Adobe Document Service Configuration and Troubleshooting Guide

Applies to:

SAP NetWeaver 7.0. For more information, visit the <u>Application Management homepage</u>.

Summary

This document is intended to guide the configuration of Adobe document service. This document can also be used as the troubleshooting guide for Adobe document services.

Author: R Anandha Krishnan

Company: Kaar Technologies India Pvt Ltd

Created on: 14 August 2008

Author Bio

Anandha Krishnan is working with Kaar Technologies as SAP NetWeaver Technology consultant. He is working on SAP NetWeaver technologies like BI, EP, NWDI and SAP solution manager.

Table of Contents

Introduction

Adobe Document Service is the function provided by SAP to increase the document handling capability of SAP NetWeaver AS. Adobe Document Services allows SAP Applications both ABAP and JAVA, to take advantage of the full range of capabilities Adobe Acrobat Professional, Standard and Adobe Reader. With these functions the customers were able to

- Create and deploy interactive forms that look exactly like their paper counterparts
- Work with forms in online and offline scenarios
- Annotate PDF documents and collaborate on PDF document reviews
- Generate dynamic PDF documents from data contained in the SAP system
- Capture data using forms and import that data directly into the SAP system
- Allow users to digitally sign PDF documents
- Embed other file formats inside PDF documents as attachments

1. Checking the IIOP Service and the Startup Properties

After installation of Adobe Document Services, specific settings were to be checked in the central host. If these settings were not adopted it's required to make this manually

Procedure:

Start Configuration tool of AS JAVA. From windows this will be started form the path

/usr/sap/<SAPSID>/<instance_name>/j2ee/configtool.bat

1.1 Check if the startup mode of the service iiop is set to always

- Navigate through *Cluster data → Global dispatcher configuration → Services*

  and Select service iiop
- Make sure that the field startup mode in the right frame should be set to Always. If it's not true apply the value always and apply changes.
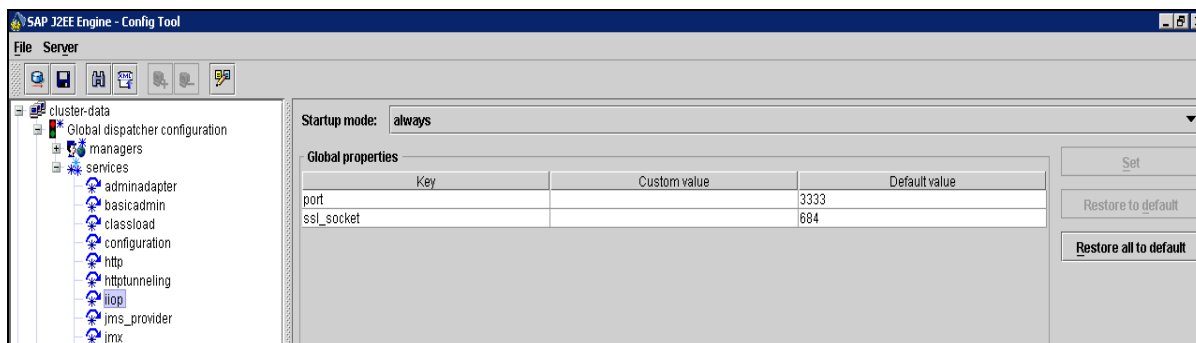
- Navigate through *Cluster data → Global dispatcher configuration → Services* and select service *iiop.*
- Make sure that the field startup mode in the right frame should be set to Always. If it's not true apply the value always and apply changes.
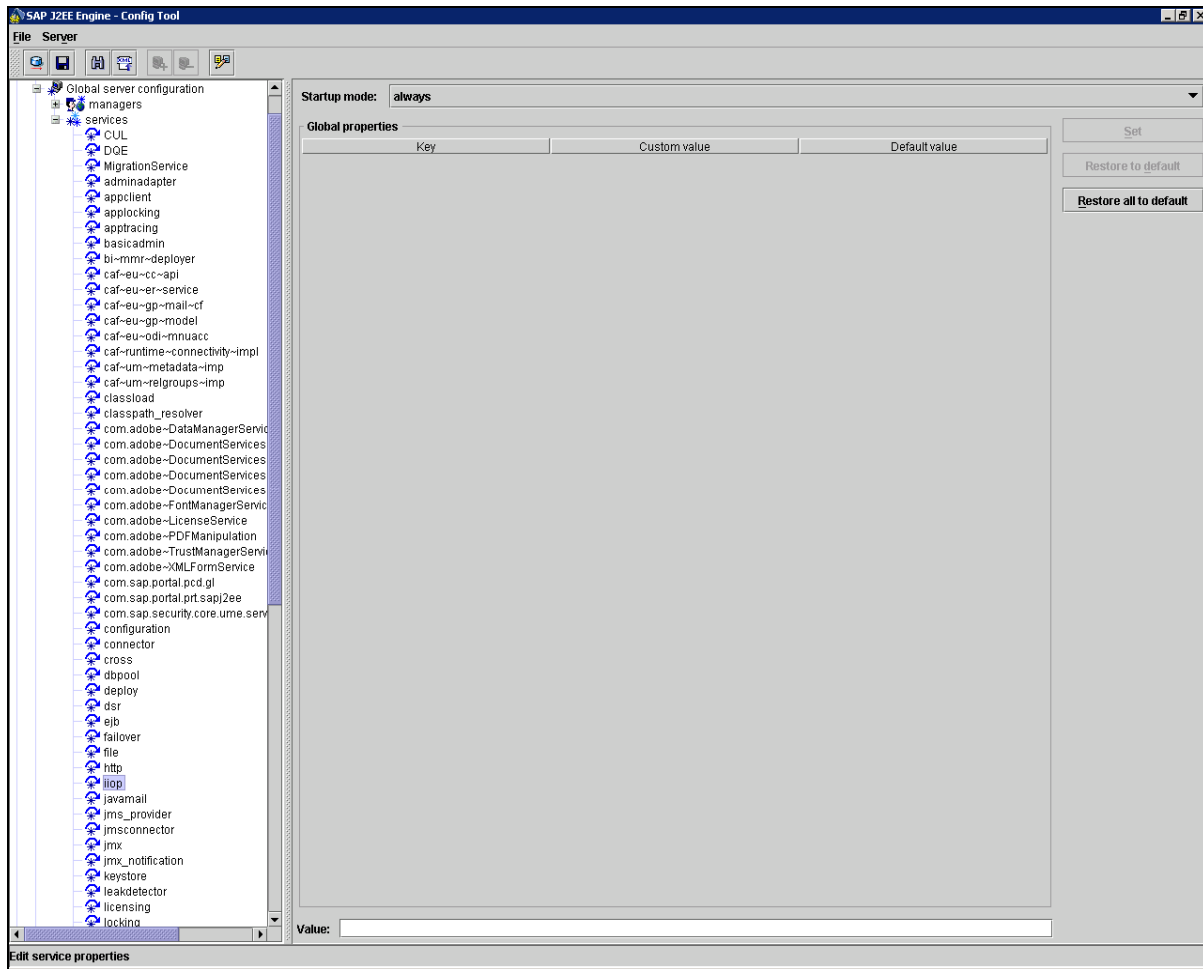
1.2 Check if the startup property for Adobe Document Service is set

