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SAP Data Services

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Configuration Guide for CTS+

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1 About this guide

Use this guide to configure SAP Data Services to transport objects from one system to another using SAP NetWeaver CTS (change and transport system).

This guide provides steps to configure Data Services and CTS to transport Data Services objects. Use the Data Services and SAP NetWeaver CTS documentation as additional resources.

Only users with administrator privileges and the required CTS permissions can perform the tasks in this guide. Perform the tasks in any order. Some of the tasks have prerequisite tasks, which we include in the instructions. We have arranged the topics in this guide in an example workflow order:

- Create the Data Services landscape
- Set up for export
- Set up for import
- Perform the entire transport

2 The Enhanced Change and Transport System (CTS+)

The CTS+ transports ABAP and non-ABAP objects, including SAP Data Services objects, from source system to target system for life-cycle management.

If you already use CTS+ in your SAP Solution Manager or SAP NetWeaver system, you can also use CTS+ for Data Services objects. Using CTS+ saves you the time of installing and using a separate landscape management system.

If you don't have access to CTS+ through Solution Manager or NetWeaver, continue to use Object Promotion for Data Services life-cycle management.

i Note

For more information about Data Services Object Promotion, see the life-cycle management section in the *Administrator Guide*.

Terminology: CTS or enhanced CTS

We refer to the enhanced version of CTS as CTS+. However, for simplicity in this guide, we use the term "CTS" to mean the following:

- Enhanced CTS or CTS+
- The system where the transport landscape is configured.
- The system that transports ABAP and non-ABAP objects.

3 System prerequisites

Ensure that your system setup consists of the correct versions and that you've completed any setup tasks before you proceed with the configuration process in this guide.

- Install or upgrade to SAP Data Services 4.2 Support Package 6, Patch 1 or higher.
- Install or upgrade to the required version of SAP Solution Manager or SAP NetWeaver.
- Ensure that you have the required CTS Plug-in source.

With NetWeaver 7.4 Support Package 9 and earlier, you must obtain and install the applicable support package that contains the CTS Plug-in. For newer versions of Solution Manager and NetWeaver, the CTS Plug-in is already contained in the standard delivery. The following table provides the product, version, and how to obtain the CTS Plug-in.

CTS Plug-in source

System	CTS Plug-in source
SAP Solution Manager 7.2 and higher	CTS Plug-in is already contained in the standard delivery.
SAP NetWeaver 7.4 Support Package 9 and lower	Obtain and install the applicable support package for CTS Plug-in.
SAP NetWeaver 7.4 Support Package 10 or higher	CTS Plug-in is already contained in the standard delivery.

Additional requirements:




- Implement the applicable requirements documented in SAP Note [2236955](#), “CTS+ and HTTP-based Deployment Offering: Requirements”, before you use an HTTP-based deployment.
- Learn about installing or updating SAP CTS Plug-in 2.0 by reading SAP Note [1665940](#).
- Transport any promotion management overrides to your target systems before you transport (export or import) any objects from Data Services. ([Promotion management overrides \[page 40\]](#)).

4 Additional resources

The SAP Help Portal contains a library of documentation about using the Enhanced Change and Transport System (CTS).

Consult with the documentation listed in the following Resources table for help with implementing CTS for your system life-cycle management.

Resources

Resource	Location
SAP Data Services user documentation	SAP Help Portal: http://help.sap.com/bods
Configuring TMS (transport management system)	SAP Help Portal: https://help.sap.com/viewer/4a368c163b08418890a406d413933ba7/latest/en-US/44b4a09a7acc11d1899e0000e829fbbd.html
Transporting non-ABAP Objects in Change and Transport System	SAP Help Portal: https://help.sap.com/viewer/4a368c163b08418890a406d413933ba7/latest/en-US/bb6fab6036a146baa58e42fac032ab7b.html
Installing/Updating SAP CTS Plug-In 2.0	SAP Note 1665940 
Enhancement for non-ABAP systems in CTS	SAP Note 1003674 
Central Release Note for Software Logistics (SL) Toolset 1.0	SAP Note 1563579 
Security for the Enhanced Change and Transport System (CTS+)	https://help.sap.com/viewer/864321b9b3dd487d94c70f6a007b0397/latest/en-US/66a77ac24d41471c96ea923d6de40a50.html

5 Using SAP Data Services with CTS+

Use the Enhanced Change and Transport System (CTS) to transport many SAP Data Services objects.

Before you use CTS to transport Data Services objects, be aware of the following information:

- Only Data Services jobs that are associated with a project can be transported.
- Source and target repositories must be on the same version.
- The CTS system supports exporting and importing in different Business Objects Enterprise (BOE) environments.
- When you choose a central repository for your source repository, choose the option *Latest Version* when you attach objects to the transport request.
- You cannot include a passphrase for exporting and importing objects.

[About roles and permissions \[page 8\]](#)

Users must have the correct role and permission assignments to perform the processes related to configuring CTS for Data Services.

[Data Services objects to transport \[page 9\]](#)

Transport SAP Data Services top-level objects and their dependents from one system to another system using CTS.

5.1 About roles and permissions

Users must have the correct role and permission assignments to perform the processes related to configuring CTS for Data Services.

Required permissions to configure export and import

Task	Required permission
Configure the transportation or a shared location for export and import	Administrators and other users who are members of the Administrator group
View the export and import configuration	Nonadministrators
Modify the export and import configurations	Administrators and other users who are members of the Administrator group

Required permissions to export objects with CTS

Task	Required permission
Export any object to a configured location for a repository	Users with full access control to the repository
View objects in a repository but not export	Users with view access to the repository

CTS requirements

To access CTS, or to access CTS from Data Services, you have to be assigned the appropriate roles and permissions. Administrators assign the appropriate roles and permissions in the user management of Application Server ABAP of the CTS system. The following list contains some authorization requirements:

- An authorized CTS and Data Services user isn't required to have the same user ID for both applications.
- If an authorized CTS and Data Services user does not have the same user ID for both applications, the user may need to enter applicable CTS logon credentials when they access the Transport Organizer from Data Services.

i Note

If an authorized CTS and Data Services user has single sign-on (SSO) configured, CTS may allow access to the Transport Organizer from Data Services regardless of whether the user has the same or different user credentials.

- Authorized users should have the same authorizations as the CTS-delivered role, **SAP_CTS_PLUS**.

⚠ Caution

Do not use the **SAP_CTS_PLUS** role directly. Instead, use it as a template and copy it to your own role using **Z_***.

- Users should have the minimum authorization to execute web services, which is either the **EXPORT_CTS_WS** role or the **SAP_BC_WEBSERVICE_CONSUMER** role.

Parent topic: [Using SAP Data Services with CTS+ \[page 8\]](#)

Related Information

[Data Services objects to transport \[page 9\]](#)

5.2 Data Services objects to transport

Transport SAP Data Services top-level objects and their dependents from one system to another system using CTS.

Transport the following Data Services objects, and their dependents, using CTS:

- Projects
- Jobs
- Workflows
- Dataflows
- File formats

- Functions
- Datastores (as top-level object only)

All objects, their dependents, and generated manifest files are transported in an ATL file. You can transport datastores and their dependents, however datastores are not exported as part of an object dependency.

! Restriction

Rules about exporting datastores:

- For security reasons, the datastore password is not exported with a datastore.
- A datastore in development or test should be different from the one in production.
- To avoid errors, export a datastore object separate from other Data Services objects.
- After you import a datastore to production, an administrator must reconfigure the datastore to prevent users from overwriting existing jobs that use the datastore.

