Icons in Body Text

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
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<tbody>
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<td>☢️</td>
<td>Caution</td>
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<tr>
<td>🌟</td>
<td>Example</td>
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<td>Note</td>
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<td>🔄</td>
<td>Syntax</td>
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Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see Help on Help → General Information Classes and Information Classes for Business Information Warehouse on the first page of any version of SAP Library.

Typographic Conventions

<table>
<thead>
<tr>
<th>Type Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Example text</em></td>
<td>Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.</td>
</tr>
<tr>
<td><em>Example text</em></td>
<td>Emphasized words or phrases in body text, graphic titles, and table titles.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.</td>
</tr>
<tr>
<td><em>Example text</em></td>
<td>Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.</td>
</tr>
<tr>
<td><em>Example text</em></td>
<td>Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.</td>
</tr>
<tr>
<td><code>&lt;Example text&gt;</code></td>
<td>Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Keys on the keyboard, for example, F2 or ENTER.</td>
</tr>
<tr>
<td>No</td>
<td>Section</td>
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<td>----</td>
<td>-------------------------------------------------------------------------</td>
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<td>6</td>
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<td>10</td>
<td>How to Start the Visual Administrator</td>
</tr>
</tbody>
</table>
1 Configuring Adobe Document Services for Print Scenarios

Use
This quick guide leads you through all steps that are required for configuring the Adobe document services (ADS) for the usage in print scenarios. These steps cover all basic settings that are needed for the communication between the ADS and the application that processes the print scenario. Therefore, the communication uses a web service with basic authentication.

In an ABAP+Java system you normally do not need to configure the connection settings, because as of SAP NetWeaver 7.0, these are the default settings. You should check the configuration settings to verify that they are correct for your system. For example, if you changed the client of the ABAP system, you need to check the settings for the client information.

Prerequisites
Adobe documents services are installed in a landscape as described in Architecture for PDF-Based Forms [Page 3].

Procedure
Check the Settings
1. Check the IIOP Service and the Startup Properties [Page 5]
2. Check the Configuration for PDF-Based Forms in ABAP [Page 6]

Configure the ADS
1. Create a User in the SAP NetWeaver AS ABAP for Basic Authentication [Page 10]
2. Set Up Basic Authentication - Creating the ABAP Connection [Page 11]
3. Create the Service User ADS_AGENT in the ABAP Environment [Page 12]
4. Activate the ICF service [Page 13]
5. Create or Change the Destination Service [Page 13]

See also:
For a complete overview of the configuration of the ADS, see the Adobe Document Services Configuration Guide [Extern].

2 Architecture for PDF-Based Forms

System Landscapes for Forms in AS ABAP
The following figure displays the usage of Adobe document services in different system landscapes.
ABAP+Java system: configuration is performed by SAPINST

Several systems: you must perform the configuration steps manually

In an ABAP+Java double stack installation, basic authentication is set up automatically as the default during the initial installation of Adobe document services. If AS ABAP and AS Java are not installed on the same server, you must perform the configuration steps manually.

You also have to perform the configuration steps manually, if you added AS Java to an existing AS ABAP system (Java Add-in).

Adobe LiveCycle™ Designer is installed locally on the developer’s PC and integrated into the ABAP Workbench. You install LiveCycle Designer from the separate CD/DVD delivered by SAP.

**Communication AS ABAP – Adobe Document Services**

In the graphic below you can see the communication paths between the components used in the SAP NetWeaver Application Server.
The Form Processing Runtime sends the application data of the form and a link to the form design (template of the form) to the Adobe document services using SOAP, through the RFC destination (SM59). The user for the access is ADSUser.

Before processing the form and creating a PDF or PCL file, the Adobe document services calls the form design, which is stored in the Form Design Repository. Thus the Destination Service communicates with the Internet Communication Framework (ICF). The user for this access is ADS_AGENT.

The protocol for both communication paths is HTTP using the default HTTP port. In the case of SSL, it is HTTPS, respectively HTTPS-Port. If you want to use SSL, you have to configure this manually. For more information, see Configuration of the Web Service SSL Connection [Extern] in the Adobe Document Services Configuration Guide [Extern].

3 Checking the IIOP Service and the Startup Properties

Use

After the installation of the Adobe document services and before performing any other configuration steps you need to check special settings on the central instance host. If necessary, you need to adapt these settings manually.