- Select Cluster data → instance_<IDxxxx> → server_<IDxxxx>
- In the right frame, check if the following line exists in the Java Parameters area of the tab General

> *-Dorg.omg.PortableInterceptor.ORBInitializerClass.com.sap.engine.*
> *services.ts.jts.ots.PortableInterceptor.JTSInitializer*

- Add the above line if it doesn't exists.
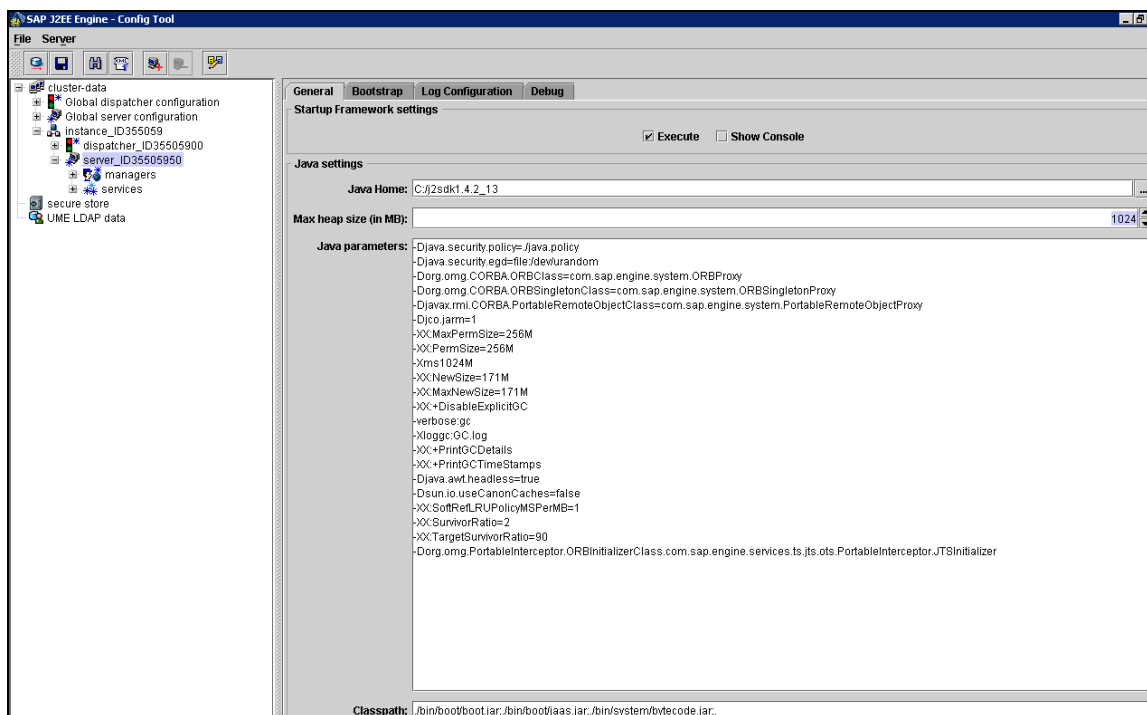
Exit the configuration tool. If we have made any new changes in the configuration tool then AS JAVA needs to be restarted.

Configuring Web Service

Adobe Document Services publish their functions to the PDF object implementations through a Web Service interface. This interface is not accessible directly and ADS is accessible using either

> ➢ The PDF object, or
> ➢ Web Dynpro and Forms Processing, which in turn use the PDF object at runtime.

Access to the Adobe document can be restricted by using credentials. This option provides the usage rights to the document thus providing security to the confidential documents from unauthorized access. Again by configuring the security for web services ensures security for documents and credentials.

There are two security configuration options for web services connection and configure the web service connection appropriate to that model.

Basic Authentication – supports all functions including assigning usage rights, but excluding digital signatures. When we use this model, we normally do not need to configure the connection settings, because as of SAP NetWeaver 7.0, these are the default settings in an ABAP + Java system. We should check the configuration settings to verify that they are correct for our system. For example, if we changed the client of the ABAP system, we need to check the settings for the client information. This document describes how to configure ADS with basic authentication. If the ADS configuration is with same ABAP+JAVA engine, all we need to do is to check the settings to verify that they were correct for our system. If we change the ABAP client then we need to certain configurations.

SSL – supports all functions including digital signatures. In this document we have not covered the configuration of ADS with SSL connection to web service.

2. BASIC Authentication – Securing Access to Web Service

In an ABAP + Java system, Basic Authentication is set up automatically as the default during the initial installation of Adobe document services. However we need check the settings using configuration check to ensure the configuration is appropriate in our system.

Configuration Check

This process is to check whether all configuration steps are complete and to verify any missing configuration.

### 2.1 Check the configuration for PDF-based print forms or forms in Web Dynpro for ABAP

For checking the configuration for PDF based print forms in ABAP the following checks were to be performed.

2.1.1 Checking by Executing Test Report FP_TEST_00

This report checks if the system is configured correctly for processing forms in ABAP environment. A device type for printing PDF-based forms should be configured for the same.