Parent topic: [Using SAP Data Services with CTS+ \[page 8\]](#)

Related Information

[About roles and permissions \[page 8\]](#)

6 Scenario: Create the system landscape

There are several groups of tasks when you create an SAP Data Services system landscape.

To create a Data Services landscape, perform the following tasks:

- Make Data Services a known application type in Enhanced Change and Transport System (CTS) and use the unique identifier, **BODS**.

i Note

CTS recognizes only “BODS” as the Data Services application and content.

- Configure a non-ABAP source system in CTS that represents your Data Services development system. Use a unique system identification (SID) code that consists of three alpha-numeric characters.

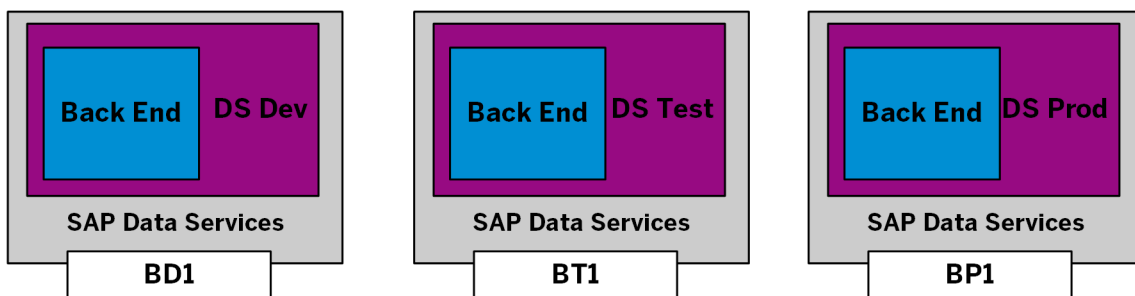
i Note

Learn about creating SID codes in [Unique system identification \(SID\) codes \[page 14\]](#).

- Define a transport strategy for creating and releasing a transport request.

In this guide we use a sample system landscape to walk you through the process. For simplicity, the system landscape in the scenario is small with only three systems: One source and two target systems. If your system landscape is larger than our example, know that CTS can handle large landscapes that consist of many systems.

The following diagram shows the Data Services system landscape for this scenario. The assigned SID codes are BD1, BT1, and BP1.



Descriptions for each system

Data Services SID	Description	Source/Target
BD1	Data Services development system. In the scenario, we export content from here.	Source
BT1	Data Services test system. In the scenario, we import content from CTS to the test system.	Target

Data Services SID	Description	Source/Target
BP1	Data Services production system. In the scenario, we import content from CTS to the production system after testing and approval in the test system.	Target

[Create the landscape \[page 12\]](#)

Set up your landscape in the SAP Solution Manager or SAP NetWeaver environment that contains the CTS system.

[Unique system identification \(SID\) codes \[page 14\]](#)

Assign a unique SID code to each SAP Data Services system in your landscape.

[Data Services Management Console and CTS tools \[page 14\]](#)

SAP Data Services Management Console has tools to configure SAP Data Services for working with the Enhanced Change and Transport System (CTS).

[Configuring Data Services as CTS application type \[page 15\]](#)

Make SAP Data Services known to CTS by configuring Data Services as a non-ABAP application type in CTS.

[Configuring the development system \[page 16\]](#)

Define your SAP Data Services development system as a source system and activate the *Transport Organizer*.

[Configuring the transport strategy \[page 17\]](#)

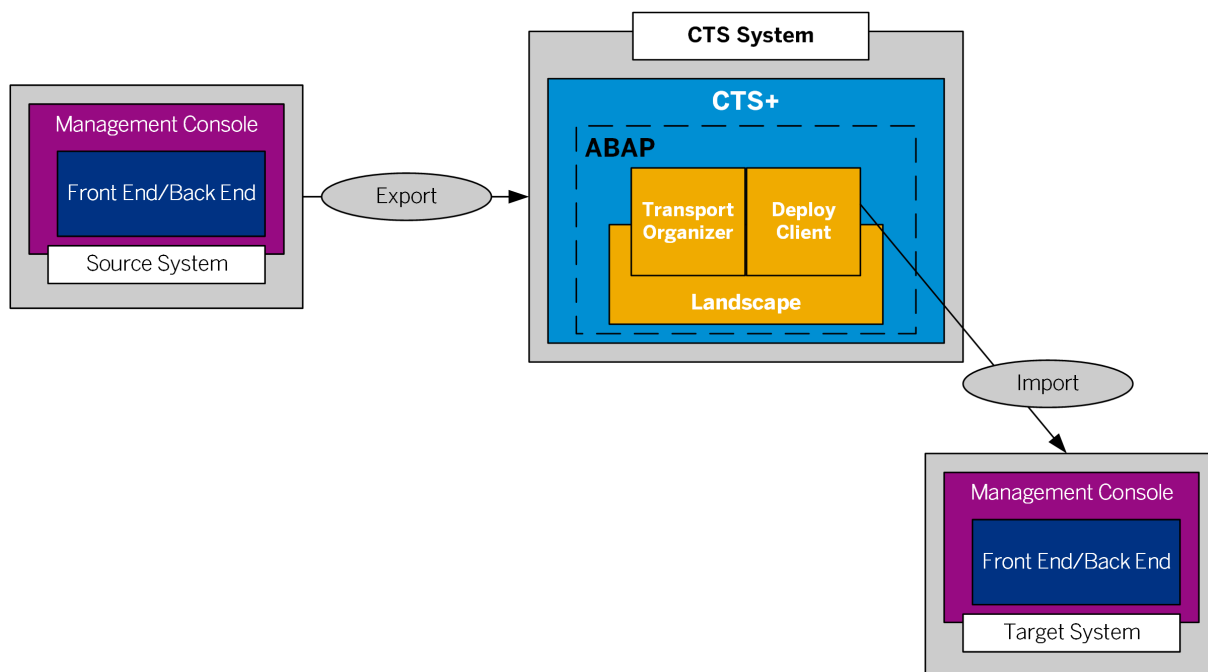
The transport strategy defines how a transport request is created and if the request should be automatically released or remain open after having ATL files attached to it.

6.1 Create the landscape

Set up your landscape in the SAP Solution Manager or SAP NetWeaver environment that contains the CTS system.

A typical SAP Data Services landscape includes three systems: Development, test, and production.

The following diagram shows the systems that are involved in transporting Data Services objects with CTS. The diagram includes one source system, one CTS system, and one target system.



The diagram shows that there are systems from which Data Services exports objects, and other systems to which Data Services imports objects.

The landscape that you configure is not limited to one source and one target system. For example, you can have several systems in a row or more than one target system at once.

The following lists the data flow for the scenario in this guide:

1. Use a CTS that is part of an SAP Solution Manager or SAP NetWeaver system that includes the CTS Plug-In.
2. Export Data Services objects using SAP Data Services Management Console.
3. Management Console adds the content to a transport request and then sends the request to CTS.
4. After export, release the transport request or set CTS to release it automatically, based on your transport strategy configuration.
5. Start the import process.
6. During import, the Deploy Web Service Client sends Data Services content to the Deploy Web Service UI Client.
7. The Deploy Web Service UI Client imports the content to the Data Services target system.
8. CTS retrieves the import results.
9. View export and import information in the Management Console history logs and in the Transport Organizer Web UI.

