



CONFIGURATION GUIDE | PUBLIC

ABAP Platform 1909 FPS00

Document Version: 3.4 – 2019-09-20

Configuring the ABAP Back-end for ABAP Development Tools

Client Version 3.4

Content

- 1 About This Configuration Guide. 3**
- 2 Providing Roles and User Authorizations. 4**
 - 2.1 Standard Roles and Authorization Objects. 4
 - URI Prefixes for the Authorization Object S_ADT_RES. 5
 - Remote Access to Function Modules (Specified in the Authorization Object S_ RFC). 8
 - Transaction Code Check at Transaction Start (Specified in the Authorization Object S_ TCODE). 9
- 3 Activating ICF Services in Development Systems. 10**
 - 3.1 Providing Access to Documentation. 11
 - 3.2 Sharing HTTP Links. 13
 - 3.3 Web Dynpro ABAP Development. 14
- 4 Configuring Profile Parameters. 16**
- 5 [Optional:] Enabling the ABAP Source Search. 18**
- 6 Support Case. 20**
 - 6.1 Running ADT in Protected Mode. 20

1 About This Configuration Guide

The installation of front-end components includes all steps that you must perform in order to work smoothly with ABAP Development Tools on the ABAP back-end system. It includes the completion of the subsequent activities for each back-end system you want to work with.

Scope of Documentation

This documentation describes how to configure an ABAP back-end system in order to enable ABAP Development Tools (ADT).

Target Audience

ABAP system administrators who configure the ABAP server for each back-end system in order to connect them with ADT.

Validity of Documentation

This documentation belongs to the ABAP Development Tools **client version 3.4** and refers to the range of functions that have been shipped as part of the standard delivery for:

- SAP NetWeaver 7.3 EHP1 **SP04 and higher**
- SAP NetWeaver 7.4 **SP02 and higher**
- SAP NetWeaver 7.5 **SP00 and higher**
- SAP NetWeaver AS for ABAP 7.51 innovation package **SP00 and higher**
- SAP NetWeaver AS for ABAP 7.52 **SP00 and higher**
- Application Server ABAP 7.53 **SP00 and higher**
- Application Server ABAP 7.54 **SP00**

2 Providing Roles and User Authorizations

The assignment of authorizations to back-end system users is based on roles that are predefined in the ABAP system. As a system administrator, you assign one or more roles to these back-end system users. The roles are based – at a technical level – on authorization objects.

When you are assigning user authorizations in an ABAP system for access to repository objects from within an ABAP project, we strongly recommend using the standard roles and authorization default values that are provided for working with ABAP Development Tools.

Procedure

Use one of the standard SAP roles below as a master copy to assign users of the ABAP Development Tools in your organization.

Related Information

[User and Role Administration of Application Server ABAP](#)

2.1 Standard Roles and Authorization Objects

The table below shows the standard roles. Assign one of them to the users of ABAP Development Tools (ADT), depending on the required authorizations:

i Note

Since the first ADT release was shipped with SAP NetWeaver 7.4 SP02 and SAP NetWeaver 7.3 EHP1 SP04, the subset of the following roles has changed. To provide all required authorization roles, refresh this role.

List of predefined standard roles

Role	Description
SAP_BC_DWB_ABAPDEVELOPER	Role that contains all authorizations relevant for ABAP developers who are working in the back end and with ADT

Role	Description
SAP_BC_DWB_WBDISPLAY	Role that contains all authorizations to display and browse development objects in the back end and ADT.

i Note

Users are not allowed to modify ABAP development objects.

These standard roles are linked with the following authorization objects that are also required to use ABAP Development Tools:


- [S_ADT_RES: Resource access by ABAP Development Tools \[page 5\]](#)
- [S_RFC: Authorization check for RFC access \[page 8\]](#)
- [S_TCODE: Transaction codes check at transaction start \[page 9\]](#)

2.1.1 URI Prefixes for the Authorization Object S_ADT_RES

In accordance to the relevant SAP NetWeaver Release, ABAP Development Tools (ADT) uses the following URI prefixes for the **S_ADT_RES** authorization object:

List of the Relevant URI Prefixes for Enabling ADT

URI Prefix	Enables Access for Resources of	Available since Back-End Version
/sap/ap/adt/bopf/*	Business Objects	7.50 SP00
/sap/bc/adt/abapsource/*	ABAP source code functionalities (for example, ABAP source code formatter, ABAP Doc export)	7.31 SP04
/sap/bc/adt/abapunit/*	ABAP Unit	7.31 SP04
/sap/bc/adt/acm/dcl/*	ABAP Data Control Language (DCL) source code	7.40 SP10
/sap/bc/adt/activation /sap/bc/adt/activation/*	Activation of development objects	7.31 SP04
/sap/bc/adt/amdp/debugger/*	Debugger for ABAP Managed Database Procedures	7.31 SP04
/sap/bc/adt/atc/*	ABAP Test Cockpit (ATC)	7.31 SP06
/sap/bc/adt/checkruns /sap/bc/adt/checkruns/*	Consistency checks (for example, syntax check)	7.40 SP02

URI Prefix	Enables Access for Resources of	Available since Back-End Version
/sap/bc/adt/classifications	Classifications	7.50 SP00
/sap/bc/adt/classifications/*		
/sap/bc/adt/compatibility/*	ADT compatibility: Feature graph	7.31 SP04
/sap/bc/adt/core/discovery	ADT compatibility: Core discovery resource	7.40 SP02
/sap/bc/adt/cts/*	Change and Transport System (CTS)	7.31 SP04
<div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px; margin: 10px 0;"> <p>i Note</p> <p>This URI prefix replaces /sap/bc/cts/*. For further information, see SAP note 2047506</p>  </div>		
/sap/bc/adt/datapreview/*	Data preview	7.40 SP05
/sap/bc/adt/ddic/*	ABAP Dictionary	7.40 SP02
/sap/bc/adt/debugger	ABAP Debugger	7.31 SP04
/sap/bc/adt/debugger/*		
/sap/bc/adt/discovery	ADT compatibility: discovery resource	7.31 SP04
/sap/bc/adt/dlp/*	Dynamic Log Points	7.50 SP00
/sap/bc/adt/docu/*	Documentation (for example, ABAP language help and DDL language help)	7.31 SP04
/sap/bc/adt/documentation/*	ABAP long text repository (for example, ATC problem long texts)	7.31 SP04
/sap/bc/adt/enhancements/*	Enhancement Framework	7.31 SP11 or 7.4 SP05
/sap/bc/adt/error/*	Error handling in ADT	7.31 SP04
/sap/bc/adt/feeds	Feed reader	7.31 SP04
/sap/bc/adt/feeds/*		
/sap/bc/adt/filestore/ui5-bsp/*	UI5 team provider	7.31 SP04
/sap/bc/adt/fpm/*	Floorplan Manager	7.31 SP11
/sap/bc/adt/functions/*	ABAP function modules and function groups	7.31 SP04

URI Prefix	Enables Access for Resources of	Available since Back-End Version
<code>/sap/bc/adt/includes/*</code>	ABAP includes	7.31 SP04
<code>/sap/bc/adt/logs/*</code>	Log files (for example, the DDIC activation log)	7.40 SP05
<code>/sap/bc/adt/messageclass</code> <code>/sap/bc/adt/messageclass/*</code>	Message classes	7.31 SP06
<code>/sap/bc/adt/navigation/*</code>	ABAP navigation	7.31 SP04
<code>/sap/bc/adt/nhi/*</code>	Integration of native SAP HANA artifacts (for example, external views, database procedures, or delivery units)	7.31 SP05
<code>/sap/bc/adt/oo/*</code>	ABAP classes and interfaces	7.31 SP04
<code>/sap/bc/adt/packages</code> <code>/sap/bc/adt/packages/*</code>	ABAP packages	7.31 SP04
<code>/sap/bc/adt/programs</code> <code>/sap/bc/adt/programs/*</code>	ABAP programs	7.31 SP04
<code>/sap/bc/adt/quickfixes/*</code>	Quick fixes	7.31 SP06
<code>/sap/bc/adt/refactorings</code> <code>/sap/bc/adt/refactorings/*</code>	Refactorings	7.31 SP06
<code>/sap/bc/adt/repository/*</code>	ABAP repository metadata	7.31 SP04
<code>/sap/bc/adt/runtime/dumps</code> <code>/sap/bc/adt/runtime/dumps/*</code>	ABAP short dumps	7.31 SP04
<code>/sap/bc/adt/runtime/systemmessages</code> <code>/sap/bc/adt/runtime/systemmessages/*</code>	System messages	7.31 SP04
<code>/sap/bc/adt/runtime/traces</code> <code>/sap/bc/adt/runtime/traces/*</code>	ABAP runtime traces (for example, profiling)	7.4 SP02
<code>/sap/bc/adt/runtime/workprocesses</code> <code>/sap/bc/adt/runtime/workprocesses/*</code>	Access on resources that terminate no more required SAP GUI sessions	7.51 SP00