Procedure

- Log on to your SAP NetWeaver AS ABAP.
- Call transaction SA38 and enter the name FP_TEST_00.
- Choose Execute (F8). A dialog box is displayed.
- Enter FP_TEST_00 in the field Form.
- Enter the name of the connection to the ADS. Enter the default name ADS
- In the dialog box, choose Output in Print Preview.
- Enter an appropriate device type in the field Output Device.
- Choose Print Preview.
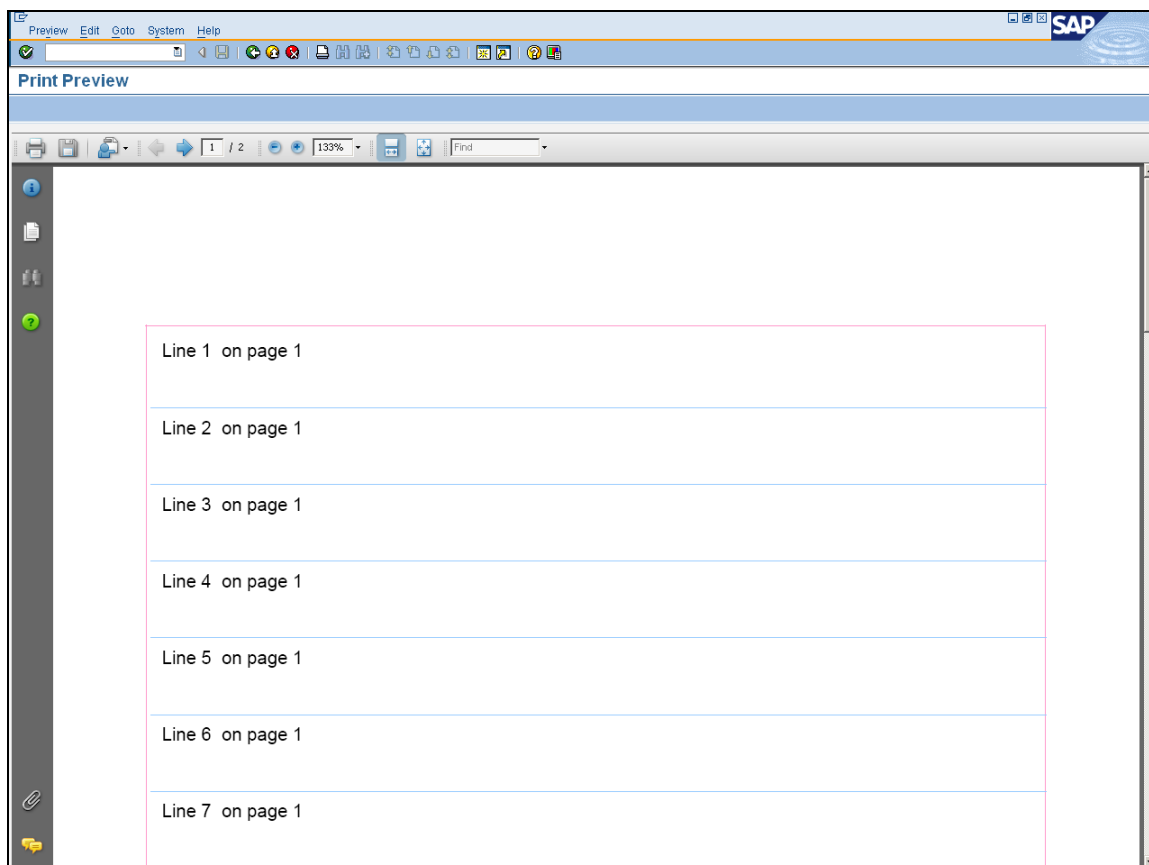
Result

If the configuration is correct, a form containing several lines on two pages is displayed. If the configuration is not correct, no form is displayed. In that case, you need to perform further tests.

2.1.2 Checking the ABAP Connection

This is a test for checking the RFC destination. This test applies to both connections using Basic Authentication and SSL connections.

Procedure

- Log on to your SAP system.
- Call transaction SA38.
- Enter the name of the test report FP_PDF_TEST_OO.
- Enter the name of the connection. Enter the default name ADS, or, if you have specified another name, the one you are using in your system.
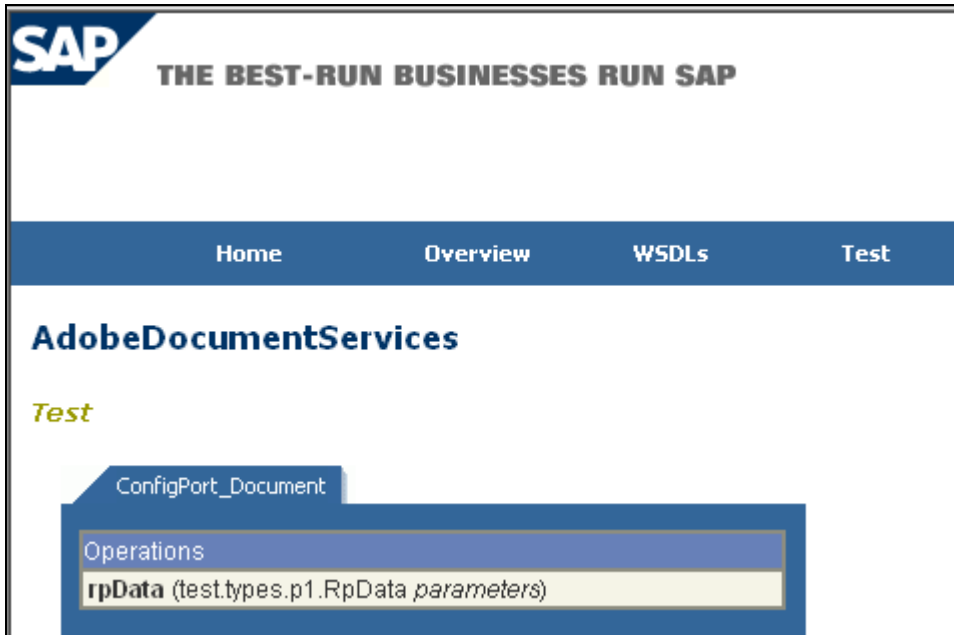- Choose Execute (F8).
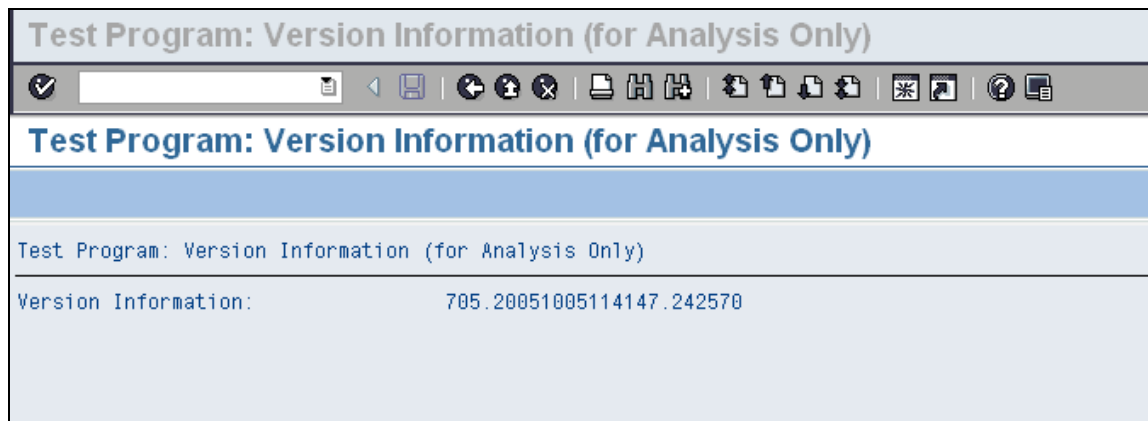
Result

If the configuration is correct, the system displays the version number of the Adobe document services and we can start checking the user and password. If the connection test was not successful then we need to perform the following check activities or create the ABAP connection if required which is specified in Appendix A

2.1.3 Checking the User and Password

This is a test for checking whether the entries for the user, security role, and passwords are correct in a system that uses Basic Authentication.