Parent topic: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Unique system identification \(SID\) codes \[page 14\]](#)

[Data Services Management Console and CTS tools \[page 14\]](#)

[Configuring Data Services as CTS application type \[page 15\]](#)

[Configuring the development system \[page 16\]](#)

[Configuring the transport strategy \[page 17\]](#)

6.2 Unique system identification (SID) codes

Assign a unique SID code to each SAP Data Services system in your landscape.

Ensure that your SID codes are unique within your transport domain. Unique codes provide a clear understanding for your users when they identify transport routes in the Transport Organizer Web UI.

Consider creating SID guidelines before you create the Data Services landscape. Guidelines ensure that the codes are unique and that your users create unique codes in the future.

You can share the SID codes among other applications. For example, share the SID codes when your applications run on the same SAP NetWeaver application server JAVA instance.

Parent topic: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Create the landscape \[page 12\]](#)

[Data Services Management Console and CTS tools \[page 14\]](#)

[Configuring Data Services as CTS application type \[page 15\]](#)

[Configuring the development system \[page 16\]](#)

[Configuring the transport strategy \[page 17\]](#)

6.3 Data Services Management Console and CTS tools

SAP Data Services Management Console has tools to configure SAP Data Services for working with the Enhanced Change and Transport System (CTS).

The Management Console has tools for exporting and importing processes, and tools to view logs and history information after those processes are complete. The tools are available in the Administrator application. Access these tools by expanding the *Object Promotion* node.

The Object Promotion node has three subnodes that provide CTS tools. The following table describes each subnode.

Object Promotion tools for CTS

Subnode	Description
Export Configuration	<p>Opens three tabs: <i>FTP</i>, <i>Shared Directory</i>, and <i>CTS</i>.</p> <p>Open the <i>CTS</i> tab and edit an existing CTS configuration, or click <i>Add</i> to create a new CTS configuration. Set options for connecting to the CTS Export Web Services.</p>
Import Configuration	<p>Opens the <i>Import Configuration</i> and <i>CTS</i> tabs.</p> <p>Open the <i>CTS</i> tab and specify the target repository for the SAP target systems.</p>
Promotion History	<p>Opens the <i>Exported</i> and <i>Imported</i> tabs.</p> <p>View information about all the completed export and import histories of Object Promotion, including CTS-related operations.</p>

Parent topic: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Create the landscape \[page 12\]](#)

[Unique system identification \(SID\) codes \[page 14\]](#)

[Configuring Data Services as CTS application type \[page 15\]](#)

[Configuring the development system \[page 16\]](#)

[Configuring the transport strategy \[page 17\]](#)

6.4 Configuring Data Services as CTS application type

Make SAP Data Services known to CTS by configuring Data Services as a non-ABAP application type in CTS.

1. Log into your CTS system Domain Controller and enter transaction code *STMS*.
2. In *System Overview*, select ► *Extras* ► *Application Types* ► *Configure* ►.
The *Change View* dialog box opens showing your current applications and associated transport domains.
3. Look at the list of current applications and associated transport domains for the application type “BODS.”
“BODS” is the unique identifier for Data Services. The system relates Data Services content and Data Services as an application with “BODS.”
If “BODS” is not listed, continue creating a new entry.
4. Select *New Entries*.

5. Enter **BODS** for the unique ID for the application in *Application Type*.
6. Enter a *Description*.

For example, enter "SAP Data Services and CTS+ integration." A description is required so your users have details about the application type.

7. Enter information about how to contact your support organization in *Support Details*.

For example, enter <http://service.sap.com> (**ACH:EIM-DS**) where "EIM-DS" is the appropriate support component. This information is required so your users know who to contact in case of issues.

8. Save and click *Yes* for the prompt to distribute the new application type through your landscape.
9. Click *Back* to return to the list of application types.

The new application type **BODS** is now included in the list of application types.

Task overview: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Create the landscape \[page 12\]](#)

[Unique system identification \(SID\) codes \[page 14\]](#)

[Data Services Management Console and CTS tools \[page 14\]](#)

[Configuring the development system \[page 16\]](#)

[Configuring the transport strategy \[page 17\]](#)

6.5 Configuring the development system

Define your SAP Data Services development system as a source system and activate the *Transport Organizer*.

1. Log in to your CTS system Domain Controller.
2. Enter transaction *STMS* and choose *System Overview*.
3. Choose **▶ SAP System ▶ Create ▶ Non-ABAP System ▶**.
4. Enter the SID for the development system (BD1 in our scenario) in *System*.
5. Provide details about the development system in *Description*.
6. Select *Activate Transport Organizer* under the Source System Settings group.
7. Select the applicable client in *Client*.
8. Click *Save*.

Task overview: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Create the landscape \[page 12\]](#)

[Unique system identification \(SID\) codes \[page 14\]](#)

[Data Services Management Console and CTS tools \[page 14\]](#)

[Configuring Data Services as CTS application type \[page 15\]](#)

[Configuring the transport strategy \[page 17\]](#)

6.6 Configuring the transport strategy

The transport strategy defines how a transport request is created and if the request should be automatically released or remain open after having ATL files attached to it.

Before you follow these steps, configure the development system (BD1 in our scenario) so that it appears in the development system list in CTS.

1. Log into your CTS system Domain Controller.
2. Enter transaction *STMS* and choose *System Overview*.
3. Double-click the name of your development system in the list.

The *Change TMS Configuration* dialog box opens.

4. Open the *Transport Tool* tab and switch to *Edit* mode.
5. Check the existing list for the following parameters: **WBO_GET_REQ_STRATEGY** and **WBO_REL_REQ_STRATEGY**.
 - If the parameters are in the list, make sure that the values are entered with the first letter capitalized. For example, if the value is “tagged”, change it to “Tagged”. Stop here and skip the remaining steps.
 - If the parameters are not in the list, add them by continuing with the next steps.
6. Select any row in the existing list of parameters and select the *Insert Row* icon.
7. Click **F4** to display a list of available parameters.
8. Select the **WBO_GET_REQ_STRATEGY** and click the green check-mark icon.
9. Set a valid value for the parameter in the **Value** column. Ensure that the value is set with the first letter capitalized.

For value descriptions and more information, see the [Change and Transport System](#) guide on the SAP help portal.

10. Add the **WBO_REL_REQ_STRATEGY** parameter in the same manner as you added the **WBO_GET_REQ_STRATEGY** parameter.

Parameter descriptions and valid values

Parameter	Description	Valid values
WBO_GET_REQ_STRATEGY	Controls how a transport request is created.	Tagged, Smart, Create

Parameter	Description	Valid values
WBO_REL_REQ_STRATEGY	Controls how a transport request is released.	Manual, Automatic

→ Tip

If you choose the following combination of values for the parameters, you can attach as many objects as you want when you transport the objects:

- WBO_GET_REQ_STRATEGY: Tagged or Smart
- WBO_REL_REQ_STRATEGY: Manual

Task overview: [Scenario: Create the system landscape \[page 11\]](#)

Related Information

[Create the landscape \[page 12\]](#)

[Unique system identification \(SID\) codes \[page 14\]](#)

[Data Services Management Console and CTS tools \[page 14\]](#)

[Configuring Data Services as CTS application type \[page 15\]](#)

[Configuring the development system \[page 16\]](#)

7 Export configuration

The SAP Data Services development system exports objects by attaching them to a CTS transport request.

The Data Services development system, which is the source system, needs CTS connection information so that it can connect remotely to the CTS.

You define how to connect to the CTS communication system remotely in the Data Services development system. Forward the correct system identification (SID) code to the CTS system whenever a transport request is needed or created. CTS needs system information to create or find a transport request. The name of a transport request begins with the SID of the respective development system. The SID uniquely identifies the transport route.