URI Prefix	Enables Access for Resources of	Available since Back-End Version
/sap/bc/adt/security/*	Security (for example, reentrance tickets)	7.31 SP04
/sap/bc/adt/sqlm/*	SQL Monitor	7.50 SP00
/sap/bc/adt/sscr/*	Developer and object registration services	7.31 SP08
/sap/bc/adt/st05/trace/*	Performance traces (for example, SQL trace)	7.54 SP00
/sap/bc/adt/system/*	System clients and users	7.31 SP04
/sap/bc/adt/urifragmentmappings	URI Fragment Mapper	7.31 SP14 or 7.4 SP08
/sap/bc/adt/wdy	Web Dynpro	7.31 SP07
/sap/bc/adt/wdy/*		
/sap/bc/adt/xslt/*	XSLT transformations	7.50 SP00
/sap/bc/esproxy	ABAP connectivity and integration development tools	7.40 SP02
/sap/bc/esproxy/*		

Note

The wildcard "*" is used for the subpaths of the URI.

2.1.2 Remote Access to Function Modules (Specified in the Authorization Object S_RFC)

ABAP Development Tools requires remote access to the following function modules that are specified for the authorization object **S_RFC**:

List of function modules, specified for the authorization object S_RFC

Activity [ACTVT]	Name of RFC Object That Can Be Accessed [RFC_NAME]	Type of RFC Object That an Be Accessed [RFC_TYPE]
16 (Execute)	DDIF_FIELDINFO_GET	FUNC (Function module)
	RFCPING	
	RFC_GET_FUNCTION_INTERFACE	
	SADT_REST_RFC_ENDPOINT	
	SUSR_USER_CHANGE_PASSWORD_RFC	

Activity [ACTVT]	Name of RFC Object That Can Be Accessed [RFC_NAME]	Type of RFC Object That an Be Accessed [RFC_TYPE]
	SYSTEM_RESET_RFC_SERVER	

2.1.3 Transaction Code Check at Transaction Start (Specified in the Authorization Object S_ TCODE)

ABAP Development Tools has to start certain transactions in order to enable the SAP GUI integration in Eclipse. Therefore, the tools require access to the following transaction codes that are specified in the authorization object **S_ TCODE**:

- SADT_START_TCODE
- SADT_START_WB_URI

3 Activating ICF Services in Development Systems

In the Internet Communication Framework (ICF), an ICF service is an endpoint that enables the IDE-based front-end client to communicate with the server.

