Configuration Guide | PUBLIC
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Quick Configuration Guide for the ILM Store

Version for Microsoft Azure

THE BEST RUN SAP

Content

1 Introduction

The SAP Information Lifecycle Management (ILM) Store enables you to run the entire data retention process from data archiving and storing to their destruction, thus enabling data management through its lifecycle. This process takes into consideration SAP ILM Retention Management (RM) specifications.

You can use the WebDAV interface standard to store archive files in a Microsoft Azure storage account using Blob storage. This guide explains how to configure the ILM Store with a Microsoft Azure Blob storage account.

> **Note**
>
> This is a quick setup guide. For extensive documentation, refer to the Installation and Configuration Guide fot the ILM Store.

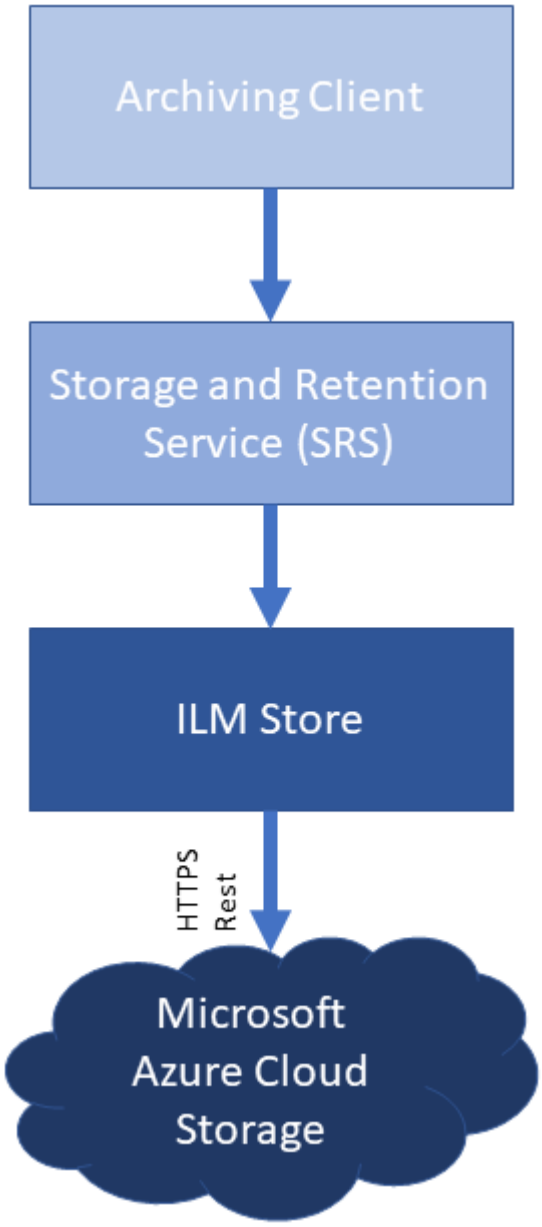

Figure 1: The SAP ILM Store with Microsoft Azure Storage

The SAP ILM Store with Microsoft Azure Storage

The system landscape can be configured in various ways, such as:

- The archiving client, the Storage and Retention Service (SRS), and the ILM Store reside on the same system.
- Using remote SRS to isolate the archiving client and the SRS.
- The archiving client and the SRS reside on the same system, while the ILM Store is on a separate system.

This guide explains how to configure the ILM Store with a Microsoft Azure storage account.

> ⚠ Caution
>
> Once the ILM Store is set up and the operations have started, do not change the settings as it can lead to the loss of all stored information.

2 Prerequisites

Ensure that the following pre-requisites are met:

1. You use a SAP S/4HANA 2021 system or an ABAP PLATFORM 2021 system.
2. You have activated the business functions Information Lifecycle Management (`ILM`) and ILM Database Store (`ILM_STOR`).
3. You have a Microsoft Azure Blob Storage account set up.

> **Note**
>
> When you create an application in the Microsoft Azure directory, note down the Client Secret, which is required for further configurations.

3 Authorizations

This section lists the authorizations required for configuring the ILM Store and storing files.

ILM Store Administration

Authorization Object	Field	Value
SILMSTOR	ACTVT	*02* (Change) *07* (Activate, Generate) *39* (Check)

Access to the ILM Store

You need a technical user with the necessary authorization to access the ILM Store and to upload files to the store. Assign a role to a user with the following authorizations:

Authorization Object	Field	Value
SILMSTOR	ACTVT	*16* (Execute)
S_DATASET	FILENAME	*
	PROGRAM	CL_ILM_STOR_DATASET==========CP, RILM_STOR_PUT_WORKER
	ACTVT	*6* (Delete), *33* (Read), *34* (Write)
S_DEVELOP	OBJTYP	*TABL*
	ACTVT	*07*, *40*
S_CTS_ADMI	CTS_ADMFCT	*TABL*
S_CTS_SADM	CTS_ADMFCT	*TABL*

4 Storage Connection

Administrative data of the archive files is stored in the system database tables. The archive file data is stored as Blobs (Binary Large Object) in the configured Microsoft Azure Storage Account.

4.1 Exporting Certificates

The required certificates need to be exported to later import them into the SAP S/4HANA system. Access the Microsoft Azure Portal and log into your account. Note down the end points from the Microsoft Azure Portal as shown below.

Locate the OAuth 2.0 authorization endpoint (v2) as shown in fig. 2.

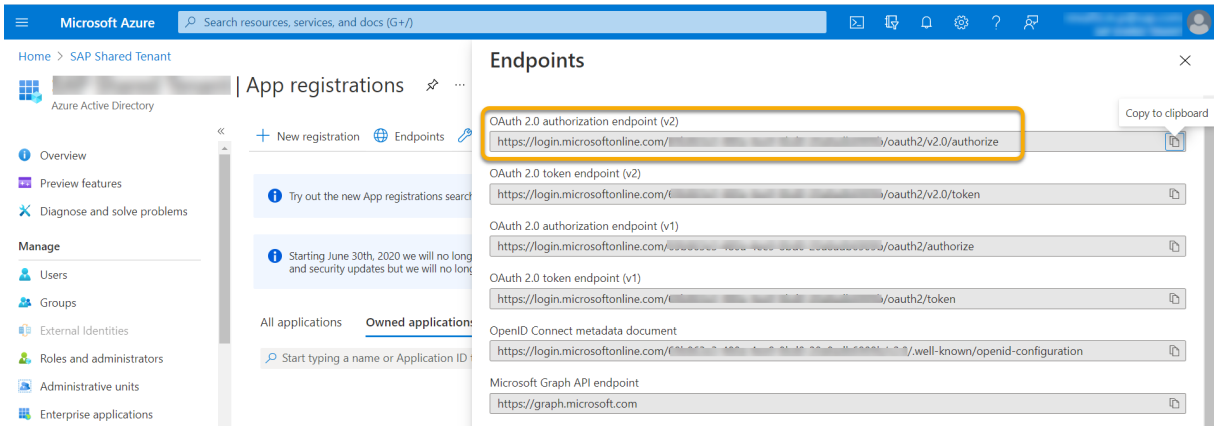

Figure 2: Authorization Endpoint (V2)

1. Copy the URL shown in fig. 2, paste it to your browser and press enter.
2. Click on the lock icon in the address bar.
3. Click on *Certificates* and a new window will open.
4. Go to the tab *Certification Path* (see fig. 3).
5. Select *Digi Cert*, click on *View Certificate* and a new window will open.
6. Go to *Details* and click on *Copy to File* (see fig. 3).
7. Save the certificate file (.CER) locally.