To configure CTS for export you need to create a service and configure a binding for the Export Web Services. The binding creates the information required for your Data Services development system to communicate with CTS.

[Activating and configuring CTS Export Web Service \[page 19\]](#)

Create a service and configure a binding to activate and configure the CTS Export Web Service using the SAP NetWeaver SOA Management Web tool.

[Connecting Data Services to CTS Export Web Service \[page 22\]](#)

To have SAP Data Services export objects from the repository to the CTS system, connect Data Services to the CTS Export Web Service.

[Activate services in Transport Organizer \[page 24\]](#)


The Transport Organizer manages transport requests, obtains details about transport requests, and attaches objects to transport requests.

7.1 Activating and configuring CTS Export Web Service

Create a service and configure a binding to activate and configure the CTS Export Web Service using the SAP NetWeaver SOA Management Web tool.

i Note

The following instructions are for SAP NetWeaver 7.4 Support Package Stack 18 for the SOA Manager and the *Web Service Configuration* pages. If you use a different version, refer to the appropriate version of the [ABAP Web Services guide](#) for release-related steps to configure a service provider.

For information about changes to SOA Manager functions for the following SAP NetWeaver versions, see SAP Note [1575707](#) :

- SAP NetWeaver 7.02 Support Package 8
- SAP NetWeaver 7.30 Support Package 3

For more information about creating a service provider, see “How to configure a Service Provider” on SAP Community at <https://wiki.scn.sap.com/wiki/display/ABAPConn/How+to+configure+a+Service>

[+Provider?original_fqdn=wiki.sdn.sap.com](#). The article also contains descriptions for the *Provider Security* dialog box, which you complete as part of the following steps.

The following steps take you through the process of finding a specific service definition and creating a service and binding in that service definition.

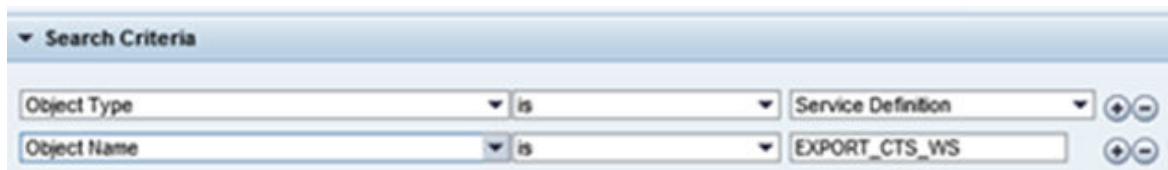
1. Log into the CTS communication system in the Data Services development system client. For instructions, see [Configuring the development system \[page 16\]](#).
2. Enter transaction code *SOAMANAGER*.

After authentication, the SOA Management application opens in a web browser.

3. Click the *Web Service Configuration* link in the *Service Administration* tab.

The *Web Service Configuration* page opens with the *Design Time Object Search* tab open.

4. Create search parameters under *Search Criteria* to find the service definition named **EXPORT_CTS_WS**. Click *Search*.



The *Search Results* table lists the service definition **EXPORT_CTS_WS** under the *Internal Name* column.

5. Click the **EXPORT_CTS_WS** link in the *Search Results* pane.

The *Details of Service Definition* dialog box opens. All existing services and bindings appear under the service definition.

6. Open the *Configurations* tab and click the *Create Service* button.

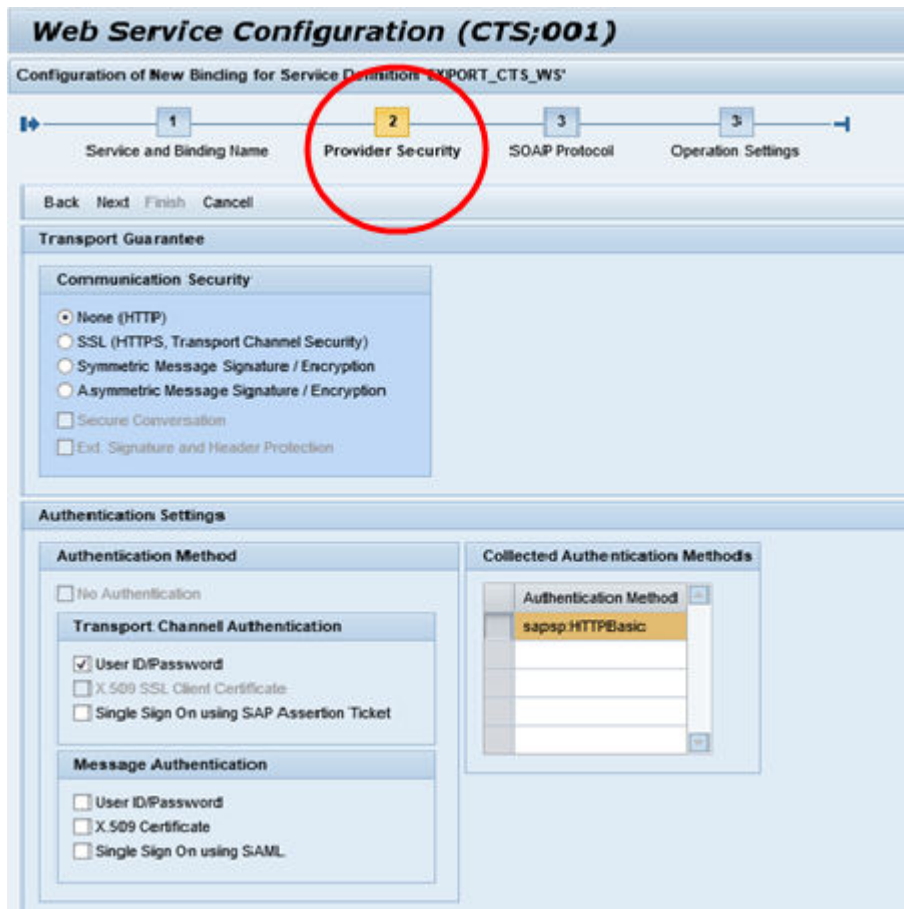
The first step of the configuration wizard opens in the *Configuration of New Binding for Service Definition* dialog box.

7. Enter a new name in *Service Name* and a description in *Service Description Text*.

In our example, we name the service **export_cts_ws1** and enter a description of "CTS+ Export WS1".

8. Enter a name for the new binding in *New Binding Name* and click *Next*.
9. In step 2 of the wizard, *Provider Security*, set options that are applicable to your security requirements. Click *Next*.

Find descriptions for the options in the *Provider Security* dialog box in "How to configure a Service Provider." Find the provided link to this topic in note section at the beginning of this topic.



10. Optional. In step 3 of the wizard, *SOAP Protocol*, enter a binding alias in *Alternative Access URL* for easier access.

i Note

A binding alias provides easier service access. To ensure unique alternative access URLs, we recommend that you format the URL by adding the client to the alias: `/<client_num>/<binding_name>`. For example: `/001/export_cts_ws1`. Use this URL in Data Services Management Console for the CTS *Path Prefix* option when you connect Data Services to the CTS Export Web Service.

11. Accept the defaults for the remaining options in *SOAP Protocol* unless your protocol requires something different.

12. Click *Finish* to close the wizard.

The software includes the new service and binding in the *Service/Binding* table in the *Details of Service Definition* dialog box.

If you encounter problems later when you use the web service, see the Application Log (transaction SLG1 for object CTSPPLUS). The log may contain details about the errors. Also see SAP Note [2286312](#), "CTS+, Export Web Service and SLG1: Troubleshooting". The SAP Note contains CTS+ SLG1 entries and how to understand and fix them.