Procedure

- Enter the following URL in your Web browser: **http://<server>:<port>/AdobeDocumentServices/Config** where **<server>** is the name of the J2EE engine where the Adobe document services are installed, and **<port>** is the port of the J2EE engine.
- Note that the entries in the URL are case-sensitive.
- The Web page of the Web service *AdobeDocumentServices* is displayed. Choose *Test*.
- Choose *rpdata(test….)*.

- Choose the *Send* button without entering any parameters.
- Enter the user name and password provided in the previous configuration steps.
- Choose *Submit*.
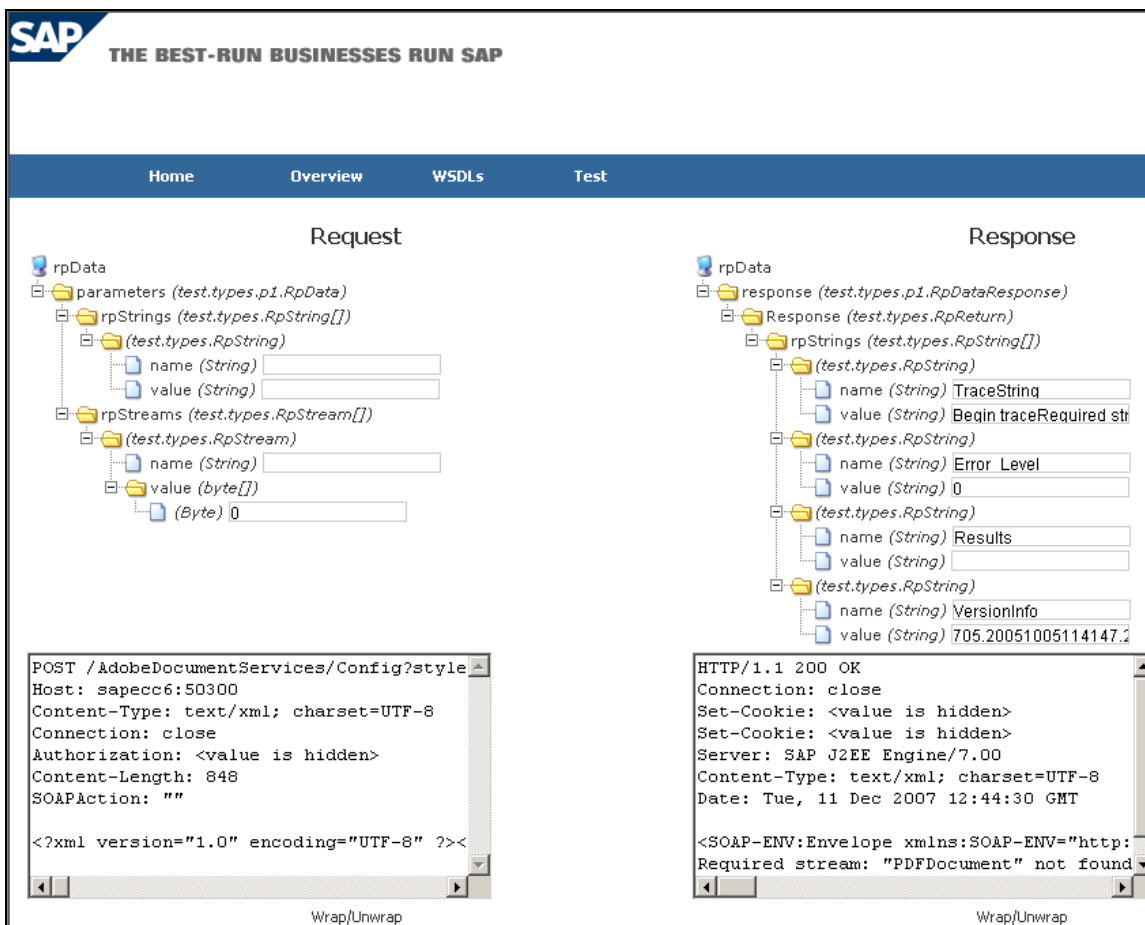
Result

- If the configuration is correct, the system displays the version number of the Adobe document services in the response area. We can ignore the message required stream: *"PDFDocument"* not

found. If the configuration is not correct, the page does not change and Submit remains on the screen. To check further in ABAP we should perform the actions specified in Appendix A and B, in JAVA we should perform the actions specified in Appendix C and D

2.1.4 Checking the Destination Service and the ICF Service

Use the first of the following tests for checking the settings of the destination service. If we receive any error messages, continue with the further tests listed below. For performing this test the ABAP connection should be already tested successfully.

2.1.4.1 Checking the Destination Service using a test report in AS ABAP

Using this test you can check if the complete configuration of the destination service and the ICF service is correct. There are two test reports available:

 FP_CHECK_DESTINATION_SERVICE This report checks the configuration of the destination   service and the ICF service sap/bc/fp.

 FP_CHECK_HTTP_DATA_TRANSFER This report checks the configuration of the destination service and the ICF service sap/bc/fpads. You only need this service, if AS ABAP and AS Java (with ADS) are installed in different systems, and you want to bundle your forms to improve performance.
- Log on to your SAP NetWeaver AS ABAP system.
- Call transaction SA38.
- Enter the name of the test report.
- Execute the test without choosing the option With Destination Service.
- The system renders a test form in the background without using the destination service and displays the size of the created PDF.

- Execute the test again. Now select the option With Destination Service.
- If the settings of the destination service are correct, the system displays the same message as before.

2.1.4.2 Checking the ICF Service using the Web Browser

In your Web browser enter the URL

http://<server>:<port>/sap/bc/fp/form/layout/fp_test_00.xdp

where <server> is the server that hosts the AS ABAP and <port> is the http port of the AS ABAP.

In the dialog box enter ADS_AGENT as user and the password you have specified for it.If the settings of the ICF service are correct, the system displays the layout information of the form FP_TEST_00 in XML format.

2.1.4.3 Checking the Destination Service using the Visual Administrator

Using this test we can check if the settings for the destination service are correct.

Start the Visual Administrator and navigate to *Services → Destinations.* Choose the destination and extend entry in the field *URL we* specified in *Connection Settings* to
http://<server>:<port>/sap/bc/fp/form/layout/fp_test_00.xdp

where <server> is the server that hosts the AS ABAP and <port> is the http port of the AS ABAP. Choose Save and Test

The system sends a call to the ABAP system where the form layout is stored. If the settings are correct, the system displays the message HTTP GET response code 200 Content type text/xml.