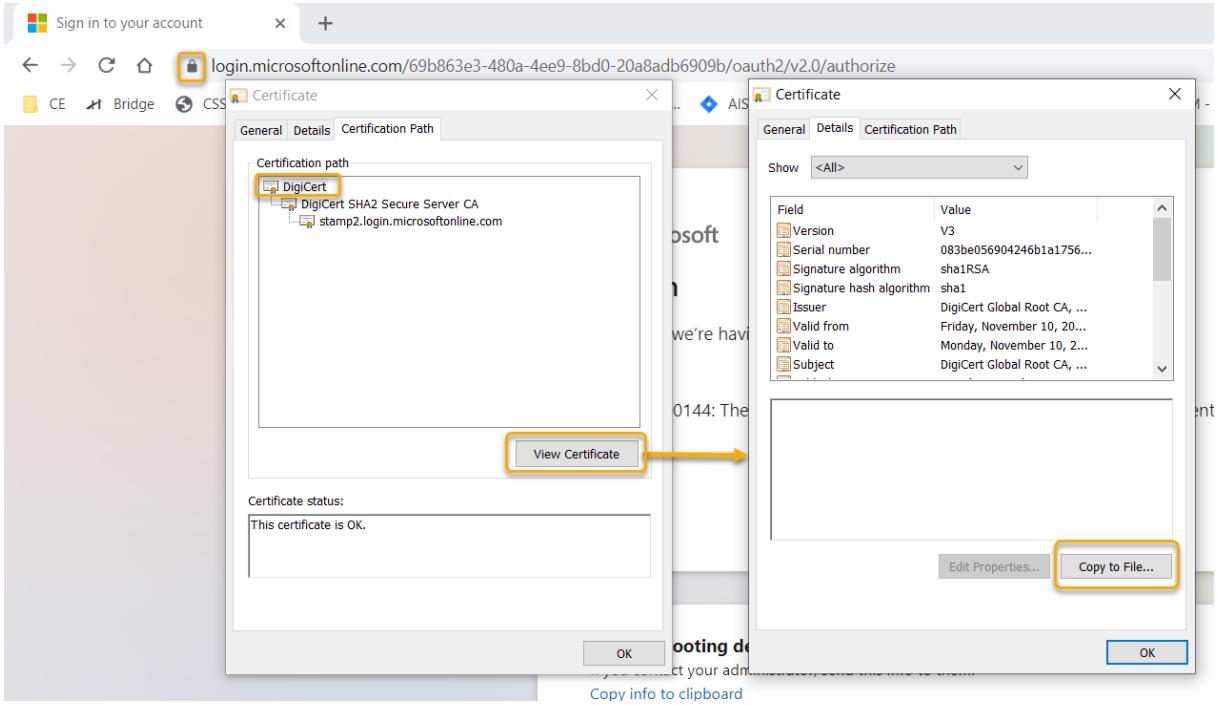

Figure 3: Download the Certificate with an Authorization Endpoint

Locate the Blob service of the primary endpoint as shown in fig. 4.

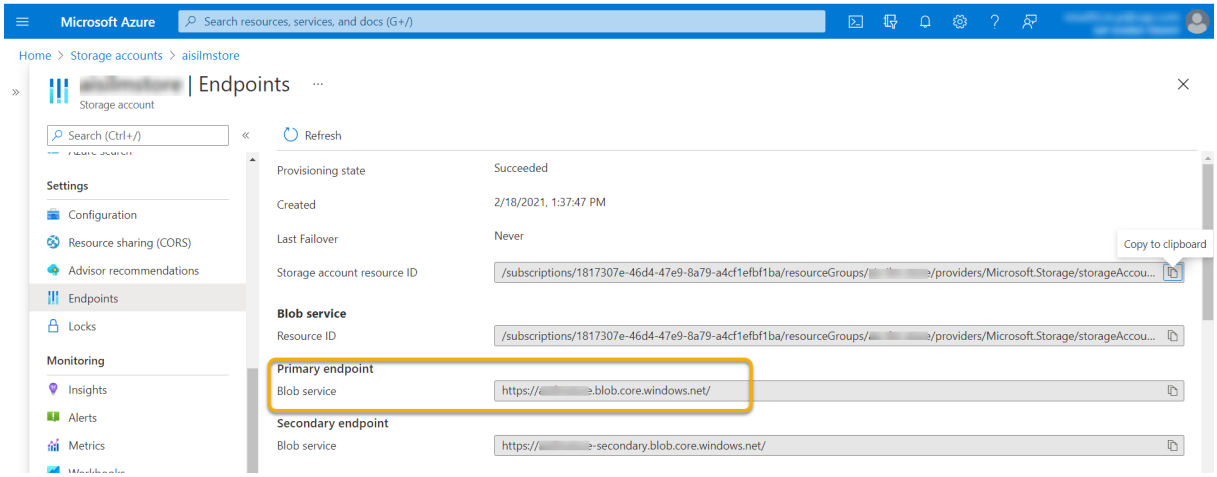

Figure 4: Primary Endpoint Blob Service

1. Copy the URL shown in fig. 3, paste it to your browser and press enter.
2. Click on the lock icon in the address bar.
3. Click on *Certificates* and a new window will open.
4. Go to the tab *Certification Path*.
5. Select *Digi Cert*, click on *View Certificate* and a new window will open.
6. Go to *Details* and click on *Copy to File* (see fig. 5).
7. Save the certificate file (.CER) locally.

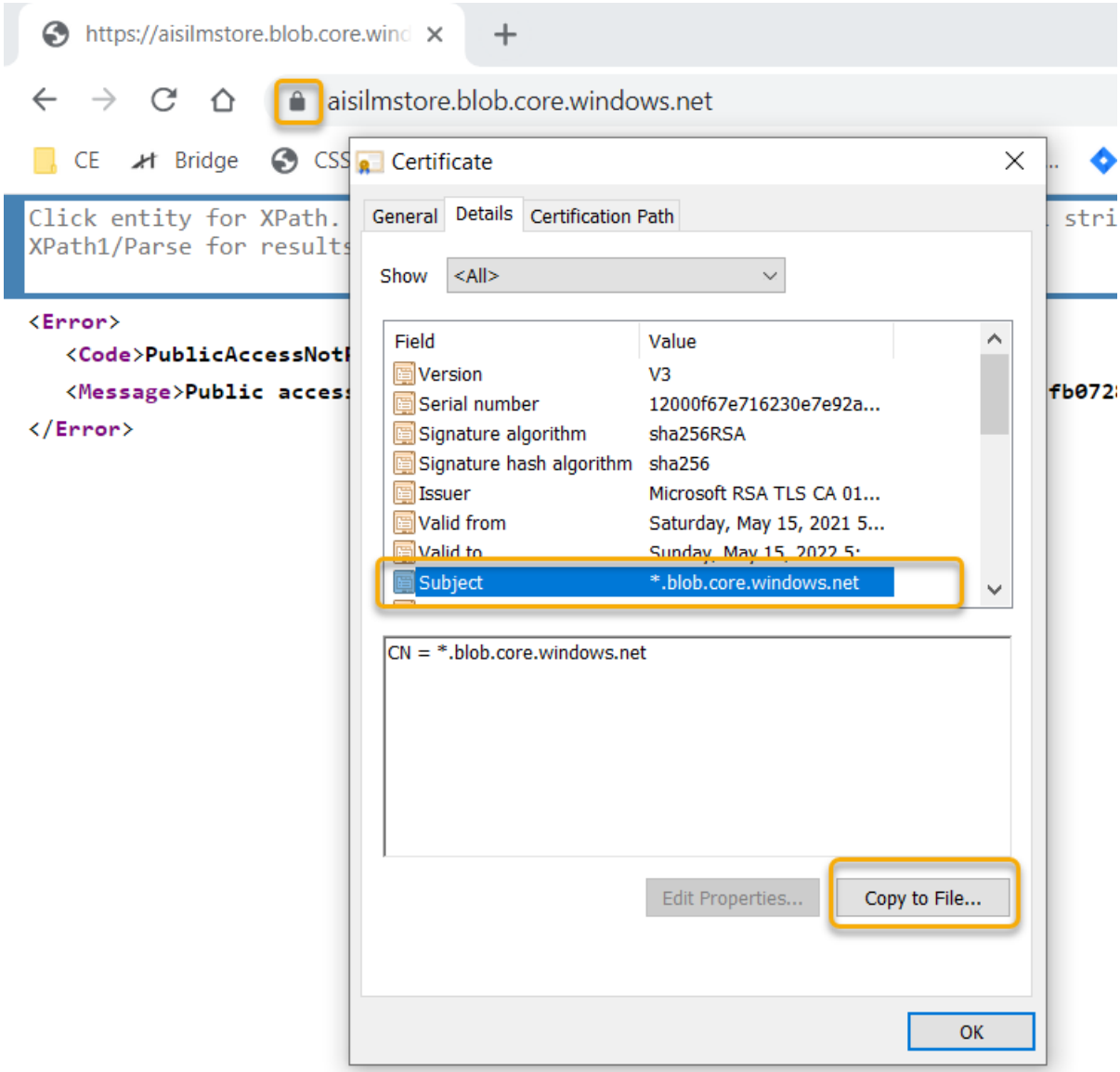

Figure 5: Download the Certificate with the Primary Endpoint Blob Service

These two certificates will have to be uploaded to the ILM Store (see Importing Certificates [page 10]).