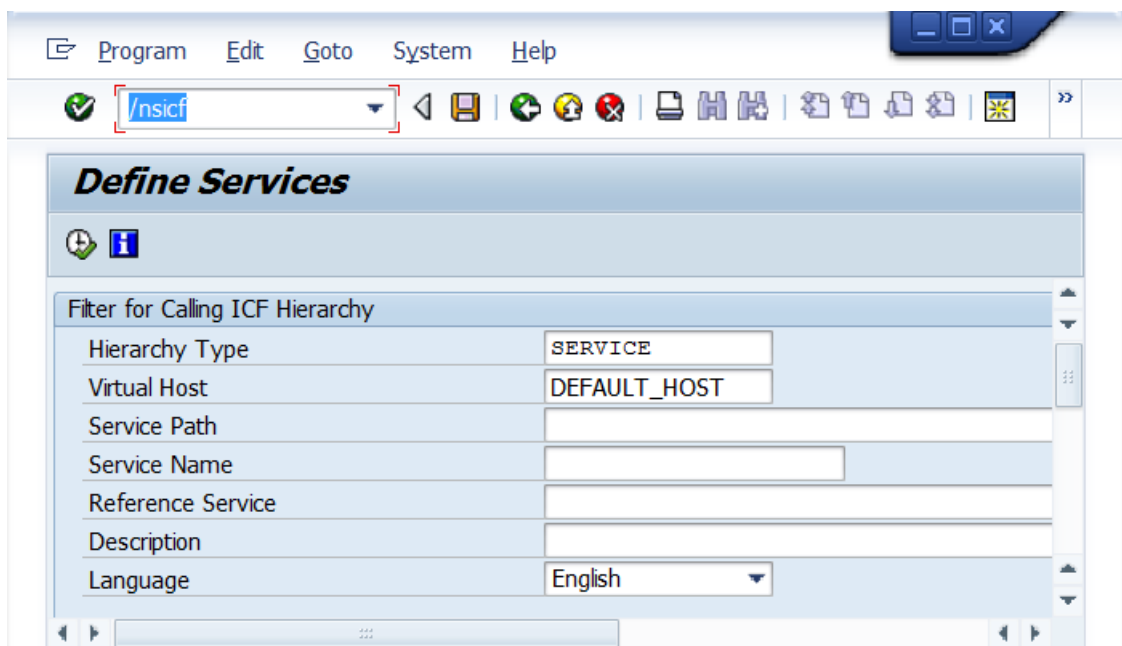
Context

In an ABAP system, ICF services are inactive by default. To enable the full functionality of ABAP Development Tools in a development system, the system administrator needs to activate the set of ICF services listed below for each system.

The ICF services are activated on the [Maintain Services](#) page. In the subsequent sections, you will find information about activating the specific ICF services to enable a certain functionality.

Procedure

1. Call the transaction `SICF` in the relevant back-end system.
2. In the *Virtual Host* entry field, enter `DEFAULT_HOST`.



Entry page of the SICF transaction

3. Press `F8` or use the *Execute* icon from the toolbar to display the services tree.

Results

The *Maintain Service* page is opened and displays the available virtual hosts and services. From here, you navigate to the corresponding ICF service that you want to activate.

Related Information

[Providing Access to Documentation \[page 11\]](#)

[Sharing HTTP Links \[page 13\]](#)





[Web Dynpro ABAP Development \[page 14\]](#)

3.1 Providing Access to Documentation

To make documentation available to ABAP developers (for example, in the *ABAP - Keyword Documentation*, *ABAP Problem Description*, and *ABAP Element Info* views), you need to activate all the involved ICF services.

Context

Different ICF nodes are used to provide the following documentation:

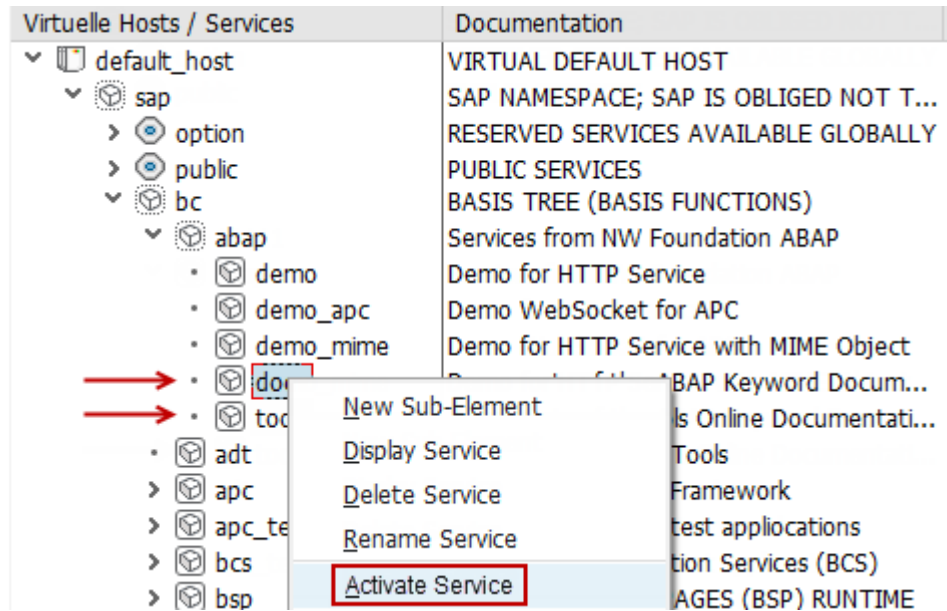
1. For the *ABAP - Keyword Documentation* view
 - `default_host > sap > public > bc > abap > docu` 
 - `default_host > sap > bc > abap > docu` 
2. For the *ABAP Problem Description* and *ABAP Element Info* views
 - `default_host > sap > public > bc > abap > toolsdocu` 
 - `default_host > sap > bc > abap > toolsdocu` 