Don't forget to change the URL back to http://<server>:<port> for the Destination Service to work properly and save. If the settings of the destination service are not correct, you get an error message. You need to perform further checks in Appendix E and F. In addition u should also check the destination service in Visual Administrator.

2.2 Configuration Check for Interactive Forms in Web Dynpro for Java

Using this process we can check the configuration for basic authentication on the J2EE Engine, where the Adobe document services are installed. This configuration is necessary to develop and run interactive forms in Web Dynpro for Java. It does not include any check of the credentials that are needed for interactive forms, for example, credentials for Reader Rights or for digital signatures. To check, repeat the step 2.1.3 and Appendix D

Appendix

A) Setting up Basic Authentication - Creating the ABAP Connection

This procedure applies only in the scenario of print forms or forms created in an SAP Web AS ABAP. The purpose of this procedure is to create a connection in the ABAP environment to use when connecting to Adobe document services and to set up Basic Authentication.

Procedure

- Log on to your SAP Web AS central instance host.
- Call transaction SM59.
- Choose *Create*.
- Enter at least the following:
  - *RFC destination*: **ADS**
  - *Connection type:* **G**
  - *Description: <your description>*

Configuration of RFC Connections

RFC Connections	Type	Comment
▷ 📁 ABAP Connections	3	
▽ 🗐 HTTP Connections to External Server	G	
📄 ADS	G	Connection for ADS
▷ 📁 HTTP Connections to ABAP System	H	
▷ 📁 Internal Connections	I	
▷ 📁 Logical Connections	L	
▷ 📁 TCP/IP connections	T	
▷ 📁 Connections via ABAP Driver	X	

RFC Destination ADS

Connection Test

RFC Destination	ADS
Connection Type	G HTTP Connection to External Serv Description

Description

Description 1	Connection for ADS
Description 2	
Description 3	

Administration   **Technical Settings**   Logon & Security   Special Options

Target System Settings

Target Host	sapecc6	Service No.	5030(
Path Prefix	/AdobeDocumentServices/Config?style=rpc		

HTTP Proxy Options

Global Configuration

Proxy Host	
Proxy Service	
Proxy User	
Proxy PW Status	is initial

- Choose ENTER
- Choose the Technical settings tab and enter at least the following:
  - *Target Host*
  - Enter the host name of the J2EE Engine that runs the Adobe document services or of the SAP Web dispatcher if applicable.
  - *Service No*
  - Enter the HTTP port number of the Target Host you have specified (The following naming convention applies: **5<J2EE_instance_number>00** (50**00**00, for example, if your J2EE instance is **00**).
  - *Path Prefix*
- Enter exactly the string **/AdobeDocumentServices/Config?style=rpc**
- Choose the *Logon/Security* tab, select *Basic Authentication*.
- In the *User* and *Password* boxes, enter the user name **ADSUser** and the password.
- Save the settings.
- Choose *Test Connection*.
- A screen is displayed. The field *status_reason*: OK indicates that the test was successful.

Connection Test HTTP Destination ADS

Destination	ADS
Ty .	HTTP Connection to External Server

| Test Result | Response Header Fields | Response Body | Response Text |

Detail	Value
Status HTTP Response	200
Status Text	OK
Duration Test Call	11516 ms

B) Creating a User in the SAP NetWeaver AS ABAP for Basic Authentication

When our system is not an ABAP + Java system the user ADSUser was not created during installation. This user is required for the secure communication between the ABAP system and the Java system where the Adobe document services are installed. Precede the following procedures.

For ABAP: Creating a User in the SAP NetWeaver AS ABAP:

- Log on to the SAP system with an admin user, in the client that is used for the UME authentication.
- Choose *Tools → Administration → User Maintenance → User* (transaction SU01).
- Enter **ADSUser** as user name and choose Create.
- Choose *system user* as type for ADSUser.
- Enter a password and save your settings.

Assigning a Role in ABAP

- Choose *Tools → Administration → User Maintenance → Role Administration → Roles* (transaction PFCG)
- Create a role **ADSCallers** (no authorizations required). The ADSCallers role in SAP NetWeaver AS ABAP appears automatically as the ADSCallers group in the J2EE Engine.
- Activate the role.
- Assign user *ADSUser* to this role.

User	ADSUSER					
Last Changed On	ADSUSER	03.11.2007	16:57:49	Status	Saved	

| Address | Logon data | Defaults | Parameters | Roles | Profiles | Groups |

Reference user for additional rights

Role Assignments

St	Role	Type	Valid From	Valid to	Name
⬛	ADSCALLERS	⊕	02.11.2007	31.12.9999	ADSCALLERS