To view the Application Log, log in to the CTS communication system in the Data Services system development client. Enter transaction SLG1 for object CTSPPLUS.

Task overview: [Export configuration \[page 19\]](#)

Related Information

[Connecting Data Services to CTS Export Web Service \[page 22\]](#)

[Activate services in Transport Organizer \[page 24\]](#)

[Configuring the transport strategy \[page 17\]](#)

7.2 Connecting Data Services to CTS Export Web Service

To have SAP Data Services export objects from the repository to the CTS system, connect Data Services to the CTS Export Web Service.

Ensure that you have the required authorizations and the following roles: SAP_CTS_PLUS and SAP_BC_WEBSERVICE_CONSUMER or similar.

SAP Data Services Management Console works as a Web Service client. Management Console consumes the upload (export) of ATL or XML files from the Data Services development system repository to the CTS system.

CTS provides standard SOAP Web Services for integrating CTS with various consumers. The SOAP Web Service runs on the application server (AS) ABAP stack.

1. Log in to Management Console and open the Administrator application.
2. Expand the *Object Promotion* node and click *Export Configuration*.
3. Open the *CTS* tab and click *Add*.

The *CTS Configuration* tab opens.

4. Complete the options in the *Enter CTS General configuration information below* group as described in the following table.

Option	Description
<i>Name</i>	Name of the CTS system to which you are connected.
<i>Host</i>	Host of the CTS system to which you are connected. For example, <code>sapsm1.company.com</code> .
<i>Port</i>	Port number for the CTS system to which you are connected. For example, 8000 is the port for Solution Manager.
<i>System ID</i>	System identification (SID) code that is configured in STMS for your Data Services development system. For example, in our scenario, it is BD1 .

Option	Description
<i>Path Prefix</i>	<p>WSDL prefix of Web Services that is configured in SOA-MANAGER.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <p>❖ Example</p> <p>For example: <code>/sap/bc/srt/rfc/sap/export_cts_ws/001/export_cts_ws1/export_cts_ws_ds</code></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <p>i Note</p> <p>If you set a binding alias when you activated and configured CTS Export Web Service, enter the alias name for the <i>Path Prefix</i>.</p> </div>
<i>HTTP Version</i>	<p>HTTP version that CTS+ supports. Values include 1.0 (default) and 1.1.</p>

5. In the *Enter authentication configuration information below* group, select *Yes* or *No* as applicable for *Use SSL protocol*.
6. Select the *Authentication Type* that is configured in CTS from the dropdown list.
7. Enter the related CTS *User Name* and *Password*.

For information about the role SAP_CTS_PLUS, see SAP Note [1003674](#). Read the last section named “Known errors as of SAP NetWeaver 7.0 Support Package Stack 14...”
8. Optional. Complete the options in the *Enter proxy configuration information below* group for CTS.
9. Select a repository from the *Available Repositories* list and click the right arrow to add it to the *Associated Repositories* list.

For exporting, choose local and central repositories from the list as applicable. You can select more than one repository to associate with this configuration.
10. Click *Test*.

The software verifies the following during testing:

 - CTS server information
 - CTS authentication
 - CTS proxy authentication if completed
 - The associated repositories are available and active
11. Click *Save* after “Test Connection is Successful” appears at the top of the window. Saving may take a few seconds.

The configuration that you just added appears in the *CTS* tab in the *Export Configuration* node.

Task overview: [Export configuration \[page 19\]](#)

Related Information

[Activating and configuring CTS Export Web Service \[page 19\]](#)

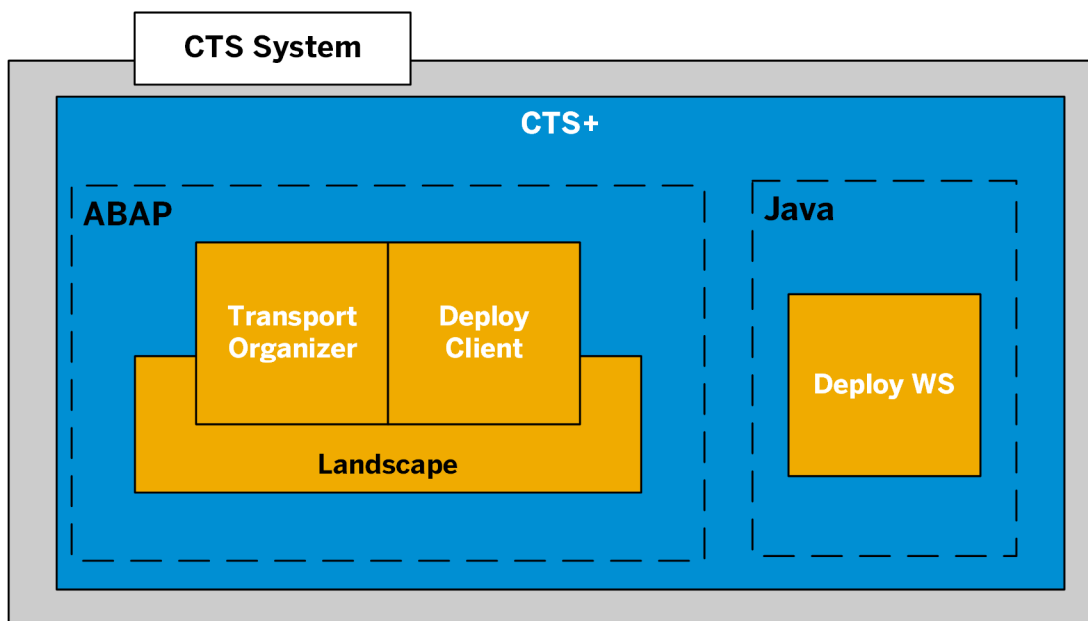
[Activate services in Transport Organizer \[page 24\]](#)

7.3 Activate services in Transport Organizer

The Transport Organizer manages transport requests, obtains details about transport requests, and attaches objects to transport requests.

To use the Transport Organizer web UI, activate the Internet Communication Framework (ICF) services using transaction **SICF**.

The following diagram shows the Transport Organizer in the CTS system.



Activate the ICF services described in the following table.

ICF services

ICF service	Purpose
CTS_ORGANIZER	Enables you to run and use the Transport Organizer web UI application.
CTS_OBJECTLIST_BROWSER	Enables you to use the Object List Browser to see a list of objects attached to a transport request.

i Note

The Transport Organizer web UI is an ABAP Web Dynpro application. Web Dynpro may update the Transport Organizer web UI from time to time without our knowledge. Therefore, refer to the *ABAP Web Services* guide on the SAP help portal for the most recent instructions to activate the ICF services.

! Restriction

Initially, all of the ICF services in CTS are inactive for security reasons. If you have already installed and have been using CTS, the required services may or may not be activated. You might receive error messages when you test the service after activation. If you receive error messages, read the error messages carefully and activate the services named in the error messages. For more information about this issue, see SAP Note [517484](#).