To activate these ICF nodes, you have the following two options:

- Since SAP NetWeaver AS for ABAP 7.51 innovation package, you can activate all nodes at once as follows:
 1. Launch the `RS_DOCU_ADT_ACTIVATE_ICF_NODES` ABAP program in transaction `SE38`. All the relevant ICF nodes are listed on the *ADT Documentation: Activate ICF Nodes* page.
 2. To activate, choose `F8` or the *Activate Inactive Nodes* button from the toolbar.
- You can activate each node manually in transaction `SICF` as follows:

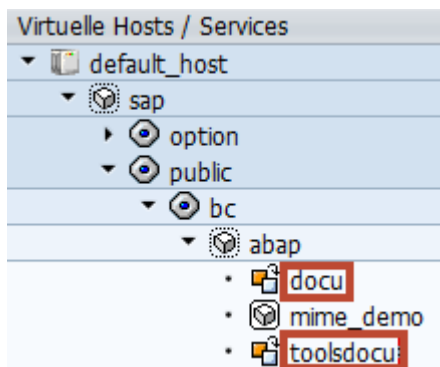
Procedure

1. On the *Maintain service* page, expand the ► *default_host* ► *sap* ► *bc* ► *abap* ► ICF node. The subtree displays the subnodes.
2. Select the **docu** subnode and choose *Activate Service* from the context menu.



Nodes for activating the abap/docu ICF service

3. Activate the public ICF node: ► *default_host* ► *sap* ► *public* ► *bc* ► *abap* ► *docu* ►



Nodes in the public subtree for activating the docu and toolsdocu ICF services

i Note

For the public ICF node, no user name and password are required to access this documentation.

Access to the target documentation is fully configured when both of the above nodes are activated. If not, a warning is displayed whenever ABAP developers try to display this documentation.

4. Activate the **toolsdocu** ICF nodes in the same way as for **docu**.

i Note

When proceeding, just select the relevant **toolsdocu** ICF nodes.

Results

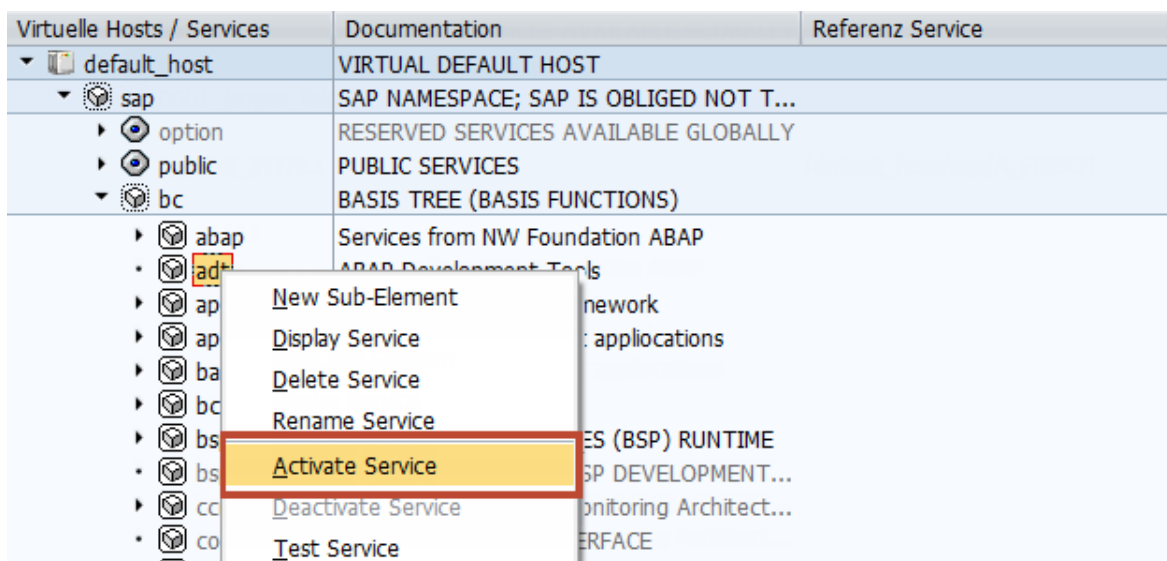
All inactive documentation-relevant ICF services are now activated and can be accessed using HTTP.