Assigning the Security Role in Java

- Log on to the Visual Administrator.
- On the Cluster tab, choose *Server <x> → Services → Security Provider*.
- On the *User Management* tab, choose the *Tree* tab in the left panel.
- In the *User* Tree, ensure that the user you created in ABAP appears under the *ADSCallers* group.
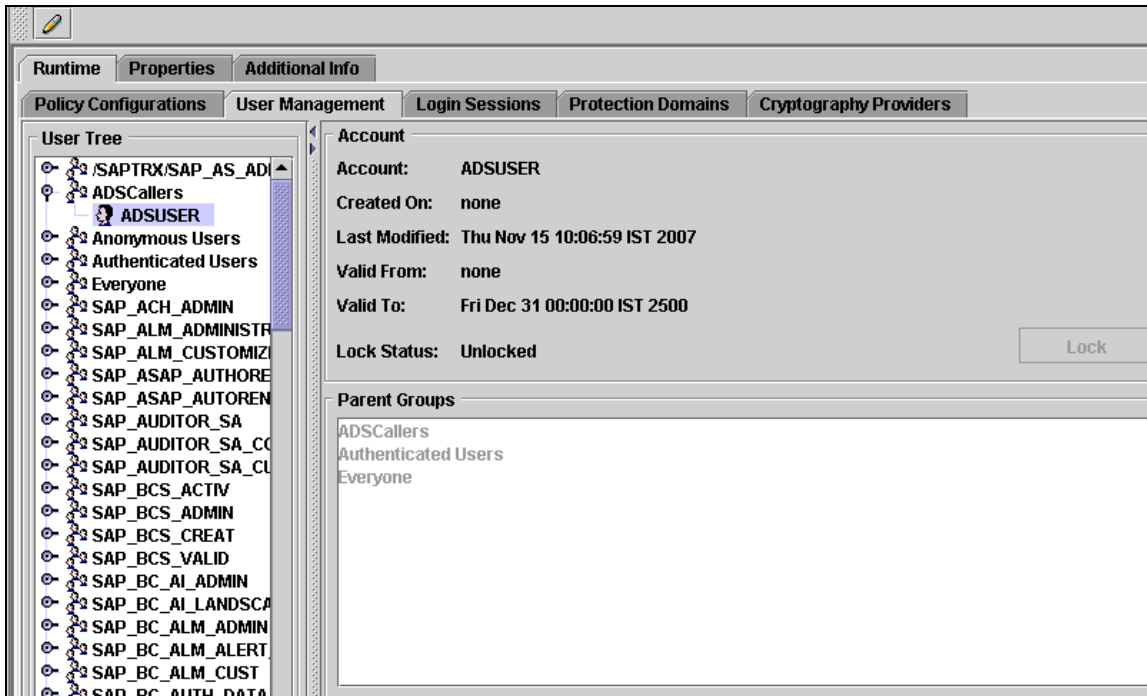
- On the *Policy Configurations* tab, in the *Components* area, select *com.adobe/AdobeDocumentServices*AdobeDocumentServicesAssembly.jar.*
- On the *Security Roles* tab, select *ADSCaller* from the *Security Roles* list.
- In the *Mappings* area, choose *Add*, which is assigned to *Users*. A dialog *Choose Users or Groups* is displayed.
- Choose the *Tree* tab.
- In the *User Tree*, under the *ADSCallers* group, select the *ADSUser* you just created and choose *OK*. This assigns the new user to the *ADSCaller* security role.
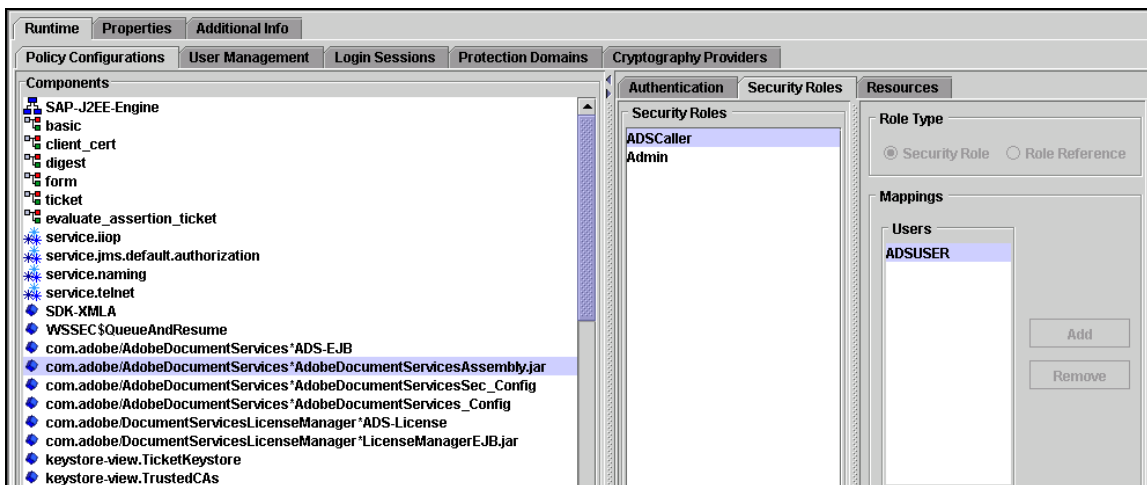
### C) For JAVA: Creating a User in the SAP NetWeaver AS Java for Basic

In some cases the user ADSUser was not created during installation. This user is required for the secure communication between the Web Dynpro application and the Java system where the Adobe document services are installed. We can create this user in the J2EE Engine or in the SAP NetWeaver AS ABAP depending on the J2EE installation settings for the SAP User Management Engine (UME). We create this user in the SAP NetWeaver AS ABAP when the UME is configured against the ABAP backend.

Creating the User ADSUser and Assigning the Security Role

- Log on to the Visual Administrator.
- On the *Cluster* tab, choose *Server <x> → Services → Security Provider.*
- On the *User Management* tab, choose *Create Group* to create a group called **ADSCallers**, if the group does not exist. In the dialog that follows, enter the name and choose *OK*.
- Choose *Create User*. The *Create New User* dialog box is displayed.
- In the *User name*, *Password*, and *Confirm password* boxes, enter **ADSUser** for the user name and type a password.
- Choose the *Tree* tab in the right panel. In the *User Tree*, select *ADSCallers,* and then choose *OK*.
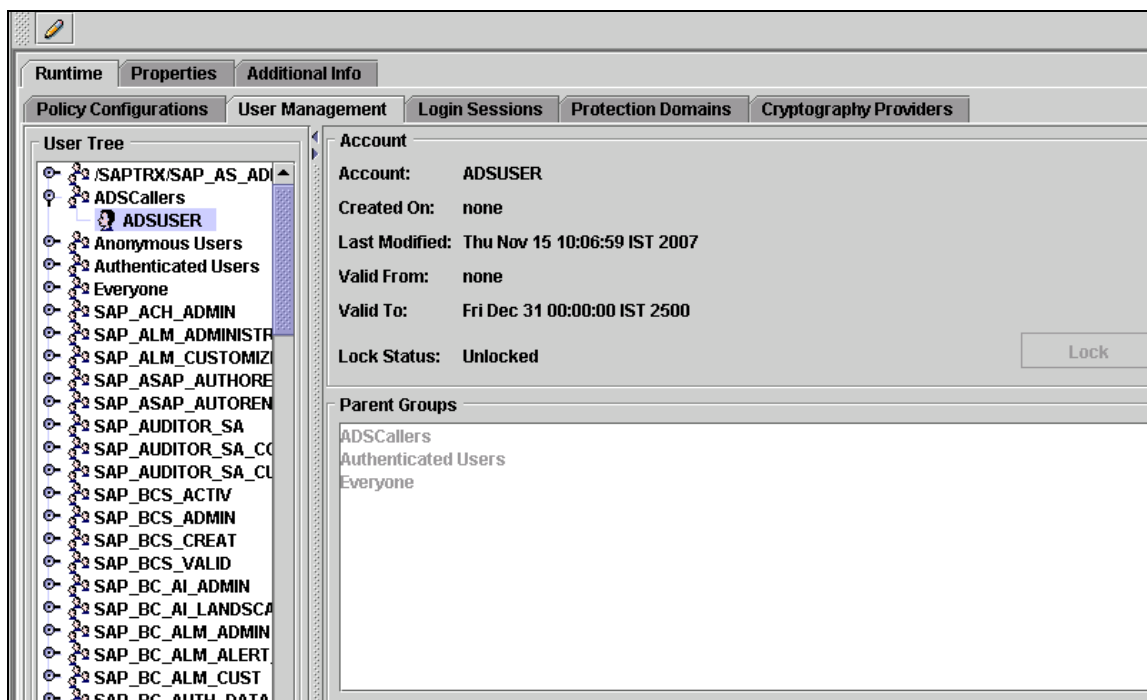
- On the *Policy Configurations* tab, in the *Components* area, select *com.adobe/AdobeDocumentServices*AdobeDocumentServicesAssembly.jar*.
- On the *Security Roles* tab, select *ADSCaller* from the *Security Roles* list. *The ADSCaller security role was created when our system was installed. We should not assign this security role to users other than the system user that we will use for accessing Adobe document services.*
- In the *Mappings* area, choose *Add,* which is assigned to *Users*. A dialog *Choose Users or Groups* is displayed.
- Choose the *Tree* tab.
- In the *User Tree*, under the *ADSCallers* group, select the *ADSUser* you just created and choose *OK*. This assigns the new user to the ADSCaller security role.
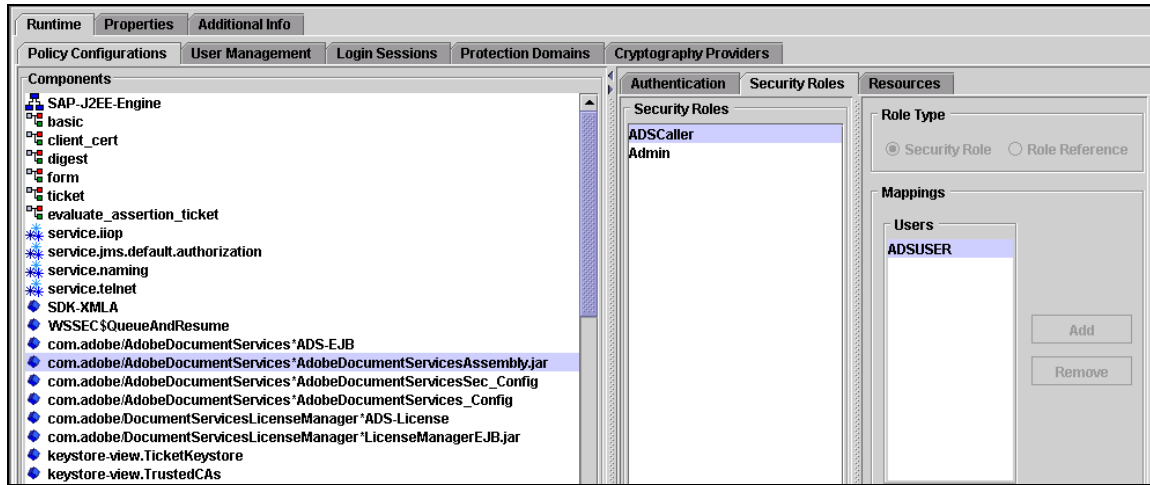
Defining ADSUser as Technical User