Procedure

1. Start the configuration tool of the AS Java:
   - On Windows:
     Run `/usr/sap/<SAPSID>/<instance_name>/j2ee/configtool.bat`
   - On Linux:
     Run `/usr/sap/<SAPSID>/<instance_name>/j2ee/configtool.sh`
   The Config Tool screen appears.
2. Check if the startup mode of the service iiop is set to always:
a. In the left frame, open the tree *Cluster data* → *Global dispatcher configuration* → *Services*.

b. Choose service *iiop*.

c. The field *Startup mode* in the right frame must be set to always. If it is not true, apply the value *always*.

d. Choose *Apply changes*.

e. Repeat the steps b. to d. for the following path: *Cluster data* → *Global server configuration* → *Services*.

3. Check if the Java startup property for Adobe document services is set:

a. Select *Cluster data* → *instance_<IDxxxx>* → *server_<IDxxxx>*.

b. In the right frame, check if the following line exists in the Java Parameters area of the tab *General*:


If the line does not exist, add the line to this section.

4. Exit the configuration tool.

5. If you have applied new values during the procedure above, you need to restart the AS Java to adapt the new settings.

### 4 Configuration Check for PDF-Based Forms in ABAP

**Purpose**

Use this process to check whether all configuration steps for developing and processing forms in an ABAP environment are completely and to verify, which ones you still need to perform manually.

**Process Flow**

1. The first check you need to perform is [Checking by Executing Test Report FP_TEST_00](#) [Page 6]

   The following steps are only necessary, if the result of the above test was not successful.

2. [Check the ABAP Connection](#) [Page 7]

3. [Check the User and Password](#) [Page 8]

4. [Check the Destination Service](#) [Page 9]

### 4.1 Checking by Executing Test Report FP_TEST_00

**Use**

This test report checks if your system is configured correctly for processing forms in an ABAP environment.
Prerequisite
A device type for printing PDF-based forms is configured. For more information, see SAP Printing Guide (BC-CCM-PRN) [Extern]

Procedure
1. Log on to your SAP NetWeaver AS ABAP.
2. Call transaction SA38 and enter the name FP_TEST_00.
3. Choose Execute (F8). A dialog box is displayed.
4. Enter FP_TEST_00 in the field Form.
   This is displayed as the default form name.
5. Enter the name of the connection to the ADS. Enter the default name ADS, or, if you have specified another name, the one you are using in your system.
6. In the dialog box, choose Output in Print Preview.
7. Enter an appropriate device type in the field Output Device.

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.

See also:
Checking the ABAP Connection [Page 7]
Checking the User and Password [Page 8]
Checking the Destination Service [Page 9]

4.2 Checking the ABAP Connection

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

Procedure
1. Log on to your SAP system.
2. Call transaction SA38.
3. Enter the name of the test report FP_PDF_TEST_00.
4. 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.
5. Choose Execute (F8).
Result
If the configuration is correct, the system displays the version number of the Adobe document services.

If the configuration is not correct, the system displays a corresponding message. For solving the problem, see
Setting Up Basic Authentication in an ABAP Environment - Creating the ABAP Connection [Page 11] or
Setting Up the SSL Connection in an ABAP Environment [Extern].

4.3 Checking the User and Password

Use
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
1. 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.


3. Choose rpdata(test...).

4. Choose the Send button without entering any parameters.

5. Enter the user name and password provided in the previous configuration steps.

6. Choose Submit.

Result
If the configuration is correct, the system displays the version number of the Adobe document services in the response area.

You 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 further check the configuration, perform the following procedures:

PDF-based forms and forms in Web Dynpro for ABAP

- Creating a User in the SAP NetWeaver AS ABAP for Basic Authentication [Page 10]
- Setting Up Basic Authentication in an ABAP Environment - Creating the ABAP Connection [Page 11]
4.4 Checking the Destination Service and the ICF Service

Use

Use the first of the following tests for checking the settings of the destination service. If you receive any error messages, continue with the further tests listed below.

Prerequisites

You have already checked the ABAP connection [Page 7].

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.

The ICF service sap/bc/fpads and the corresponding settings in the destination service are not configured during the initial installation of SAP NetWeaver 7.0. For more information, see Creating the Service User ADS_AGENT in the ABAP Environment [Page 12] and Activating the ICF service [Page 13].

1. Log on to your SAP NetWeaver AS ABAP system.
2. Call transaction SA38.
3. Enter the name of the test report.
4. Execute the test without choosing the option With Destination Service.
5. The system renders a test form in the background without using the destination service and displays the size of the created PDF.
6. Execute the test again. Now select the option With Destination Service.
7. If the settings of the destination service are correct, the system displays the same message as before (see step 5).