3.2 Sharing HTTP Links

To enable your ABAP developers to share HTTP links between themselves, you can activate the `adt` ICF service. The receiver of the link can then render the target development object in his or her default Web browser.

Procedure

1. On the *Maintain service* page, expand the `default_host > sap > bc` node.
2. Select the `adt` ICF service.
3. Choose *Activate Service* from the context menu.



Nodes for activating the `adt` ICF service

Results

This ICF service can now be accessed using HTTP from external. This means that the ABAP developers can create shortcuts that refer to development objects in the current ABAP system.

3.3 Web Dynpro ABAP Development

The *Web Dynpro View Controller Editor* provides a preview of the user interface at design time only if the preview service is active.

Context

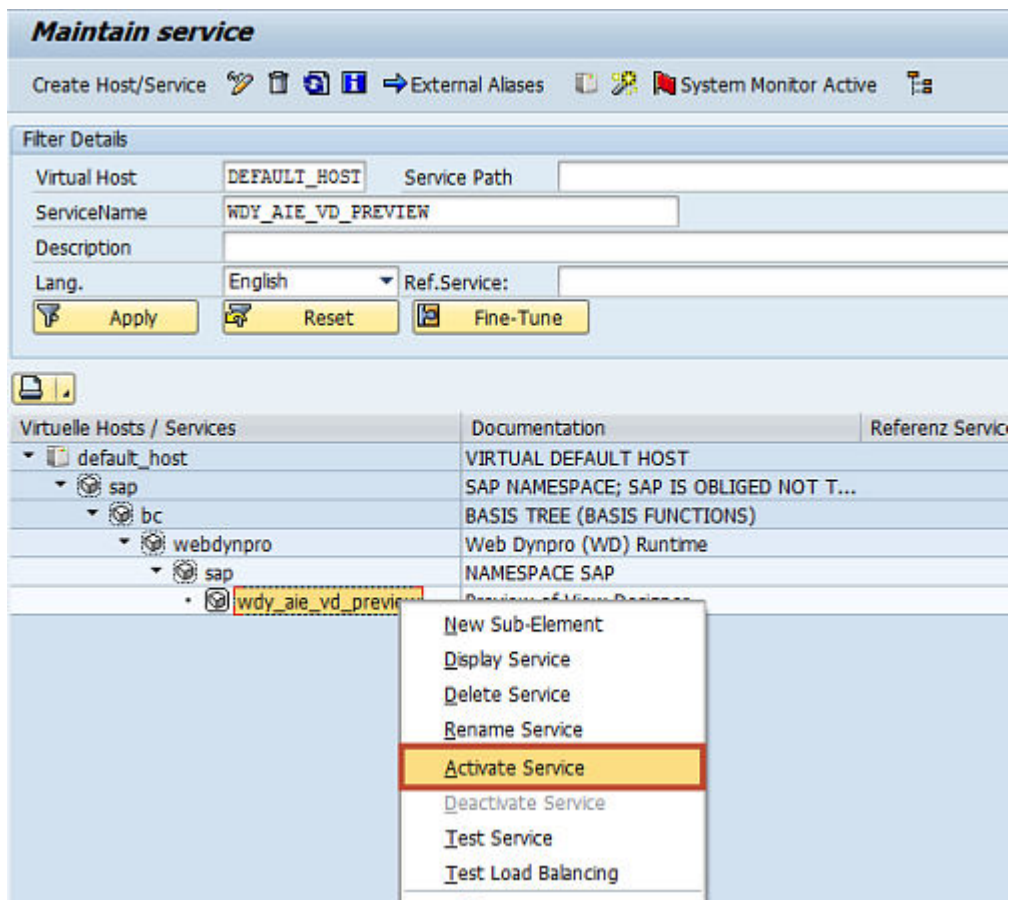
If you plan to use Web Dynpro in ABAP Development Tools, you have to activate the preview service to access the Layout page of the *Web Dynpro View Controller Editor*.

