7.31 upwards

General Prerequisites

The following technologies are involved in the ADS scenarios:

- Adobe Document Services
- Web Service
- JavaScript
- Email infrastructure – this scenario assumes that the backend is connected to an Outlook Server
- SAP NetWeaver
- WebDynpro
- SAP NetWeaver Business Client
- SAPConnect

Configuration Steps for Adobe Document Services in EPM

In this section you can find an overview of the installation and configuration steps specific to using the ADS technology in EPM. You can also find information on the prerequisites for executing the Purchaser scenario in SAP Note 1633167.

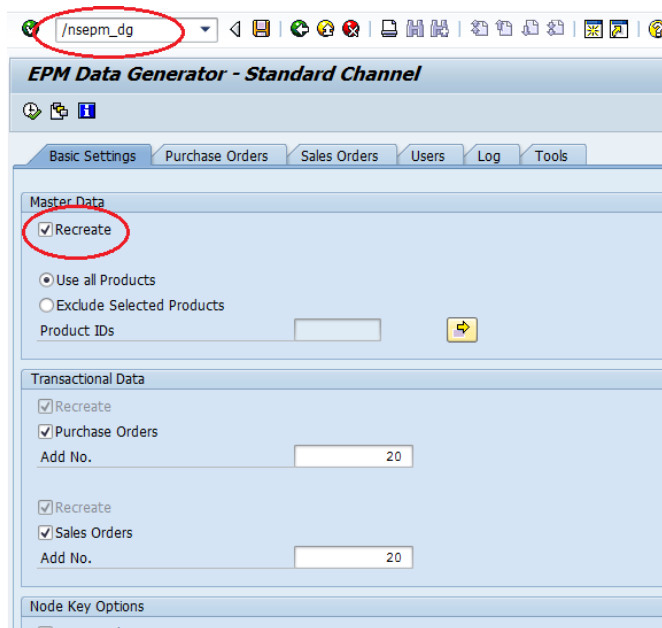
Backend considerations

The EPM scenarios assume that a user called EPM_DEMO exists in the system and is assigned the role: SAP_BC_EPM_DEMO. Your system supervisor will be able to create the user and make the role assignment as well as set the password *Epm12345* for this user.

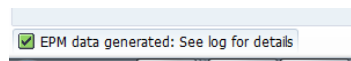
Execute the EPM Data Generator

If not already done, execute the EPM Data Generator. The data generator creates the master data and some Purchase Orders which will be used by all the EPM ADS Purchaser scenarios

- Call transaction SEPM_DG (EPM data generator)
- Make sure that the checkbox 'Recreate' under 'Master Data' is marked.
- Execute the data generator by pressing F8.



The Data Generator will show a status message when it is done:



Navigate to the Log tab to view a summary of the demo data.

EPM Data Status	
Products	115
Employees	33
Business Partners	45
Sales Orders	20
Purchase Orders	20
Goods Issue Records	0
Sales Order Invoices	0
Goods Receipt Records	0
Purchase Order Invoices	0

Configure E-Mail routing to the backend

The first step is to configure the routing for the NetWeaver backend. This is best left to the system administrators who will follow the instructions in SAP Note 455140. This step will ensure that the mail server in your enterprise can route e-mail correctly to the backend system.

Check ADS destination

The Adobe Document Server must be up and running for the backend in question, otherwise no Adobe form will be rendered (e.g. browser hangs until timeout because Adobe Document Server does not respond.) Availability of the Adobe Document Server can be checked by running the unit tests of class CL_EPM_ADS_TEST_UTILS.

- Call Transaction SM59
- Press 'Search' button. Enter 'ADS' into field 'RFC Destination'.
- If the ADS destination does not exist contact the system administrator.
- Press button 'Connection Test'.
- If the check fails contact the system administrator.

Create a Web Service Binding

Web Service configuration of the backend is described in this [SAP Note 1633167](#). This is a one-time setup.

Additional Configuration Steps for the Stock Worker Scenario

PDF Form

The PDF form that is used in this scenario is called SEPM_ADS_STOCK_WORKER.PDF – it is formally delivered as one of the objects in the EPM mime repository. The form can be saved locally and reused, i.e. filled afresh and sent to the backend several times. The form is also made available as a link in the Purchasing section of the Net Weaver Business Client.