2. Checking the ICF Service using the Web Browser

1. 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.
2. In the dialog box enter ADS_AGENT as user and the password you have specified for it.
3. If the settings of the ICF service are correct, the system displays the layout information of the form FP_TEST_00 in XML format.

3. Checking the Destination Service using the Visual Administrator

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

1. Start the Visual Administrator and navigate to Services → Destinations as described in Creating or Changing the Destination Service [Page 13].

2. Choose the destination and extend entry in the field URL you 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

   Specify the URL exactly as given, otherwise the connection cannot be tested and you receive the error message Error during ping operation: Received HTTP response 401.

3. Choose Save and Test

4. 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.

5. Don’t forget to change the URL back to http://<server>:<port> for the Destination Service to work properly.

6. Save

Further Checks

If the settings of the destination service are not correct, you get an error message. You need to perform further checks:

1. Check if the ICF service [Page 13] is active.

2. Check if the system user ADS_AGENT [Page 12] is correctly configured.

3. Check the settings of the Destination Service [Page 13].

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

Use

When your 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. Proceed the following procedures:

Creating a User in the SAP NetWeaver AS ABAP:

1. Log on to the SAP system with an admin user, in the client that is used for the UME authentication.

2. Choose Tools → Administration → User Maintenance → User (transaction SU01).
3. Enter `ADSUser` as user name and choose Create.
4. Choose `system user` as type for ADSUser.
5. Enter a password and save your settings.

### Assigning a Role in ABAP

1. Choose `Tools → Administration → User Maintenance → Role Administration → Roles` (transaction PFCG)
2. 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.

3. Activate the role.
4. Assign user `ADSUser` to this role.

### Assigning the Security Role in Java

1. Log on to the Visual Administrator. (See [How to Start the Visual Administrator](#)[Page 15])
2. On the Cluster tab, choose `Server <x> → Services → Security Provider`.
3. On the `User Management` tab, choose the `Tree` tab in the left panel.
4. In the `User` Tree, ensure that the user you created in ABAP appears under the `ADSCallers` group.
7. In the `Mappings` area, choose `Add`, which is assigned to `Users`. A dialog `Choose Users or Groups` is displayed.
8. Choose the `Tree` tab.
9. 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.

### 6 Setting Up Basic Authentication - Creating the ABAP Connection

#### Use

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

1. Log on to your SAP Web AS central instance host.
2. Call transaction SM59.
3. Choose Create.
4. Enter at least the following:
   RFC destination: ADS
   Connection type: G
   Description: <your description>
5. Choose ENTER
6. 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 (50000, for example, if
   your J2EE instance is 00).
   Path Prefix
   Enter exactly the string /AdobeDocumentServices/Config?style=rpc
   A warning is displayed: Query String Not Allowed. Ignore this warning by
   pressing Enter.
7. Choose the Logon/Security tab, select Basic Authentication.
8. In the User and Password boxes, enter the user name ADSUser and the password.
9. Save your settings.
10. Choose Test Connection.
11. A screen is displayed. The field status_reason: OK indicates that the test was
    successful.

7 Creating the Service User ADS_AGENT in the ABAP Environment

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

Procedure
1. Log on to the SAP NetWeaver AS ABAP and choose transaction SU01 (User
   Management).
   You must specify this client in the Destination Service.
2. Enter the name ADS_AGENT in the User field and choose User → Create.
3. Choose the Logon data tab and assign a password.
You must specify this password in the Destination Service.

4. Choose Service as the user type for ADS_AGENT.

5. 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.
   This distinction is for performance reasons. You may copy the required role first. For more information, see Changing Standard Roles [Extern] in the SAP Library.

6. Save the data.

7. Create or change the Destination Service [Page 13]

See also:
Bundling of PDF-Based Forms [Extern]

8 Activating the ICF service

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

Procedure
1. Log on to your SAP Web AS ABAP system
2. Choose transaction SICF.
3. Choose default_host → sap → bc → fp in the tree.
4. Choose Service/Virt.Host → Activate
5. 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.

Result
The ICF service is now active.