i Note

For further information, see also [SAP Note 1088717](#) - Active Services for Web Dynpro ABAP in Transaction SICF.

Procedure

1. On the *Maintain service* page, expand the `default_host > sap > bc > webdynpro > sap` node. The sub-tree displays several service items.
2. Select the **wdy_aie_vd_preview** service.
3. From the context menu, choose *Activate Service*.



Nodes for activating the wdy_aie_vd_preview ICF service

Results

This ICF service can now be accessed using HTTP from external. This means that developers can send requests to the back-end to create source code for Web Dynpro components.

4 Configuring Profile Parameters

In addition to logon tickets, ABAP systems can also issue the more restricted assertion tickets when accessing system services. This might be important to meet maximum security requirements when you are using the integrated SAP GUI in ABAP Development Tools. Instead of asking for the password, the back-end system checks the validity of the assertion ticket to allow the user access to system services.

Context

Use the following settings to configure your ABAP system in such a way that it only issues the assertion tickets (without logon).

→ Recommendation

Assertion tickets provide the highest level of security when creating an RFC or HTTP connection and easiest usability for working with an ABAP system. We therefore recommend that you use assertion tickets to allow ABAP developers to log onto an ABAP system. To do so, check that the profile parameters listed below are set as recommended. If the profile parameters are set differently, you need to set all connected components to the values below to ensure connectivity. For more information, see [Authentication Assertion Tickets](#)

Procedure

1. In your ABAP system, open transaction RZ11.
2. Check which values are set for the relevant parameters.

i Note

If you are using assertion tickets, check that the values of these parameters are defined as follows:

List of Profile Parameters

Parameter	Value	Description
login/create_sso2_ticket	3	This parameter value means that the ABAP system to issue only assertion tickets (no logon tickets).
login/accept_sso2_ticket	1	This parameter value configures the ABAP system to accept assertion tickets.

For more information about the values, choose the **Display docu** button. This displays the value help for the selected parameter.

5 [Optional:] Enabling the ABAP Source Search

The ABAP Source Search functionality enables ABAP developers to find text that is contained in source-based repository objects (like classes, programs, function pools, and so on) as well as message classes of an ABAP project.

Prerequisites

Relevant for SAP HANA Database Connections:

- Ensure to have enough free database space for creating an index file. This index file will consume between 10 to 100 GB depending on the number of sources stored in the ABAP system. Therefore, ensure that the required space is available before you activate the corresponding business function.
- You have activated the `SRIS_SOURCE_SEARCH` business function with the `SFW5` transaction code in each ABAP system. To do this, you require the `S_SWITCH` authorization object with the following activities:
 - **02** (Change) with the **SFBF** and **SFBS** object types
 - **07** (Activate)
- You are working with SAP NetWeaver 7.4 SP05 or higher.

Relevant for IBM Db2 Database Connections:

You are working with SAP NetWeaver AS for ABAP 7.51 innovation package or higher.

Context

To enable the ABAP Source Search for:

- IBM Db2-based database connection, you will find all relevant information in SAP note [2241079](#)
- SAP HANA-based database connection, you will find all relevant information in the subsequent procedure:


⚠ Caution

In the latter case, an index will be created. The creation might last a few seconds or several hours. To create the index, activate the `SRIS_SOURCE_SEARCH` business function only.

For more information, see [Switching on Business Functions](#)

Procedure

1. In the back end of your ABAP system, open Switch Framework Customizing with the `SEW5` transaction code.
2. In the `ENTERPRISE_BUSINESS_FUNCTIONS` tree, select the `SRIS_SOURCE_SEARCH` business function and select the empty checkbox in the *Planned Status* column.