E-mail Address of the Backend

The PDF form must be sent to the backend under the following e-mail address:

epm_user@{backend client}.{system}.{domain suffix}

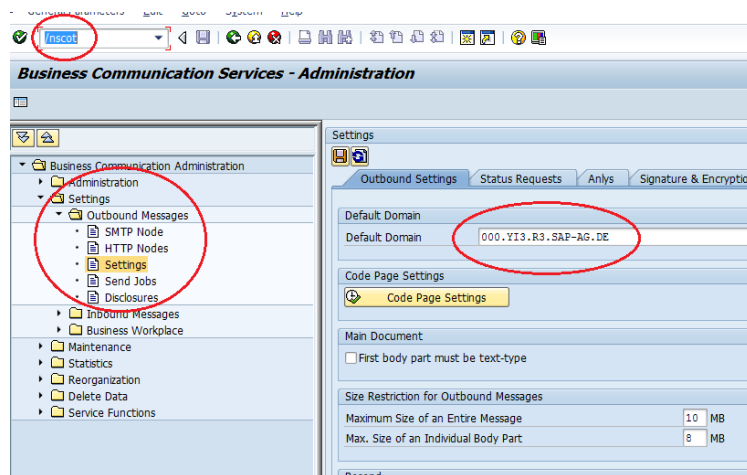
Example:

If the backend system is XYZ/000 (client 000 in system XYZ), and the domain is yourcompany.com, it will result in the following address including domain: epm_user@000.xyz.yourcompany.com

Default mail domain

The mail domain refers to the part to the right of the '@' in the e-mail address. Check that the default mail domain for your backend is correctly set under “Outbound Messages->Settings”:

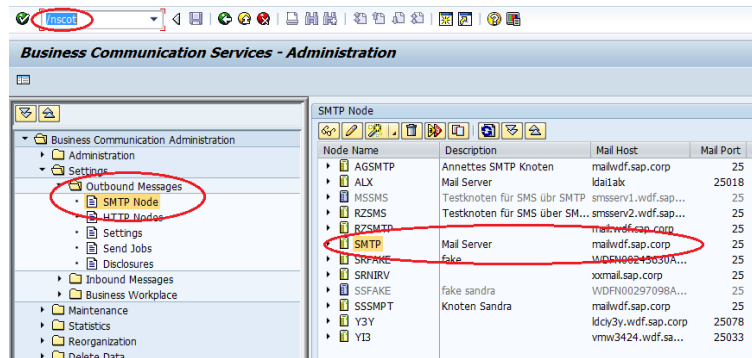
- Log on to the backend in the corresponding client
- Start Transaction SCOT
- Select Menu Item Settings | Default Domain: The system will display the default domain.



Note that the mail domain in this picture is only an example!

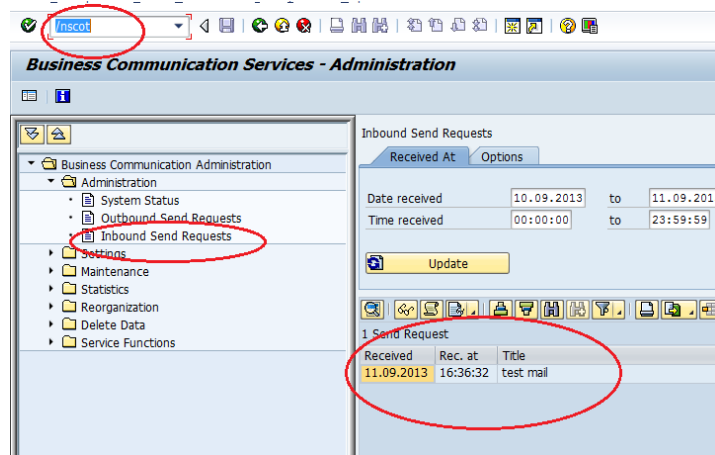
Outgoing mail server

When correctly configured, the outbound server will be defined as a node under “Outbound Messages->SMTP Node”:



Send test mail to backend

Just to make sure that the backend can correctly receive e-mails, send a test mail to the backend. Within a few moments, you should find the mail listed under “Administration->Inbound Send Requests”



It is now ensured that e-mails sent to the backend are correctly dispatched. In the next step, we will check that the backend can correctly send out mails.

Make backend send test mail

Execute report RS_TEST_SEND_STOCKWORKER_FORM. As parameters, enter your e-mail address and optionally, some text. In a few moments, you should receive a mail with the attached SEPM_ADS_STOCK_WORKER.PDF from the backend.