Next, log into the SAP S/4HANA system with a user with the necessary authorizations to configure the ILM Store.

4.2 Importing Certificates

In the SAP S/4HANA system, you need to import the previously exported certificates to establish a connection between the systems using HTTPS. To ensure a secure connection using the OAuth 2.0 client, you must use a SSL/TLS communication channel between your service provider (Microsoft Azure in this case) and the Application Server ABAP.

Follow the steps below to upload the certificates:

1. Start transaction **STRUST**.
2. Import the certificates downloaded in the previous step (see Exporting Certificates [page 8]).
3. Save the certificates under the node “SSL Client SSL Client (Standard)” (see fig. 6).

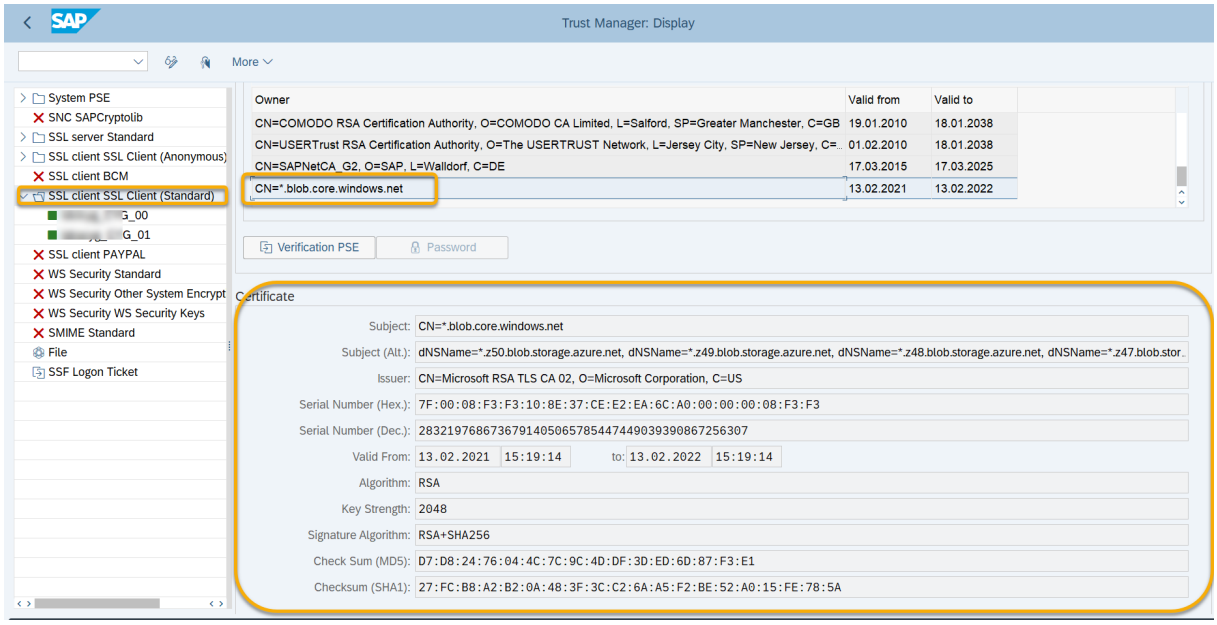

Figure 6: Certificates Under the Standard Client Node

4.3 Configuring OAUTH for the ILM Store

Follow the steps below to configure OAUTH for the ILM Store:

1. Start transaction **OA2C_CONFIG** and create a new configuration.
2. Use the profile **ILMAZURE_STORAGE_OATUHPROF** and enter the values noted from the Microsoft Azure account (see fig. 9).
   Access the Microsoft Azure Portal and log into your account. Open the active directory application and note down the Client ID, Client Secret and Tenant ID as shown in fig. 7 and fig. 8. This is required to create an OAuth configuration in the SAP S/4HANA system.