9 Creating or Changing the Destination Service

Use
This procedure applies to SAP applications using print forms and forms in ISR scenarios, for example in the Business Package Manager Self-Services.
When processing forms between an ABAP environment and a Java environment, the Destination service of the J2EE engine is used. This service runs in the Java environment and facilitates communication and data transmission between the Java and ABAP environments. Communication between ABAP and the Java Destination service is enabled by the Internet Communication Framework (ICF).

In an ABAP+Java system, the Destination service is configured for basic authentication, when the system is installed. You need to change this configuration, if

- ABAP and Java are installed on separate systems
- you want to use SSL
- the service user ADS_AGENT in the ABAP system is not created in the default client.

**Prerequisites**

- The ICF service on the SAP NetWeaver AS ABAP is active. For more information, see [Activating the ICF service][Page 13].
- The service user ADS_AGENT was created and assigned to the appropriate role. For more information, see [Creating the Service User ADS_AGENT in the ABAP Environment][Page 12]

**Procedure**

To change destination, proceed as follows:

1. Log on to the Visual Administrator. (See [How to Start the Visual Administrator][Page 15].)

2. On the Cluster tab, choose `Server <x> → Services → Destinations`. Under `Runtime`, select `HTTP`. The available destinations are displayed.

3. Choose the destination you want to change. The information that applies to a selected destination is displayed in the right pane. Proceed with step 6.

4. Choose `New` in the navigation panel, if the destination does not exist, yet.

5. In the dialog box that follows, enter the name `FP_ICF_DATA_<SID>`, where `<SID>` is your ABAP system, for the new destination and choose `OK`.

6. Under `Connection Settings`, enter the message server (or Web Dispatcher) of the SAP NetWeaver AS ABAP in the `URL` field:

   ```
   http://<hostname>:<HTTP_port>
   ```

   and in case of SSL,

   ```
   https://<hostname>:<HTTPS_port>
   ```

   To display the host name of your SAP NetWeaver AS ABAP log on to SAP NetWeaver AS ABAP and call transaction SICF. In the main menu, choose `Goto → Port Information`. The information is displayed on a screen; where the HTTP_port is specified under `Services`.

7. Enter the appropriate client number of the system, where the service user ADS_AGENT exists into the `client` field. Keep the other fields `System ID` and `Language` empty.

8. Under `Logon Data`, choose `BASIC` in the `Authentication` field.
9. Enter **ADS_AGENT** in the *Username* field and enter the same password as given for this service user in the SAP NetWeaver AS ABAP in the *Password* field.

10. Choose *Save*.

   ![Icon]

   If you choose *Save and Test*, you can ignore the message *Error during ping operation: Received HTTP response 404.*

---

### 10 How to Start the Visual Administrator Procedure

1. Start the tool:
   - For an ABAP + J2EE system (J2EE Add-In):
     - On Windows:
       ```
       Run \usr\sap\<SAPSID>\DVEBMGS<xx>\j2ee\admin\go.bat.
       ```
     - On UNIX:
       ```
       Run /usr/sap/<SAPSID>/DVEBMGS<xx>/j2ee/admin/go.
       ```
   - For a J2EE system:
     - On Windows:
       ```
       Run \usr\sap\<SAPSID>\JC<xx>\j2ee\admin\go.bat.
       ```
     - On UNIX:
       ```
       Run /usr/sap/<SAPSID>/JC<xx>/j2ee/admin/go.
       ```

   The **SAP J2EE Engine – Administration** screen with the *Connect to SAP J2EE Engine* dialog box appears.

2. To connect, do the following:

   **Connecting to the SAP J2EE Engine**

<table>
<thead>
<tr>
<th>J2EE type</th>
<th>How to connect</th>
</tr>
</thead>
<tbody>
<tr>
<td>J2EE system</td>
<td>Choose <em>Connect</em> to use the Default login and enter the password for the Administrator user of the SAP J2EE engine.</td>
</tr>
</tbody>
</table>
You cannot use the Default login. Instead do the following:

1. Choose **New**.
2. Enter a display name and choose *Direct Connection to a dispatcher Node*.
3. Choose **Next**.
4. Enter at least the following:
   - **User Name**: `J2EE_ADMIN`
   - **Host**: `<host_name>` of the J2EE engine
   - **Port**: `<P4_Port>`
     
     The following convention applies for the port: `5<J2EEinstance_number>04`. For example, if your J2EE instance number is 15, the P4port is 51504.
   
5. Choose **Save** and connect with your new login account by choosing **Connect**.
6. Enter the password for the `J2EE_ADMIN` user and choose **Connect**.