Additional Information and Constraints

This scenario represents a combination of various technologies:

- SAP communications infrastructure
- E-mail infrastructure
- EPM backend

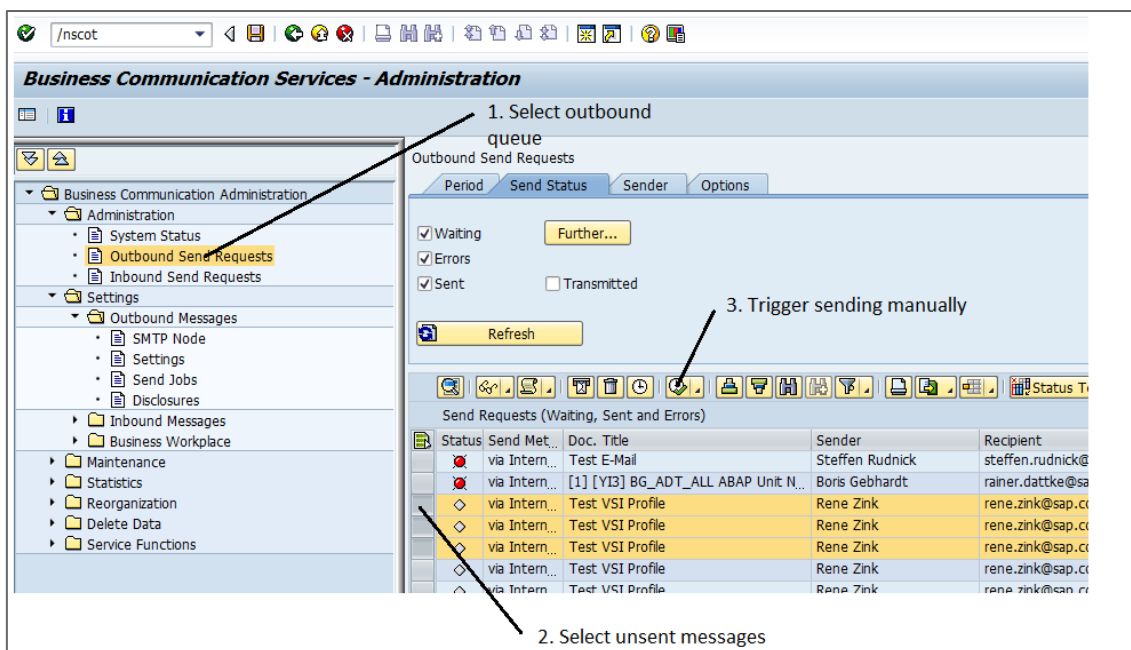
What happens when you send the mail with the attachment? As soon as the backend receives the mail, the backend checks whether the mail is intended for the designated user (EPM_USER), whether the mail contains a valid PDF attachment (a form called SEPM_ADS_STOCK_WORKER.PDF) and that the form is not an imposter (i.e. something else masquerading under the same name). The backend then proceeds to extract the product IDs and creates the purchase orders. The backend finally sends a mail back to the originating address with a summary of POs created and any errors encountered.

What errors will the backend report?

- The backend will report if product IDs are unknown, if negative numbers are encountered, if the list is empty. The backend will also report EPM errors (e.g. if EPM is broken).
- The backend will not report if the e-mail does not contain an attachment!
- The subject: line and body of the e-mail are irrelevant to the scenario, but the subject line is useful to trace the e-mail.
- E-mails sent to the backend can contain any number of attachments but the backend will consider only the first attachment called SEPM_ADS_STOCK_WORKER.PDF and ignore everything else.
- The SAP communications infrastructure has facilities for upstream virus-scanning.
- At present, the MS-Outlook-NetWeaver backend combination cannot handle PGP-signed and/or encrypted e-mails.

Error Handling

- Outbound mail queue is not processed, i.e. queued mails are not sent out.
Potential solution: check the locks in SM12 for table SOSC – delete obsolete locks, start send process manually from transaction SCOT. Verify that all mails are sent out.