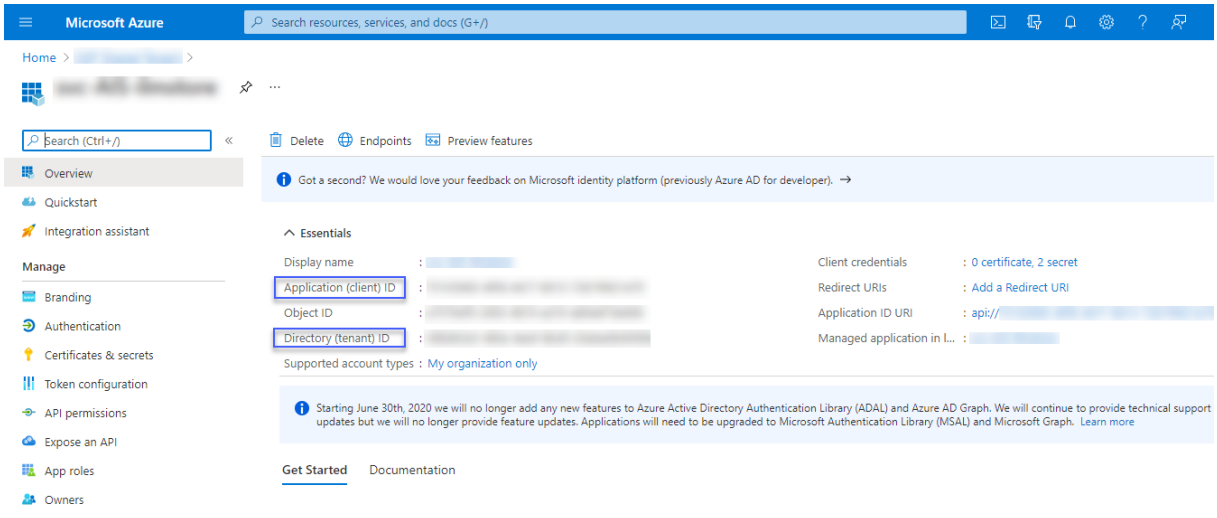

Figure 7: Microsoft Azure Active Directory Parameter – Tenant ID

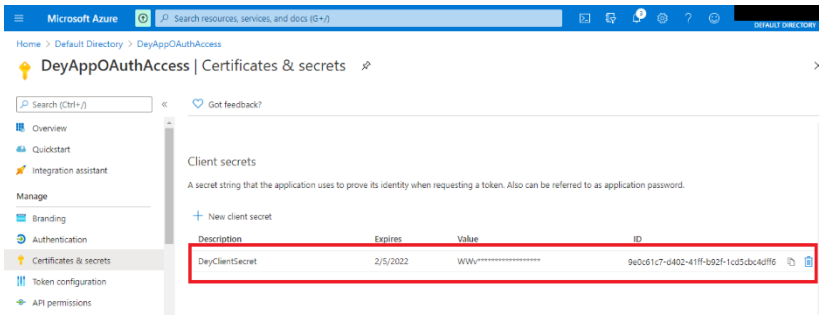

Figure 8: Client ID and Client Secret of the Active Directory

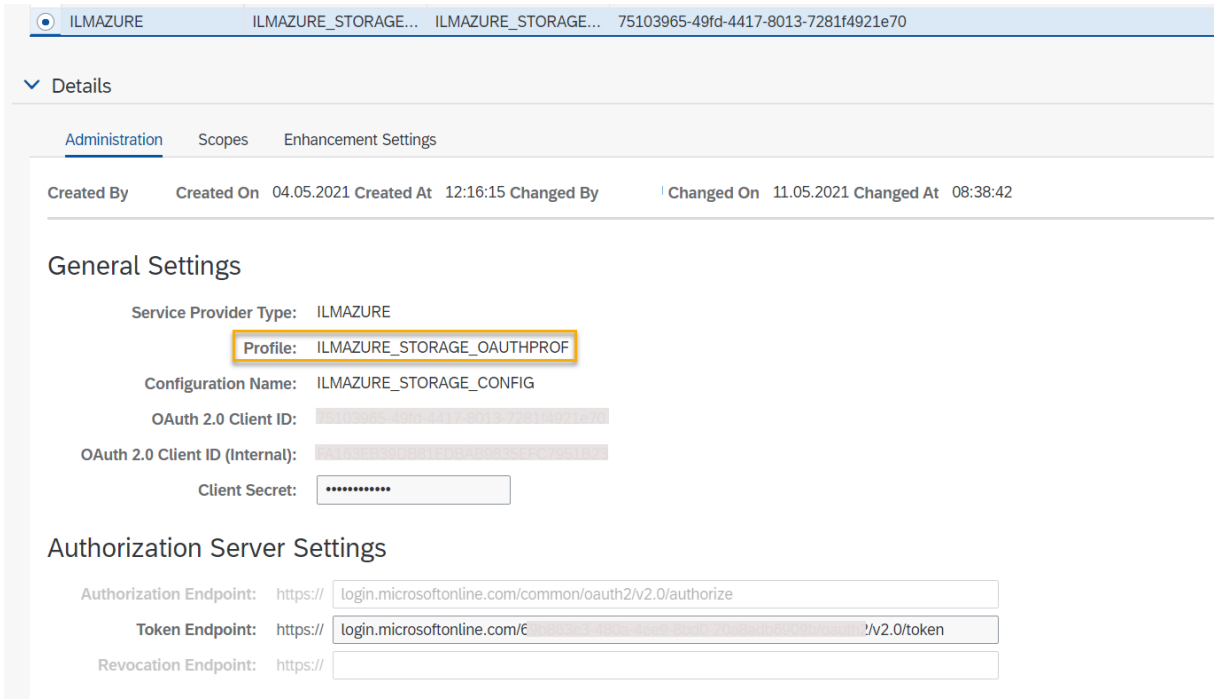

Figure 9: OAuth 2.0 Client Settings

In the configurations, the Microsoft Azure Tenant ID is assigned to a Token endpoint, the Microsoft Azure application Client ID is assigned to an OAuth 2.0 Client ID and the Microsoft Azure application Client Secret is assigned to an OAuth 2.0 Client Secret (see fig. 9).

> **Note**
>
> The Client Secret is renewed periodically at Microsoft Azure. When Microsoft Azure is updated, the Client Secret in `OA2C_CONFIG` is updated as well.

4.4 Creating the Remote Function Call (RFC)

1. Start transaction `SM59`.
2. Create a new RFC, choose a RFC destination and select connection type *G – HTTP Connections to External Server*.

> **Note**
>
> This RFC must be used to construct the primary endpoint as shown in fig. 10.

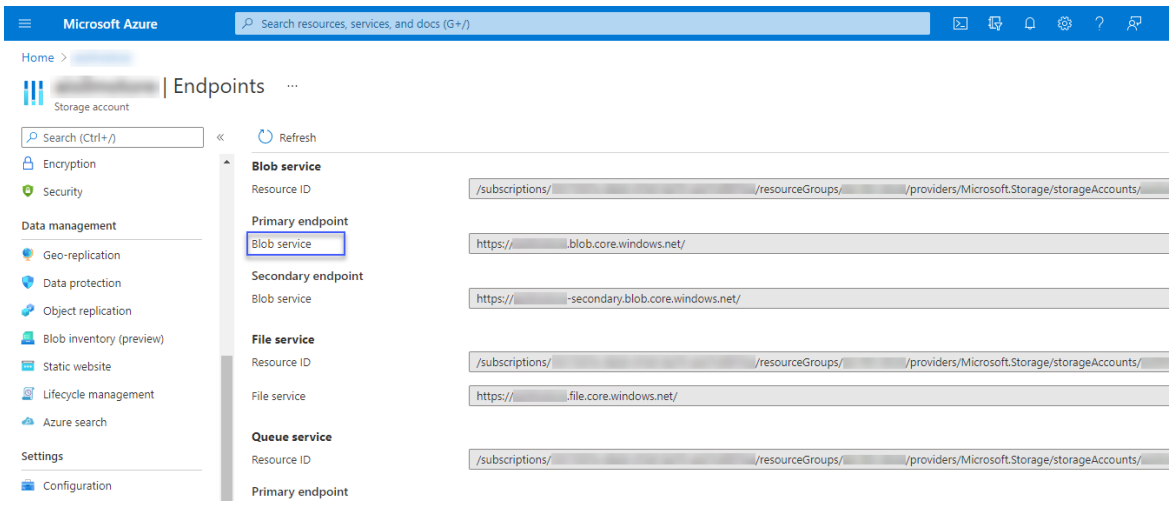

Figure 10: Endpoint of the Storage Account in Microsoft Azure

3. In the tab *Logon and Security*, select *Active* for SSL.
4. Under *Special Options*, select *HTTP 1.1* as the HTTP version (see fig. 11 and fig. 12).