Parent topic: [Export configuration \[page 19\]](#)

Related Information

[Activating and configuring CTS Export Web Service \[page 19\]](#)

[Connecting Data Services to CTS Export Web Service \[page 22\]](#)

8 Target repositories for import systems

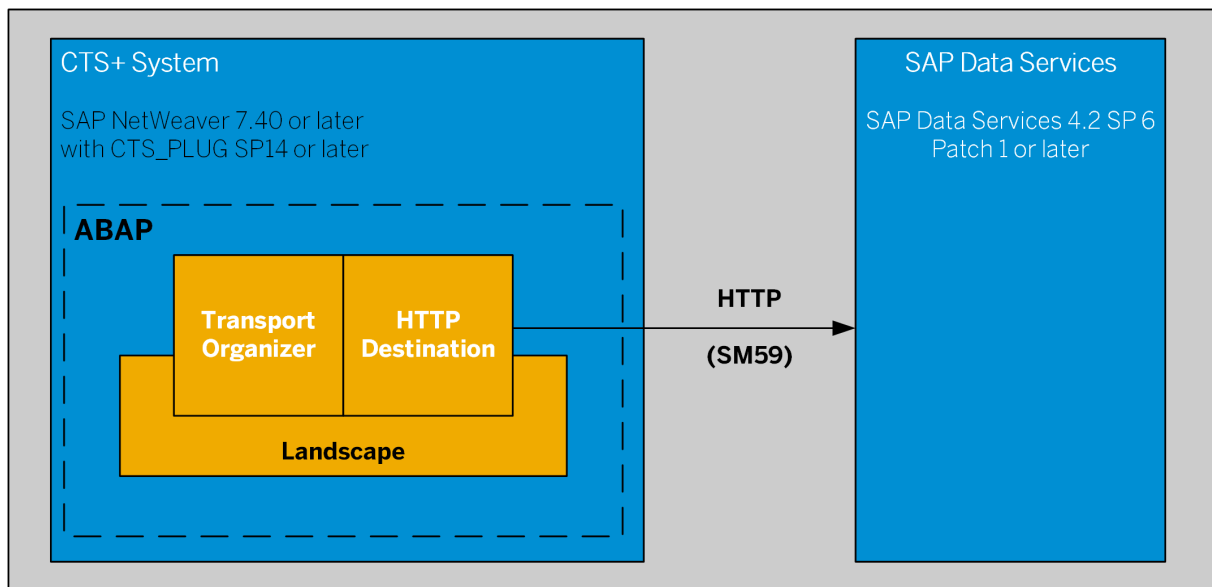
The target repository is the location where CTS sends the SAP Data Services objects to be imported.

Set up a target repository and an HTTP destination for each Data Services target system that you create in your system landscape. For secure import, CTS uses the repository HTTP address to import the objects into the Data Services target system.

In our scenario, we set up a specific repository for the BT1 (test) and BP1 (production) Data Services systems.

When you designate the target repository in SAP Data Services Management Console, the software automatically generates a path prefix for the repository. You need the path prefix value to create an HTTP destination for the repository.

The following diagram shows an HTTP connection between the CTS system and a Data Services target system.



[Configuring the target repository in Management Console \[page 26\]](#)

Set up a specific repository for each target system in your landscape.

[Configuring an HTTP destination for the target system \[page 27\]](#)

Create an HTTP destination on the CTS system for every SAP Data Services target system.

8.1 Configuring the target repository in Management Console

Set up a specific repository for each target system in your landscape.

1. Log in to SAP Data Services Management Console and open the Administrator application.

2. Expand the *Object Promotion* node and select *Import Configuration*.
3. Open the *CTS* tab and select *Add*.

The *CTS Configuration* tab opens.

4. Select a repository from the *Repository* dropdown list under *Choose the repository for .ATL import*.

The list includes only local repositories for importing ATL and XML files.

5. Click *Save*.

The repository that you just added appears in the *CTS* tab.

→ Remember

Path Prefix. You need the path prefix when you configure an HTTP destination in the next steps. Therefore, copy the path prefix listed with the repository in the *CTS* tab. The path prefix indicates the location of the repository. For example: `/DataServices/im/slp/<generated_folder_name>/ds`.

Task overview: [Target repositories for import systems \[page 26\]](#)


Related Information

[Configuring an HTTP destination for the target system \[page 27\]](#)

8.2 Configuring an HTTP destination for the target system

Create an HTTP destination on the CTS system for every SAP Data Services target system.

You need the path prefix value to complete these steps. SAP Data Services Management Console generates the path prefix when you configure the target repository.

1. Log in to the CTS Communication system and enter transaction *SM59* to open the *Configuration of RFC Connections* dialog box.
2. Click the *HTTP Connections to External Server* node to highlight it and click the *Create* icon. 
The *RFC Destination* dialog box opens showing the *Connection Type* as *HTTP Connection to External Server*.
3. Enter a name for the remote function call destination in *RFC Destination*.

In our scenario, we enter **BT1_DESTINATION** for the Data Services test system, and **BP1_DESTINATION** for the production system.

→ Tip

The system automatically converts the name into upper case when you save the destination. Therefore, when you define the target system later in this guide, enter it in upper case.

4. Open the *Technical Settings* tab and enter the details of the target system as listed in the following table.

Target system details

Option	Description
<i>Target Host</i>	Host name of your Data Services target system.
<i>Service No</i>	HTTP or HTTPS port number.
<i>Path Prefix</i>	Path prefix value from Management Console for the target repository. For example, /DataServices/im/slp/<generated_folder_name>/ds.

i Note
Obtain the path prefix from the steps in [Configuring the target repository in Management Console \[page 26\]](#).

5. Open the *Logon & Security* tab and configure the logon to the Data Services target system as applicable.
The user information that you enter here must be for a user who has the authorization to process SAP Data Services imported content. Only Data Services users with Administrator or Administrator group rights have authorization.

i Note

This user name and password becomes the default for this target system when the content import process is started in your CTS system.

6. Click *Test* to test the connection. After a successful test connection, click *Save*.

Task overview: [Target repositories for import systems \[page 26\]](#)

Related Information

[Configuring the target repository in Management Console \[page 26\]](#)

9 Configuring the import systems

Define SAP Data Services test and production systems as import (target) systems in the “BODS” application where you defined your Data Services development system.

The test and production systems in our scenario (BT1 and BP1) are the import (target) systems. The test system receives changes from the development system (BD1). The production system receives changes from the test system (BT1) after all tests are satisfactory. Therefore, set both the test and production systems as target systems.

1. Log in to your CTS system Domain Controller.
2. Enter transaction *STMS* and choose *System Overview*.
3. Choose **SAP System** > *Create* > *Non-ABAP System*.
4. Provide details about the non-ABAP system in *Description*.
5. Select *Activate Deployment Service* in the *Target System Settings* group.
6. Select *Other* for *Method(s)*.

Ensure that all of the other options for methods are not checked.

7. Select the *Save* icon. Select *Yes* for the message asking to distribute the configuration immediately.
8. Select *New Entries* in the *Change View* dialog box to define the deployment method for your system.
9. In the *New Entries: Details of Added Entries* dialog box, perform the following steps:
 - a. Put your cursor in the *Application ID* field, press **F4**, and select **BODS**.

BODS is the application type that you defined when you created your Data Services landscape in [Configuring Data Services as CTS application type \[page 15\]](#).

- b. Select *HTTP-based Deployment (application-specific)* from the *Deploy method* dropdown list.
- c. Enter the HTTP destination.

The HTTP value is the same as the value that you configured for this system when you configured an HTTP destination in [Configuring an HTTP destination for the target system \[page 27\]](#). Remember to enter the destination in all capital letters.

10. Click the *Save* icon. Select *Yes* for the message asking to distribute the configuration immediately.

The *Display View* opens showing the application types assigned to the current import system listed under *CTS: System details for handling of application types*. Verify that the transport domain **BODS** is listed in the *Application ID* column.