To prevent, that the password for the ADSUser expires, do following:
- Log on to the *User Management* of your AS Java:
- **http://<AS Java server>:<http port>** → *User Management*
- Display the user ADSUser.
- Choose *Modify*.
- In the *Security policy* field, change the setting from *Default* to *Technical User*
- Save.

D) For JAVA: Setting Up Basic Authentication in a Java Environment

This procedure applies for the scenario of interactive forms. Set up Basic Authentication to access the Java version of the PDF object. This procedure describes you the configuration steps and applies when the Adobe document services and the Web Dynpro runtime are installed on the same J2EE Engine. Then under Destination the URL is set to Default. The user ADSUser should be created and configured during installation of Adobe document service.

Procedure

To set up Basic Authentication in a Java environment:
- Log on to the Visual Administrator.
- On the Cluster tab, choose *Server <x>* → *Services* → *Web Services Security*.
- Choose *Web Service Clients* → *sap.com* > *tc~wd~pdfobject* →
  *com.sap.tc.webdynpro.adsproxy.AdsProxy*ConfigPort_Document*.
- From the *Authentication* list, select *BASIC*.
- In the *User* and *Password* boxes, enter as Username **ADSUser** and a Password.
- Choose *Save*.
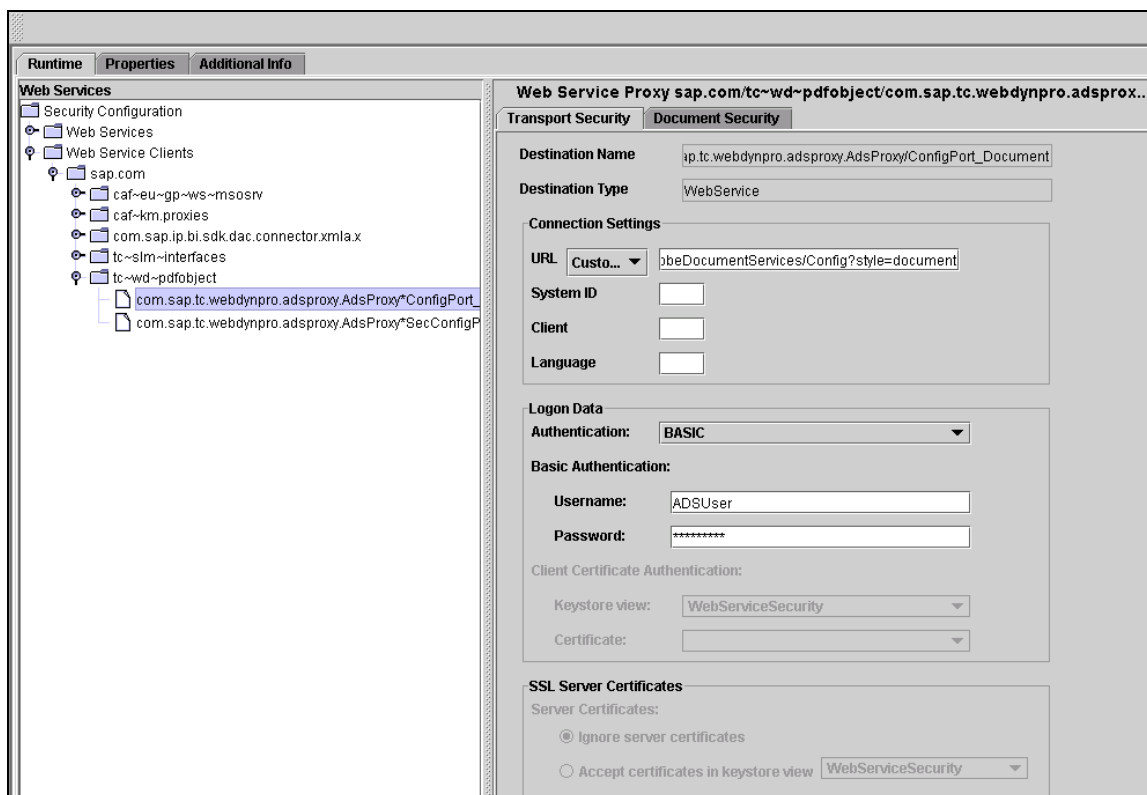
- The authentication data must be activated. For doing this navigate to *Services* → *Deploy*.
- Choose the button *Application*.
- Choose *sap.com/tc~wd~pdfobject* in the tree.
- Choose *Stop Application*.