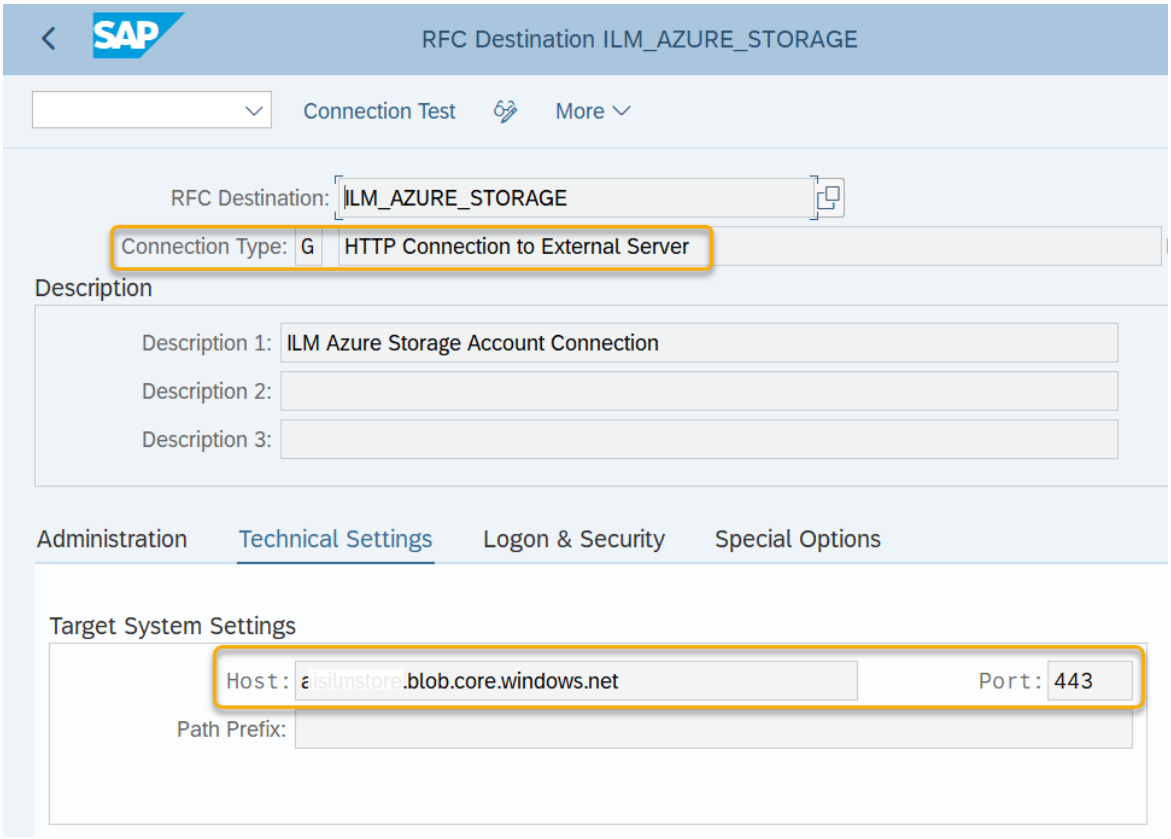

Figure 11: RFC Destination

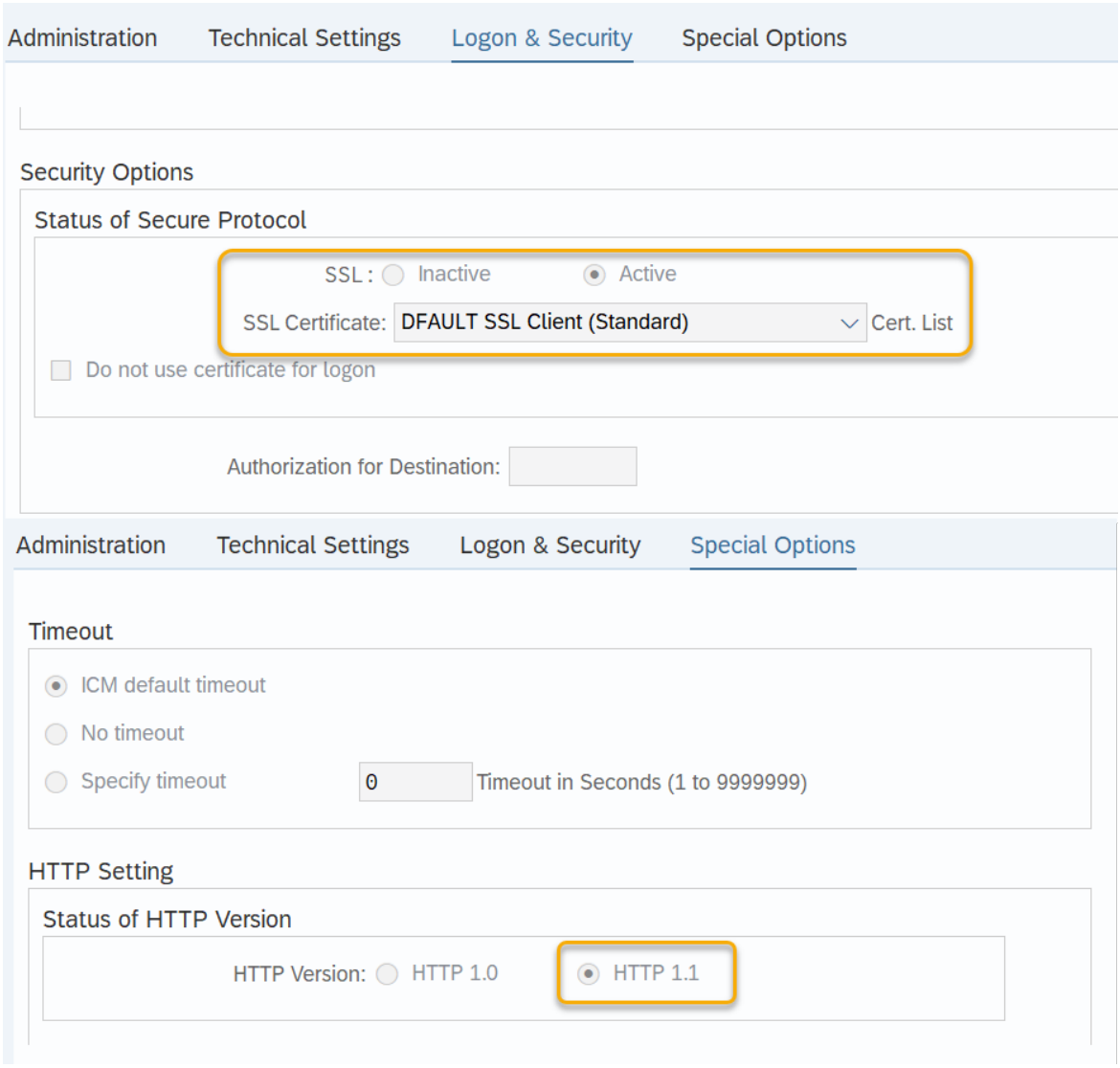

Figure 12: RFC Configurations

5. Save the changes.
6. Click on *Connection Test* and compare your test result to fig. 13.

> **Note**
>
> Check if the connection is established. The connection test should return the message `Public Access not permitted`. This is the expected behavior based on the storage account setup with the value *Enable blob public access* set to false.

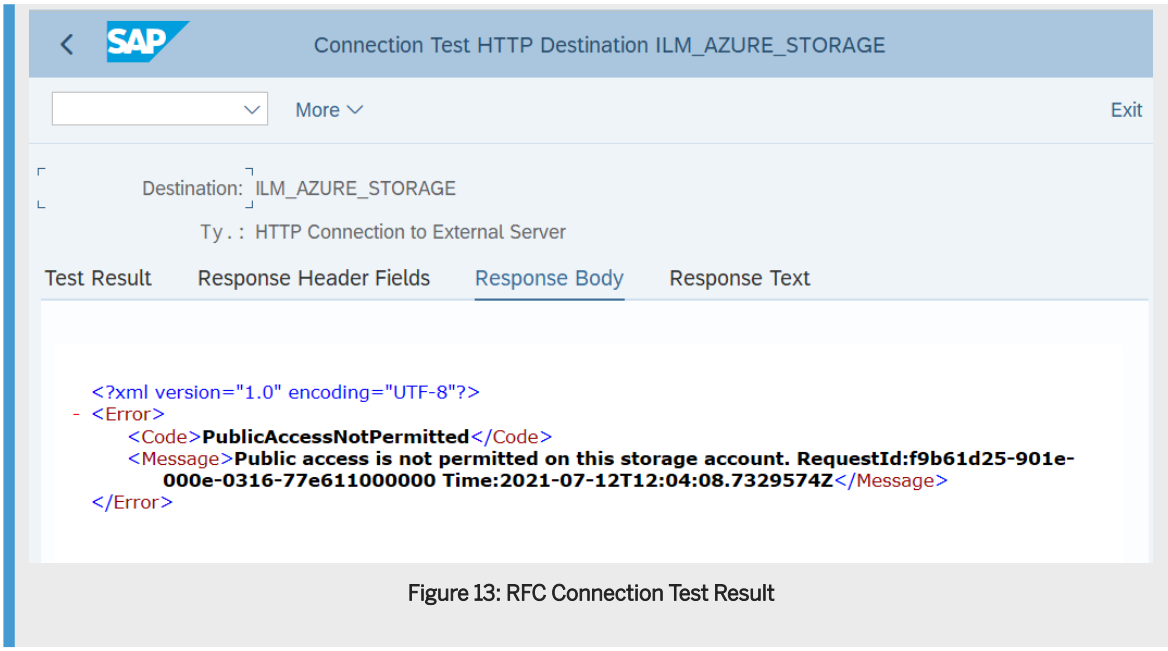

Figure 13: RFC Connection Test Result

4.5 Testing the Connection

Once the configurations in the system are completed, you can test the connection to the Microsoft Azure storage account. Follow the steps below:

1. In the store system, start transaction SE38.
2. Execute the report RILM_STOR_TEST_AZURE with the input parameters as shown in fig. 14.