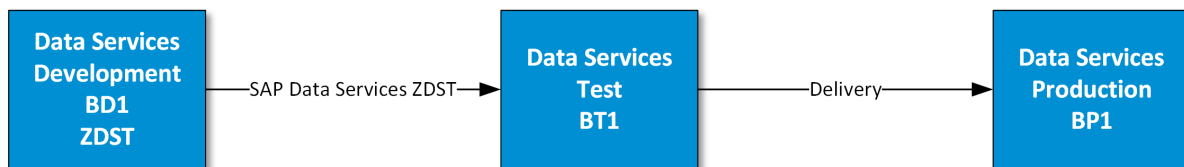
11. Click *Back* to return to the system.

Either exit the system or perform another task. For example, in our scenario, after you create BT1 as a target for the test system, you would create BP1 as a target for the production system.

10 Transport routes

The transport route provides the path that your objects take through the transport process.

Connect all of the SAP Data Services systems that you previously created with a transport route. You create a transport route in the Transport Management System (TMS) of the CTS system Domain Controller. The TMS has a graphical representation of each of your systems. The systems are labeled with the SID codes that you assigned to each system. The following diagram represents the transport route for the systems in our scenario.



[Defining transport routes \[page 30\]](#)

Define the routes for all SAP Data Services objects to take through the transport process.

[Exporting objects to transport request \[page 32\]](#)

Select the objects to attach to the transport request and then send the transport request to the CTS, where you then release the transport request.

[Viewing transport request history \[page 34\]](#)

View the history of transport requests in the SAP Data Services Management Console.

10.1 Defining transport routes


Define the routes for all SAP Data Services objects to take through the transport process.

Before you perform the steps to define your transport routes, complete the following tasks:


- Define your Data Services development system as a source and activate the transport organizer by following steps in [Configuring the development system \[page 16\]](#)
- Define your Data Services test and production system as a target by following the steps in [Configuring the import systems \[page 29\]](#)
- Define the target repository to hold objects to be imported by following the steps in [Configuring the target repository in Management Console \[page 26\]](#)

i Note

CTS can handle large landscapes that consist of many systems. The system landscape in our scenario is considered small because it contains only three systems.

1. Log in to your CTS system Domain Controller.
2. Enter transaction **STMS**.
3. Click the *Transport Routes*  icon.

The upper row of the *Display Transport Routes* dialog box opens showing the Data Services systems that you just created. Notice that the systems that appear in the upper row of systems are not connected yet.

4. Click the *Edit* mode  icon.
5. Click the box that represents the Data Services export system and then click the transport route work area in the lower panel of the dialog box.

Your Data Services export system box appears in the transport route work area in the lower panel.

6. Click the box that represents the Data Services import system from the upper row and click the transport route work area.

The import system appears in the work area.

7. Continue adding the applicable systems in this manner until you have added all of the systems for this transport route.

The transport route work area contains all of the boxes that you just added. The boxes are not connected yet.

8. Click the *Add Transport Route*  icon.

Your mouse pointer changes into a pencil.

9. Draw a line with the pencil from the export system to the first import system.

A line appears that connects the two systems, and the *Create Transport Route* dialog box opens.

10. Select *Consolidation* for the first connection between the export and the import system.

A consolidation route ensures that all transport requests released at the source of the transport route are added automatically to the import queue of the target system route.

11. Browse for an existing consolidation transport layer or enter a name in the *Transport Layer* text box to search.

The search name must begin with the letter Z. For example, **ZDST**.

i Note

This transport layer is your standard transport layer, and it is the default for any non-ABAP transport requests.

12. Select the green check mark icon at the bottom.

The *Create Transport Layer* dialog box opens showing the transport layer name in *Transport layer*.

13. Enter a brief description about the transport layer in *Short Description*.

If you chose an existing transport layer, the description is already completed.

14. Select the green check mark icon at the bottom.

The software creates the transport route and opens the *Change Transport Routes* dialog box.

15. Draw a line with your mouse pointer from the first source system to the next source system in your transport route.

The *Create Transport Route* dialog box opens.

16. Select *Delivery*.

Ensure that the correct SID code appears for *Source system* and *Delivery system*.

A delivery route ensures that all transport requests that are imported into the source system route are automatically added to the import queue of the target system route.

17. Click the green check mark .
18. Continue connecting any remaining source systems in this manner. When you are finished, click [Save](#).
19. Click [Yes](#) to the message verifying that you want to distribute and activate the configuration across all systems.

Your transport route appears in the transport route work area.

Task overview: [Transport routes \[page 30\]](#)

Related Information

[Exporting objects to transport request \[page 32\]](#)

[Viewing transport request history \[page 34\]](#)

10.2 Exporting objects to transport request

Select the objects to attach to the transport request and then send the transport request to the CTS, where you then release the transport request.

Log into the Management Console and open the Administrator application. Then perform the following steps to attach objects to a transport request for exporting:

1. Select the *Object Promotion* node.
The *Object Promotion* tab opens at right.
2. Select *Export objects* from the *Select an object* dropdown list and click *Next*.
The *Source Repository and Object Type* tab opens.
3. Select the applicable repository from the *Select Repository* dropdown list.
The repository can be a local or central repository.
4. If you choose a central repository, select *Latest version* from the *Get* dropdown list.
5. Select the applicable object type from the *Type* dropdown list and click *Next*.

A tab opens that is labeled with the repository name and the object type that you chose.

❖ Example

If you chose a repository named **mssql**, and you chose *Project* for the *Type*, the tab is named **mssql-Project**.

The tab lists all objects in the selected repository of the type you chose.

❖ Example

For **mssql-Project**, the tab lists all projects in the **mssql** repository.

Each object has columns of information such as *Version*, *Check-in User*, *Last Modified*, *Exported*, and *Description*.

6. Select the applicable CTS export configuration from the *Export over* dropdown list.
7. Click *Export*.

A *Confirmation* tab opens showing the current status. The following table contains a description for each possible status.

Export status display

Status	Description
Exporting	Appears after you click <i>Export</i> and persists until export completes.
Success	Appears when export completes successfully.
Warning	Appears when there are warnings connected to the export.
Fail	Appears when the export fails.


To view details for warnings and errors, click the *view log* link next to the status.

8. Click the *CTS Transport Request ID* link that appears when the export is successful.

The Transport Organizer opens.

9. Enter your Transport Organizer logon credentials if required.
10. Manually release the request, when applicable.

Applicable only when you select *Manual* for the *WBO_REL_REQ_STRATEGY* option. The Transport Organizer releases requests automatically when you select *Automatic* for the *WBO_REL_REQ_STRATEGY* option. You make this setting when you configure your transport strategy.

- a. Select the applicable transport request in the upper pane of the Transport Organizer.
- b. Click the Release  icon.

The transport request releases.

Caution

After you release the transport request, you cannot change the request and it is no longer listed in the list of modifiable requests in the Transport Organizer.

To complete the transport, import the transport requests that you just released into the target system.

Task overview: [Transport routes \[page 30\]](#)

Related Information

[Defining transport routes \[page 30\]](#)

[Viewing transport request history \[page 34\]](#)

10.3 Viewing transport request history

View the history of transport requests in the SAP Data Services Management Console.

1. Log into the Management Console and open the Administrator application.
2. Expand the *Object Promotion* node and select *Promotion History*.
3. Open the *Exported* tab.
4. Click *view log* in the *Status* column for the specific export.

Task overview: [Transport routes \[page 30\]](#)

Related Information

[Defining transport routes \[page 30\]](#)

[Exporting objects to transport request \[page 32\]](#)

11 Importing transport requests

Import transport requests into the target system.