Name	Description	Planned Status
▼		
▼ ENTERPRISE_EXTENSIONS	Enterprise Extensions	
▼ ENTERPRISE_BUSINESS_FUNCTIONS	Enterprise Business Functions	
•  SRIS_SOURCE_SEARCH	ABAP Source Search (reversibel)	<input checked="" type="checkbox"/>

Activated `SRIS_SOURCE_SEARCH` business function

i Note

The checkbox is only displayed if your user is assigned the `S_SWITCH` authorization object. Otherwise a text is displayed.

3. In the toolbar, choose the  **Activate Changes** button.

Results

The creation and activation of the index file is started.

i Note

To check the status of the index creation, you can run the `SRIS_CODE_SEARCH_PREPARATION` report. It also checks another index on the `TADIR` table, which is usually updated regularly with the where-used index. If this `TADIR` index is incomplete, you can also schedule an index rebuild with this report.

After executing these reports, we recommend that you wait at least two hours before executing the ABAP Source Search for the first time.

6 Support Case

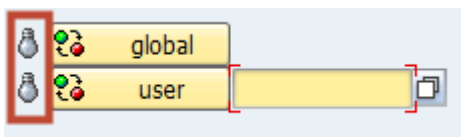
6.1 Running ADT in Protected Mode

Context

In SAP NetWeaver 7.4 SP08 and higher, the transaction `SADT_PROTECTED_MODE` is provided to display and maintain protected mode for ABAP Development Tools (ADT).

Protected mode is only required in the case of a support where there is a support issue in order to keep certain functionalities of ADT running. Protected mode can be applied to all (global) users, but can also be overruled for a specific user.

The light bulbs in front of the global or user button indicate the activation status for protected mode. When activated, the light bulb glows.



Example of a deactivated protected mode

Procedure

1. Press the **Global** button to toggle the status for all users in the system.
2. [Optional] If you want to overrule the global activation status for a specific user, toggle the user-specific activation state by pressing the **User** button for the specified user in question.

i Note



Only use this transaction if SAP support instructs you to enable protected mode for ADT. In all other cases, protected mode should be deactivated for global and specific users.

Important Disclaimers and Legal Information

Hyperlinks

Some links are classified by an icon and/or a mouseover text. These links provide additional information.

About the icons:

- Links with the icon : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
 - The content of the linked-to site is not SAP documentation. You may not infer any product claims against SAP based on this information.
 - SAP does not agree or disagree with the content on the linked-to site, nor does SAP warrant the availability and correctness. SAP shall not be liable for any damages caused by the use of such content unless damages have been caused by SAP's gross negligence or willful misconduct.
- Links with the icon : You are leaving the documentation for that particular SAP product or service and are entering a SAP-hosted Web site. By using such links, you agree that (unless expressly stated otherwise in your agreements with SAP) you may not infer any product claims against SAP based on this information.

Beta and Other Experimental Features

Experimental features are not part of the officially delivered scope that SAP guarantees for future releases. This means that experimental features may be changed by SAP at any time for any reason without notice. Experimental features are not for productive use. You may not demonstrate, test, examine, evaluate or otherwise use the experimental features in a live operating environment or with data that has not been sufficiently backed up.

The purpose of experimental features is to get feedback early on, allowing customers and partners to influence the future product accordingly. By providing your feedback (e.g. in the SAP Community), you accept that intellectual property rights of the contributions or derivative works shall remain the exclusive property of SAP.

Example Code

Any software coding and/or code snippets are examples. They are not for productive use. The example code is only intended to better explain and visualize the syntax and phrasing rules. SAP does not warrant the correctness and completeness of the example code. SAP shall not be liable for errors or damages caused by the use of example code unless damages have been caused by SAP's gross negligence or willful misconduct.

Gender-Related Language

We try not to use gender-specific word forms and formulations. As appropriate for context and readability, SAP may use masculine word forms to refer to all genders.

© 2019 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company. The information contained herein may be changed without prior notice.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

Please see <https://www.sap.com/about/legal/trademark.html> for additional trademark information and notices.