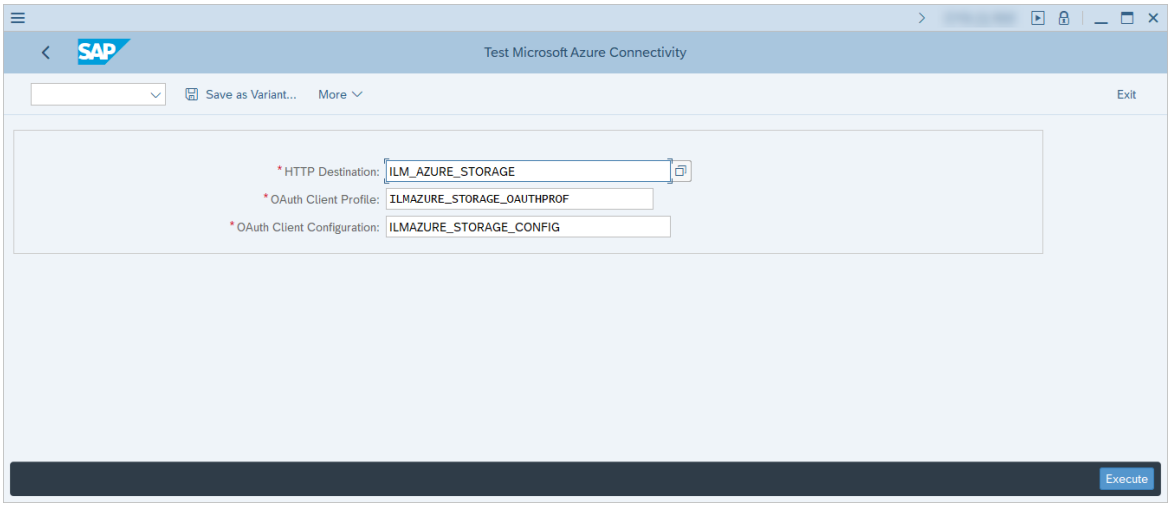

Figure 14: Test Report Input Parameters

3. Check if the test was successful and compare your result to fig. 14a.

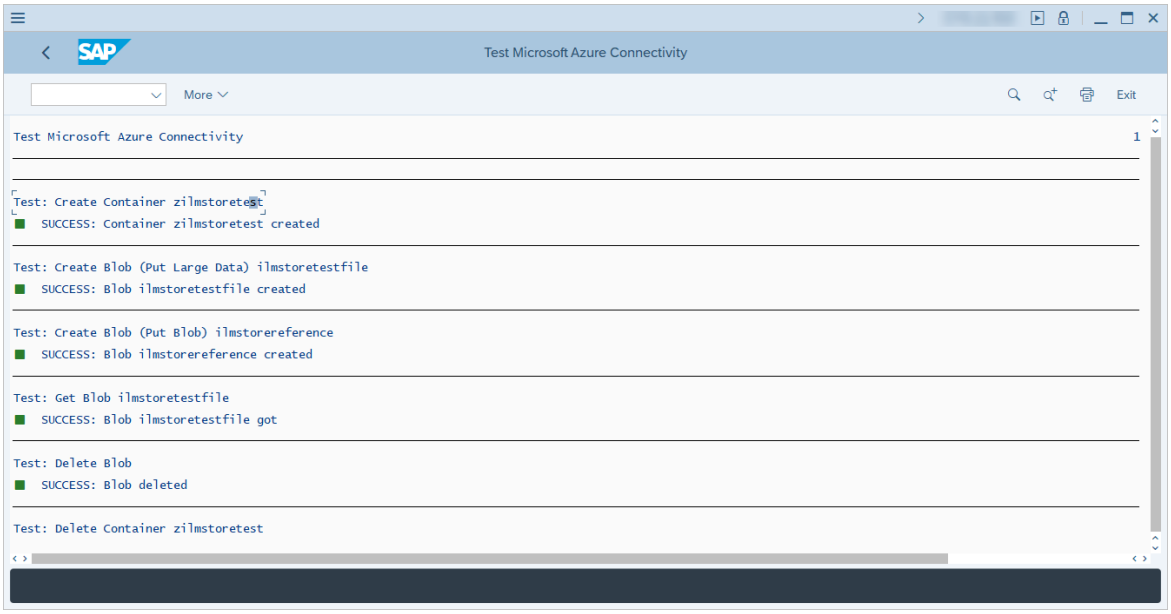

Figure 15: Test Report Result

5 Customizing the Origin Settings

The origin is a central element in the configuration of the store. It serves as the identifier of the data source.

The customizing settings for the ILM Store can be generated using a report or they can be manually created.

5.1 Creating the Customizing Details Automatically

A simplified and automatic method to create the required settings for the ILM Store setup is enabled. Follow the steps below:

1. In the ILM Store system, start transaction `ILM_STOR_GEN_CUST`.
2. Enter the values for the input field (see fig. 15).
3. Select Microsoft Azure as the storage media.
4. Enter the details of the RFC destination and the OAuth configuration created earlier (see Creating the Remote Function Call (RFC) [page 13]) as shown in fig. 15.

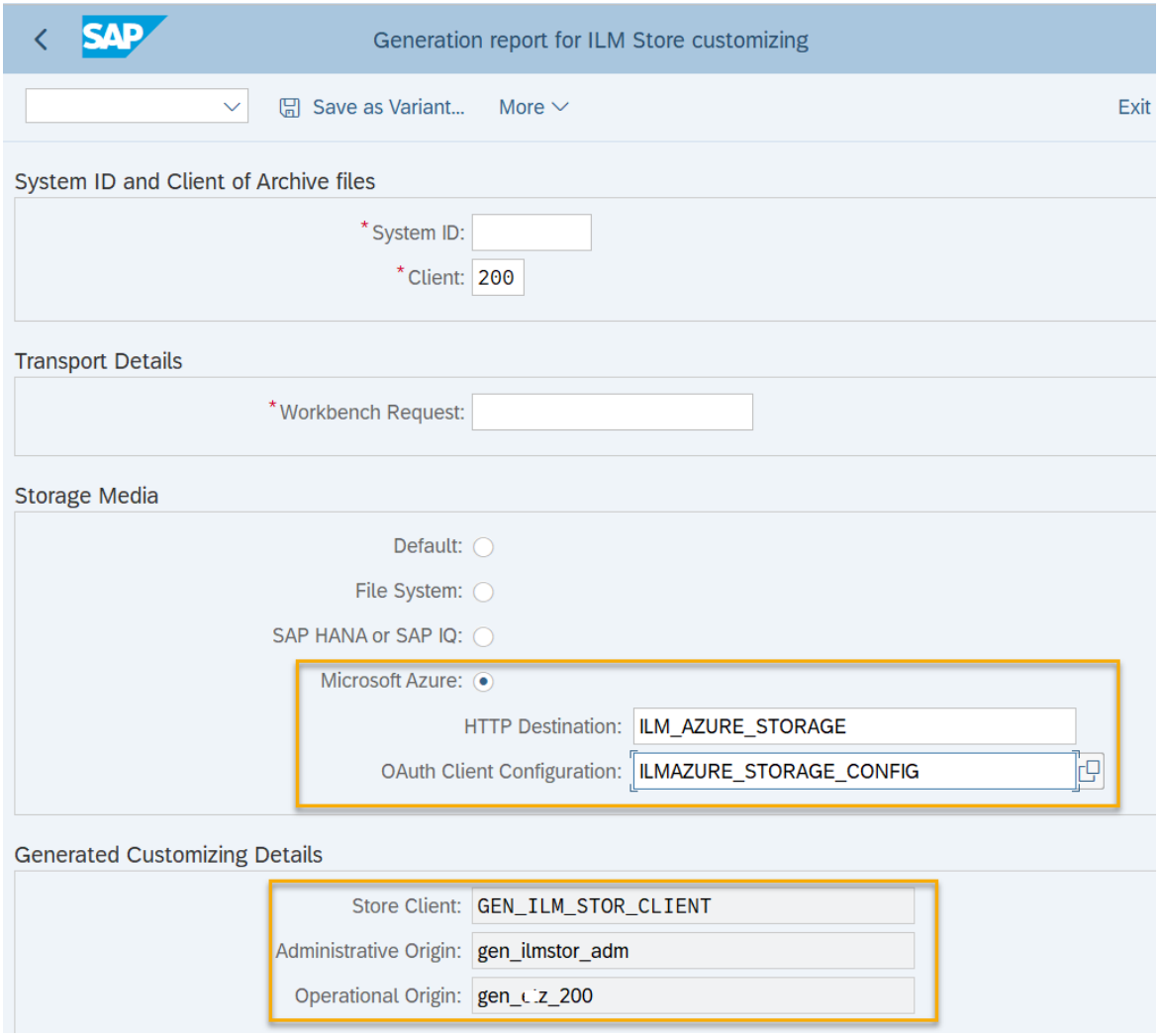

Figure 16: Generating the ILM Store Customizing

5. Click on *Execute*.
6. A result page with details of the created customizing values will be displayed as shown in fig. 16.