Export transport requests and release them. The CTS automatically adds a released transport request to the Import Queue of the target system where you trigger the import.


i Note

The Import Queue Web UI is integrated in the SAP NetWeaver 7.4 Support Package 10 and higher standard delivery. It is a part of CTS Plug-In 2.0 Support Package 02 (SL Toolset 1.0 SP05) or higher.

i Note

For more information about performing imports using the Import Queue Web UI, see the *Change and Transport System* guide on the SAP help portal.

Follow these steps to import your released transport requests to the target system.

1. Log in to your CTS system and enter transaction **STMS** in the command field.
2. Select the *Import Overview* icon .



The *Import Overview* dialog box opens.

3. Double-click the target system SID code.

Example

In our scenario, we double-click either *BT1* or *BP1* as applicable.

The *Import Queue* window opens listing all of the transport requests for the system.

4. Import the entire queue or select specific transport requests to import.
 - To import the entire queue, perform one of the following steps:
 - Click the *Queue Start Import* icon .
 - Select **► Queue ► Start Import ►**
 - To import specific transport requests, select the applicable transport requests and perform one of the following steps:
 - Click the *Requests Import* icon .
 - Select **► Requests ► Import ►**

The *Import Transport Request* dialog box opens.


5. Choose applicable options on the tabs in the *Import Transport Request* dialog box as described in the following table.

Tab descriptions for Import Transport Request

Tab name	Description
Date	Specify a date to import the transport requests.
Execution	Specify how you want the transport control program to start.
Options	Specify additional options for the import.

6. Click the green check mark icon in the lower left of the window.
7. Review your settings in the [Start Import](#) window. Click [Yes](#) to start the import.

The [Import Queue](#) dialog box opens displaying the following information:

- The [Status](#) column indicates that the import is waiting, running, or has reached an end state.
- When the import has reached an end state, the Return Code ([RC](#)) column displays the status.
 - Click  or the [Refresh](#) icon to update the [Status](#) or [RC](#) column.

When the status in the RC column shows that the import has reached an end state, click the status icon to see a log file. Viewing the log file is especially helpful if the import was not successful.

[Deployment log-file return codes \[page 36\]](#)





The Import Queue contains all applicable requests, each with a Return Code ([RC](#)) column and a [Status](#) column.

11.1 Deployment log-file return codes

The Import Queue contains all applicable requests, each with a Return Code ([RC](#)) column and a [Status](#) column.

There are four return code icons with corresponding numeric values that can appear in the [RC](#) column when the import has reached an end state.

Import queue return codes

RC icon	RC numeric value	End state
	0	The import has completed successfully.
	4	The import has completed with warnings.
	8	The import did not complete and has errors. A new transport is required.
	12	The import tool has problems. Fix any problems and try to import again.

Select the return code icons to see more information about the import item:

- Single-click the return code symbol to see the numeric value of the return code, and detailed text for more information about the transport error.
- Double-click the return code symbol to open the *Overview of Transport Logs* dialog box that contains log information.

The *Overview of Transport Logs* dialog box displays the transport request ID for the transport request that you opened as a node in a file tree. Expand the transport request to see the SID of the applicable target system. Further expand the SID code to see dates and statuses for the following actions:

- Selection for Import
- Import
- Deployment

Click the icons that appear in front of the nodes in the log. For example, click the icon in front of the *Deployment* row to open the deployment log in the *Log Display* window.

Parent topic: [Importing transport requests \[page 35\]](#)

Related Information

[Transport Organizer Web UI overview \[page 38\]](#)

12 Transport Organizer Web UI overview

Use the Transport Organizer web UI to work with SAP Data Services non-ABAP transport requests and to obtain additional information about transport requests.

After an export completes, the Confirmation tab in SAP Data Services Management Console lists the *CTS Transport Request ID* number. The number is a link that you can click to open the Transport Organizer web UI.

The *Transport Organizer* dialog box is divided into two panes: Overview and Details.

Overview pane

The Overview pane contains the basic settings, current activities, and a list of modifiable transport requests. The transport requests are listed by ID number.

The Overview pane also contains various options for administering your transport requests. There are several columns of information including a *Status*, *Owner*, and *Description* column. You can select the row that contains your transport request ID and click the *Release* icon in the toolbar to release the transport request.

Details pane

The Details pane contains tabs with detailed information about the transport request that you select in the *Overview* pane. The following table contains the names of the tabs with a description for each.

Details pane tabs

Tab	Description
<i>Properties</i>	Contains the following properties for the selected transport: <ul style="list-style-type: none">• Description• CTS Project ID• Target• Source Client• Owner• Status• Last Change date/time
<i>Attributes</i>	CTS attributes that are assigned to the transport request
<i>Object List</i>	Objects that are contained in the transport request

Tab	Description
Logs	Distribution state of released transports and a link to details for each import step. For example, the status of the transport request in the system for which it is pending, released, successful, and not successful.
Preselection	List of users that have this transport request as their default or preselected transport request.

For more information about the Transport Organizer, see the [Change and Transport System](#) guide.

[Object List and Object List Browser \[page 39\]](#)

Use the tools in the Transport Organizer to view a list of objects, and to view additional details for each object.

12.1 Object List and Object List Browser

Use the tools in the Transport Organizer to view a list of objects, and to view additional details for each object.

The [Object List](#) tab in the lower pane of the Transport Organizer contains a list of the objects that are a part of the exported SAP Data Services ATL files that you attached to a transport request.

When you first open the [Object List](#) tab, the exported objects appear with columns that contain additional information, such as object name, type, modified date, user name, and application name.

To view more information about each object, click the down arrow to the left of the object name and click the [Details](#) link. Details include the following information:

- Object ID
- Content Owner
- Application User
- CTS User
- Additional Information

In the menu bar at the top of the [Object List](#) tab, click [Object List Browser](#). The [Object List Browser](#) contains a [Browse](#) tab and a [Search](#) tab.

- The [Browse](#) tab contains information about the selected transport request ID.
- The [Search](#) tab provides various search options to find other requests. Perform wildcard searches and narrow the results by object type and modified dates. Each of the objects listed in the search results contains a link to more details.

To view the selected transport object in the Transport Organizer web UI, follow these steps:

1. Right-click the name of an exported object in the search results list.
2. Select [Display in Transport Organizer](#).

Parent topic: [Transport Organizer Web UI overview \[page 38\]](#)

13 Promotion management overrides

Deploy your promotion management overrides to all of your target systems before you export and import Data Services objects through transport requests.

Log into the Central Management Console to access the Promotion Management tools. Use the Promotion Management Override Settings feature to update your database connection information based on the destination environment of all of your target systems.

In the *Override Settings* dialog box, log into the original source system and view a list of all unique connections. Edit the override tables with the applicable destination system values. Then, when you transport content from source to target systems, the content objects are automatically updated with the newer values. For more information, see “To promote overrides using CTS+” in the [Information platform services Administrator Guide](#).

14 Use ChaRM and QGM for managing transports for separate landscapes

SAP Solution Manager has the Change Request Management (ChaRM) and Quality Gate Management (QGM) tools that can help you manage changes in separate landscapes.



If you already use CTS to manage transports in your SAP NetWeaver BW landscape, use ChaRM and QGM tools to keep changes for multiple systems and multiple transport routes separate. Using ChaRM and QGM, keep the changes that you make to Data Services and your Data Services systems together, but separate from the changes in NetWeaver BW. You still use CTS+ for managing the system transports in Data Services systems. For more information about ChaRM and QGM, see the SAP Solution Manager [Change Control Management guide](#).

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