Additional Configuration Steps for the Purchase Manager Scenario

User: EPM_USER

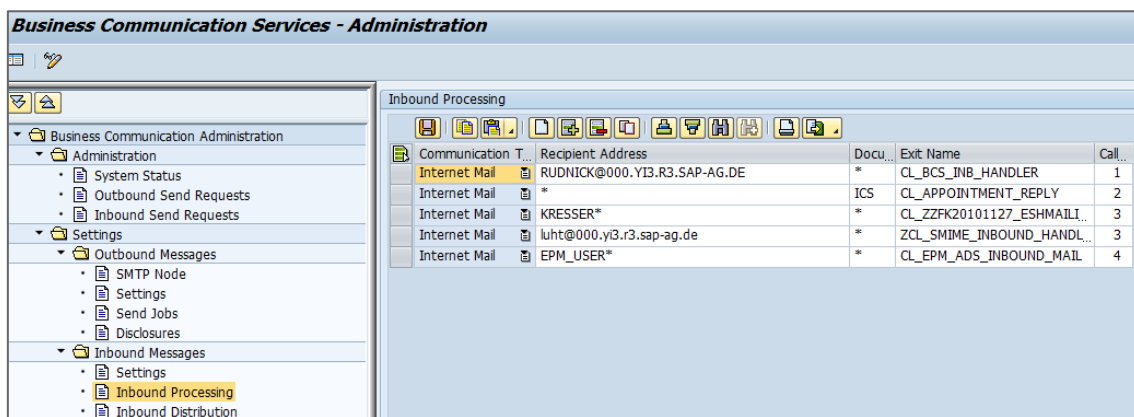
Mail traffic to and from the Purchase Manager is handled by user EPM_USER – this user must exist in each Client of the backend system where this scenario is expected to run.

Enable outgoing SMTP mail

This scenario sends out a form for approval – for this to work, outgoing mail must be enabled for the system/client in the first place. Contact your system supervisor if this feature is disabled.

Define rule for incoming SMTP mail

The backend needs to automatically process incoming mails (with Approval, Rejection of POs) addressed to EPM_USER. Use transaction SO50 or SCOT to define a corresponding 'inbound' rule as shown below:



This rule says:

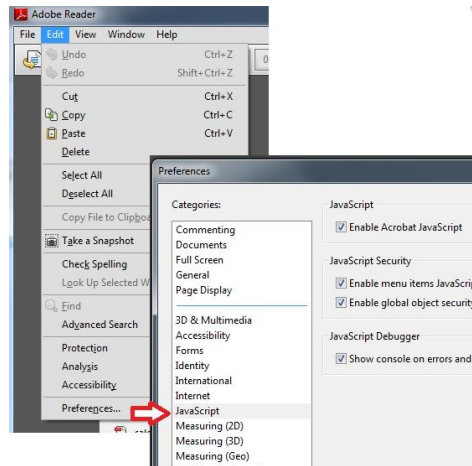
“All incoming SMTP mail to EPM_USER is to be processed by class CL_EPM_ADS_INBOUND_MAIL”

The configuration can be checked by running the unit tests of class CL_EPM_ADS_TEST_UTILS.

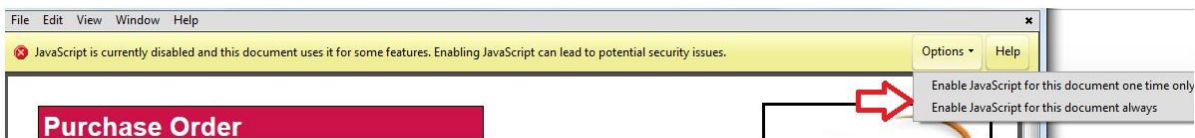
Define a second rule for EPM_USER for processing documents with class CL_EPM_ADS_INBOUND_LIST.

Frontend Requirements

The frontend must have a PDF reader with facilities/permissions to process embedded Java Script and a MAPI-compliant email client. The current implementation has been tested with Adobe Acrobat® Reader 9.x and Microsoft Outlook® 2007 but the scenario will work with any e-mail system. It has to be ensured that JavaScript is turned on in Adobe Reader Preferences:



An Adobe Interactive Form might still flash a message warning you that JavaScript is turned off but will offer you an option to turn it on.



For security reasons, all outgoing mail needs to be confirmed by the Purchase Manager (e.g. in some contexts users may not want a form to 'silently' send out mails).

Additional Information and Constraints

The constraints for this section relate to the E-Mail infrastructure used at SAP and at customers' sites.

- Mail Processing by Subject:Line
All mail sent by the Purchase Manager to the backend system is processed **solely on the basis of the Subject: line**. The Subject: line must not be manipulated! The message body is ignored. Note also that in this implementation, all errors encountered during backend processing (e.g. PO not found, PO status inconsistent etc.) are ignored. The error handling behaviour may change.
- Encrypted e-mails (e.g. PGP)
The SAP NetWeaver backend cannot receive and process encrypted e-mails.
- Digitally signed e-mails
at present the backend does not accept e-mails digitally signed by the Microsoft Outlook PGP add-on. However, the backend will process standard S/MIME signed e-mails correctly. The official policy on CGP security is that all mails must be signed!
- Attachments
E-mails can potentially contain several attachments of different types as well as several identically named attachments. The backend will therefore process the first PDF attachment called SEPM_ADS_STOCK_WORKER.PDF (case insensitive) and ignore all others.

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