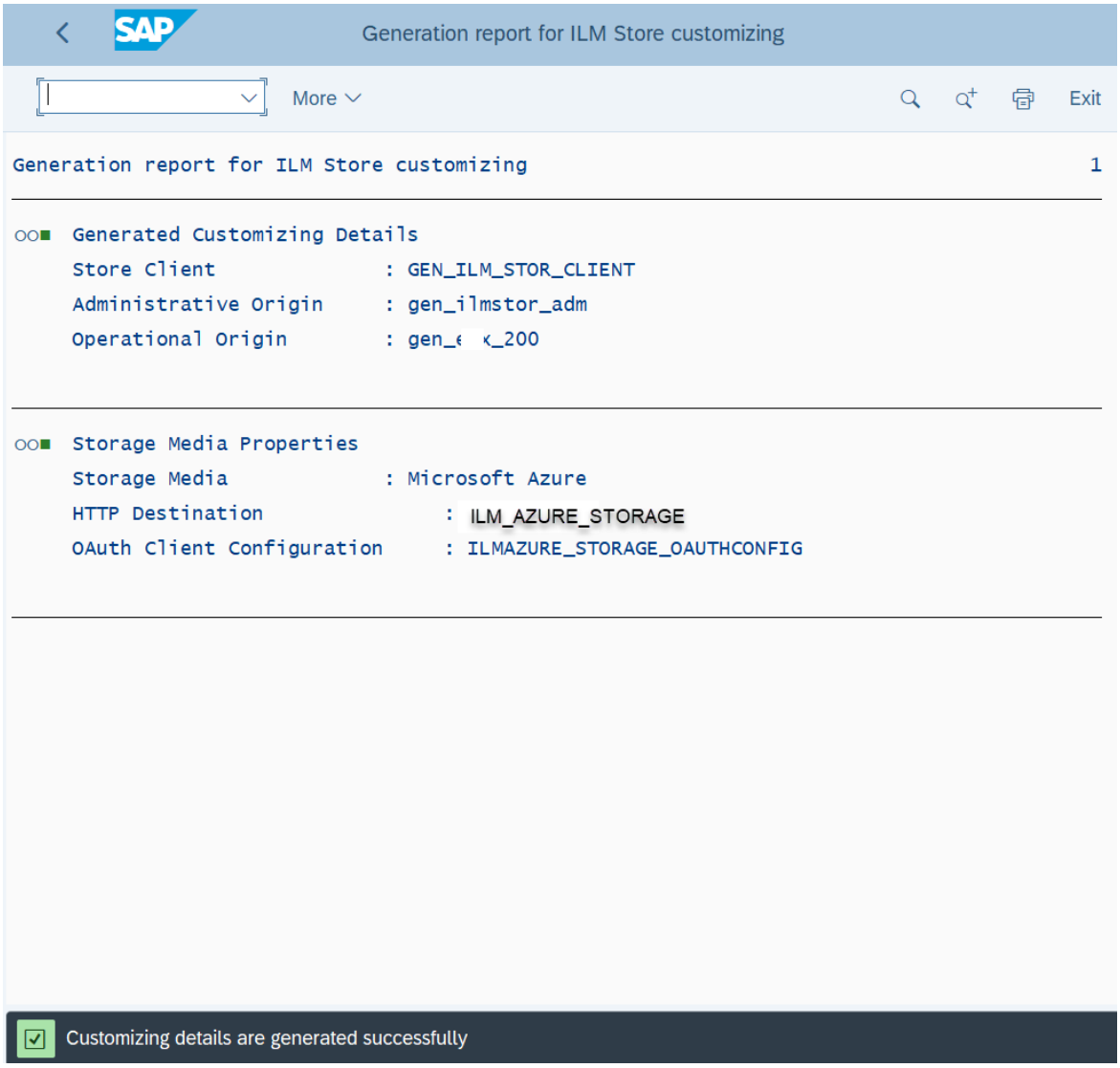

Figure 17: Result of the Generation Report

Once the configurations are generated in the system, perform a configuration test (see Testing the ILM Store Setup [page 25]).

5.2 Creating the Customizing Details Manually

If you have generated the customizing automatically (see Creating the Customizing Details Automatically [page 18]), this section is not required.

5.2.1 Administrative Customizing

1. In the ILM Store system, start transaction `ILM_STOR_ADM_CUST` or go to the *SAP NetWeaver Customizing Implementation Guide*, choose *ABAP Platform* > *Application Server* > *Basis Services* > *Information Lifecycle Management* > *ILM Store* > *Define Settings for Administrative Customizing*.
2. Click on *Create*.
3. Enter the name of the client and the *Logical File Name* (see fig. 17).
4. Specify a name and a description for the new *Administrative Origin* (see fig. 17).

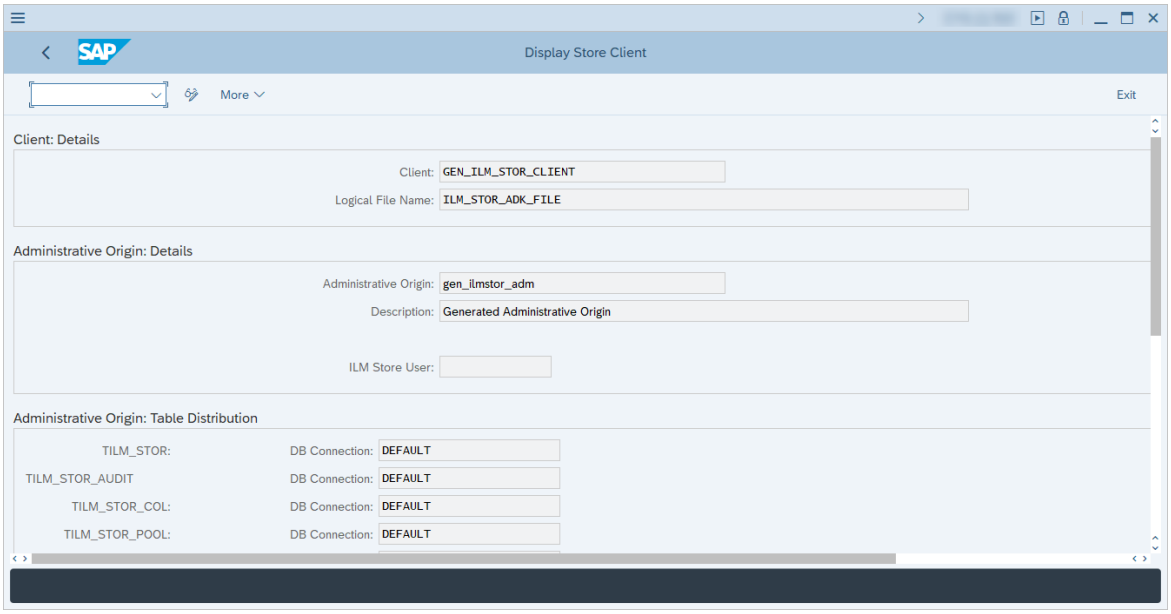

Figure 18: `ILM_STOR_ADM_CUST` Customizing

5. Click on *Add Operational Origin*.
6. In the new window, enter the name and description of the *Operational Origin*.
7. Chose *Microsoft Azure* as the Blob storage media.
8. Enter the HTTP Connection and the OAuth client configuration created in Exporting Certificates [page 8].

5.2.2 Operational Customizing

A set of properties can be defined at the operational origin level.

To maintain the properties for an operational origin, follow these steps:

1. Start transaction `ILM_STOR_OPR_CUST`.
2. Select the client you want to edit.
3. Click on *Execute*.
4. A set of properties are listed. You can maintain the required values for this list.

The other access path is via the *SAP NetWeaver Customizing Implementation Guide*, choose *ABAP Platform* > *Application Server* > *Basis Services* > *Information Lifecycle Management* > *ILM Store* > *Define Settings for*

Operational Customizing. To do so, enter the value maintained in the Administrative Origin client and click on *Execute*.

5.2.3 Configuring the Routing Table

To configure the routing table, follow the steps below:

1. Start transaction `ILN_STOR_ADM_CUST` and click on *Configure Routing*.
2. Create an entry with the following details (see fig. 18):
   System ID: `<system_id>`
   Client: `<client>`
   Data Source: `<your operational origin>`

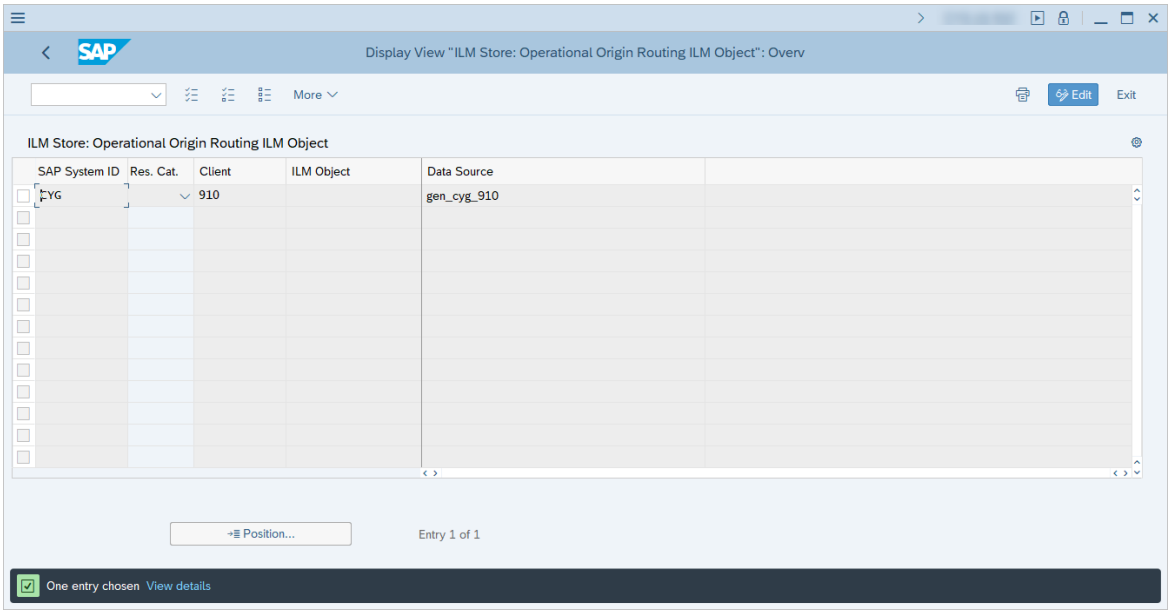

Figure 19: Routing Table Parameters

3. Save the changes.

6 Publishing the ILM Store

6.1 Activating the Internet Communication Framework (ICF) node for the ILM Store

Activate a service for the ILM Store.