- For restarting the application choose *Start Application*.

E) Check if the ICF service is active

The communication between the Destination Service of the SAP Web AS Java and the SAP Web AS ABAP uses the Internet Communication Framework. We have to activate the corresponding service, if this is not done so far.

Procedure

- Log on to your SAP Web AS ABAP system
- Choose transaction SICF.
- Choose default_host → sap → bc → fp in the tree.
- Choose Service/Virt.Host → Activate
- If AS ABAP and AS Java (with ADS) are installed in different systems, and you want to bundle your forms to improve performance, you also have to activate the fpads ICF service.

Virtuelle Hosts / Services	Documentation	Referenz Service
▽ 🖳 default_host	VIRTUAL DEFAULT HOST	
▽ 🌀 sap	SAP NAMESPACE; SAP IS OBLIGED NOT T...	
▷ ◉ option	RESERVED SERVICES AVAILABLE GLOBA...	
▷ ◉ public	PUBLIC SERVICES	
🌀 ap	Application Platform	
▽ 🌀 bc	BASIS TREE (BASIS FUNCTIONS)	
🔧 approval_100	Link to Approval Service	/default_host/sap/bc/bsp/sap/hrrcf_approval
▷ 🌀 bsp	BUSINESS SERVER PAGES (BSP) RUNTI...	
🌀 bsp_dev	WEBDAV ACCESS TO BSP DEVELOPMEN...	
🌀 bw_test	BW Test	
🌀 cachetest	TEST ICM SERVER CACHE BASIC FUNCTI...	
▷ 🌀 ccms	Services of the CCMS Monitoring Architecture	
🌀 cimom	CIM Object Manager (System Component ...	
🌀 cms	Change Management Server	
🌀 contentserver	CONTENT SERVER INTERFACE	
🌀 crm_bsp_dl	Service to handle xml/csv downloads	
▷ 🌀 dal	Desktop Application Launchpad	
🌀 docu	ABAP DOCUMENTATION	
▷ 🌀 ecatt	Services for eCATT	
▷ 🌀 echo	REPEAT OF REQUEST DOCUMENT (ONL...	
▷ 🌀 erecruiting	E-Recruiting	
▷ 🌀 error	ERROR HANDLING ROUTINES (ONLY FO...	
🌀 esf	Enterprise Services Framework	
🌀 formabsdelet	BACKGROUND SERVICE: DELETION OF A...	
▷ 🌀 FormToRfc	INTERNAL VERIFICATION SERVICE	
🌀 fp	HTTP Extension/Request Handler for Form ...	
🌀 fpads	Various HTTP Data Services for ADS	
▷ 🌀 graphics	General handler for graphic applets	
▷ 🌀 gui	ITS-Based GUI Services	
▷ 🌀 icf	Internet Communication Framework	
▷ 🌀 icman	Test Handler for ICM (Troubleshooting Only)	

Result

The ICF service is now active.

F) Check if the system user ADS_AGENT is correctly configured

The service user ADS_AGENT in the ABAP environment corresponds to the user we specify in the authentication parameters of the Destination Service in the AS Java where the Adobe document services are installed.

Procedure

- Log on to the SAP NetWeaver AS ABAP and choose transaction SU01 (User Management).
- Enter the name ADS_AGENT in the User field and choose User → Create
- Choose the Logon data tab and assign a password
- Choose Service as the user type for ADS_AGENT
- Choose the Role tab and assign one of the following roles to the user ADS_AGENT.

  SAP_BC_FP_ICF, if AS ABAP and AS Java (with ADS) are on the same system (Double-Stack or Java Add-In).

  SAP_BC_FPADS_ICF, if AS ABAP and AS Java (with ADS) are on different systems.
- Save the data.

Display User

User	ADS_AGENT					
Last Changed On	BASIS	13.11.2007	18:08:12		Status	Saved

Address   Logon data   Defaults   Parameters   **Roles**   Profiles   Groups

Reference user for additional rights

Role Assignments

St	Role	Type	Valid From	Valid to	Name
◼	SAP_BC_FP_ICF		13.11.2007	31.12.9999	Form Processing: Role for
◼	SAP_BC_FPADS_ICF		05.11.2007	31.12.9999	Form Processing: Role for

Important SAP Notes

894009 - Adobe document services: Configuration Guide (NW 7.0)
9736902 - Adobe Credentials
9750784 - SAP Interactive Forms: Licenses
9752153 - Adobe: PDF Manipulation Module High Encryption
9766191 - Active Component Framework Installation
9766410 - Interactive forms: XDC Scenarios for the Printer Control
9685571 - Printing PDF-Based Forms
834573 - SAP Interactive Forms by Adobe: Acrobat/Adobe Reader Version
854621 - Third Party Software Delivered with Adobe Document Services and Adobe LiveCycle Designer
944221 - Problem Analysis / Troubleshooting in Forms Processing
886572 - ADS: Central Patch Note for SAP NetWeaver 7.0
727168 - Adobe Document Services Patches

Important Tips

- ➢ To access the ADS and make use the full usage of the services like Interactive forms, the Adobe version should be updated to 8.
- ➢ To access the ADS in client machines Active component framework and Adobe life cycle designer should be installed.
- ➢ Also in backend the ICM should be configured properly. The users that we use to access the service should be active.
- ➢ It's recommended to use the service users for services in ICM and for ADS we use user ADS_AGENT.
- ➢ The users ADSUser and ADS_AGENT should exist in both JAVA Instance in which we run ADS and also in backend from which we access the ADS. More importantly these users should be assigned with same password.
- ➢ Be cautious with the default client. If the ADS is configured with default client then it would be ok, else we need to specify the client in the Visual Administrator settings which requires the ADS.
- ➢ Printer Configuration is Mandatory and all SAPWIN-type device types cannot be supported with the Adobe technology.

Related Contents

You can refer the below links for knowing more on ADS configuration and troubleshooting. Also a wonderful blog by Achim Hauck helped a lot to crack the configuration which is referred below.

Blog on troubleshooting ADS https://www.sdn.sap.com/irj/sdn/weblogs?blog=/pub/wlg/1232
More information from SAP on Adobe - https://www.sdn.sap.com/irj/sdn/adobe
FAQ's on Adobe - https://www.sdn.sap.com/irj/sdn/adobe?rid=/library/uuid/2a8a0a37-0301-0010-f794-aecd1bb426e0
For more information, visit the Application Management homepage.

Disclaimer and Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade.

SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.