1. Start transaction `SICF` and open the service `ILMSTORE` under node `ILM` as shown in fig. 19.

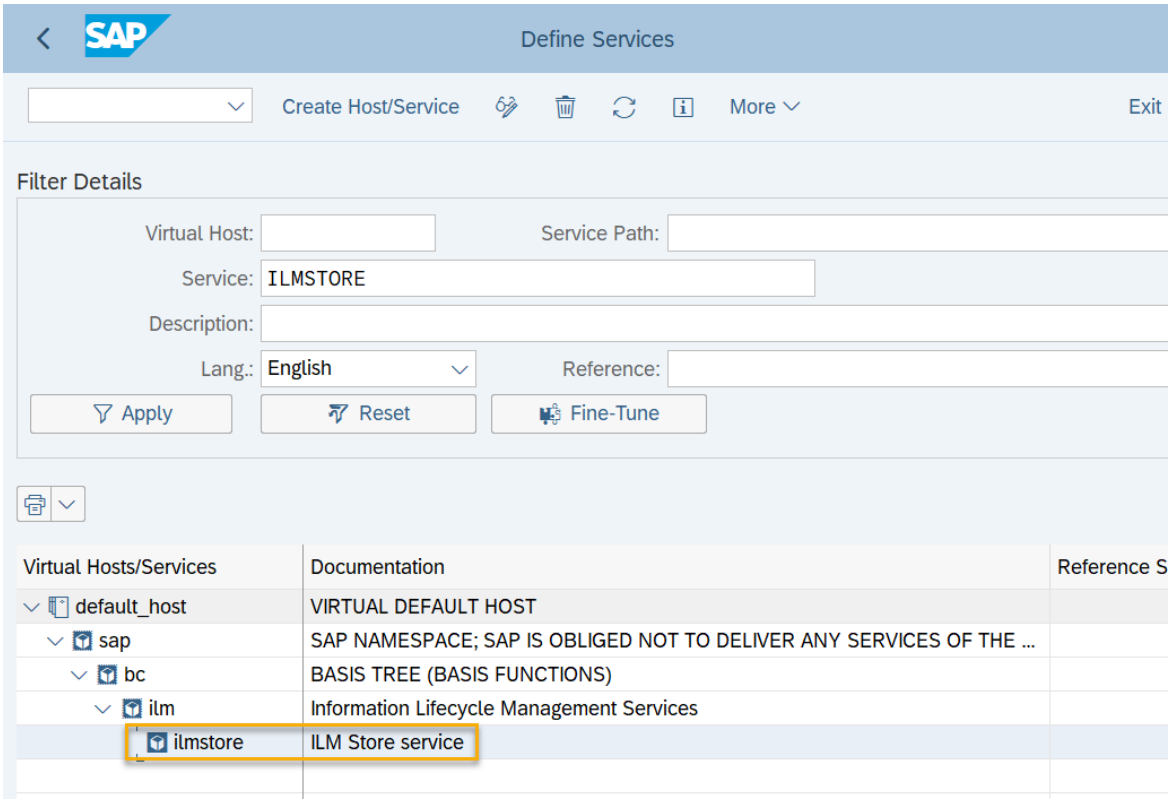

Figure 20: `SICF` Node for `ILMSTORE`

2. In the *Logon Data* tab, enter a user who has the authorization to access the ILM Store. For more information, refer to Authorizations [page 7].
3. Right click and activate the service.

6.2 Creating a RFC Destination

A communication channel is needed to establish a connection between the SAP system and the ILM Store.

1. Start transaction `SM59`.
2. Create a new HTTP connection to the external server (type G) (see fig. 20).
3. In the *Technical Settings* tab, enter the following values:
   - Target host
   - Service number (port) corresponding to your system.
   - Path prefix - This represents the connection between the destination and the ICF node.
     Enter the service path, which was defined in the `SICF` service `ILMSTORE` in the previous step (Test the service to obtain the path).
4. Save and perform a connection test.

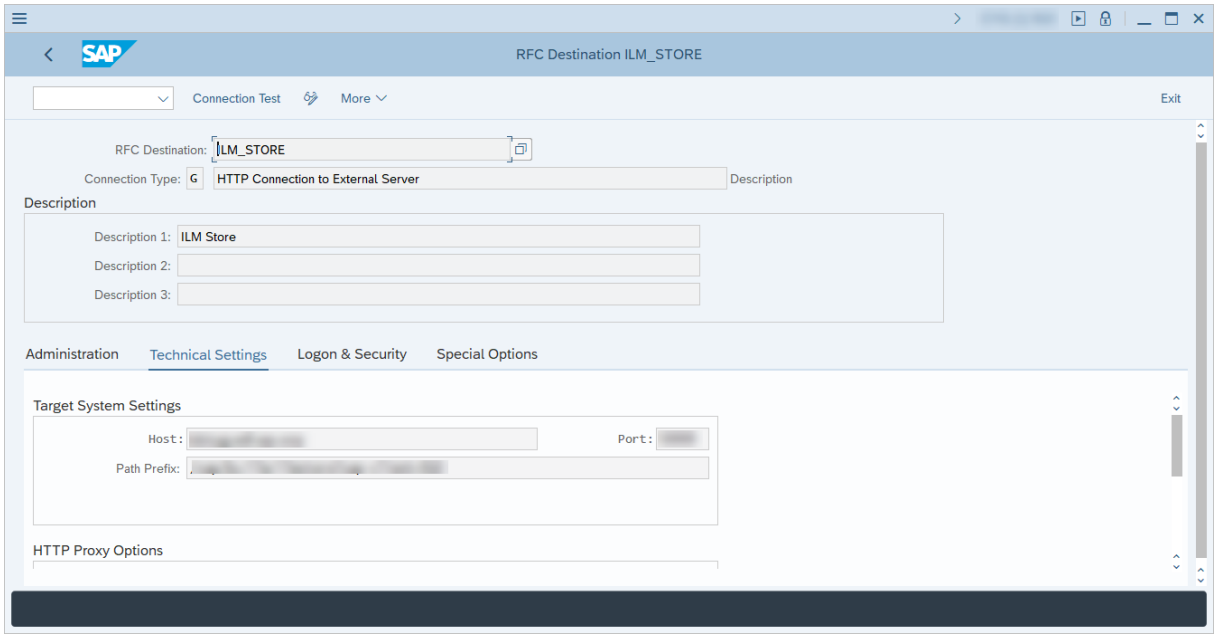

Figure 21: RFC for the ILM Store

> **Note**
>
> In case the SRS and the ILM Store are on two different systems, set up the RFC destination in the SRS system using the same procedure. The RFC destination in the ILM Store system is for testing purposes.

7 Testing the ILM Store Setup

After completing the setup, you must test the ILM Store.

7.1 Origin Designed for Testing Purposes

SAP offers a test origin called **ARCHEB**, which you can use to test the ILM Store configurations.

It is mandatory to use test reports to check the functionality of the ILM Store.

Follow the steps below:

1. Start transaction **SE38**.
2. Execute the report **RILM_STOR_TEST_COPY_ARCHEB**.
3. Enter the operational origin created in Activating the Internet Communication Framework (ICF) node for the ILM Store [page 23] and click on *Execute*.
4. When successful, the results should match fig. 21.

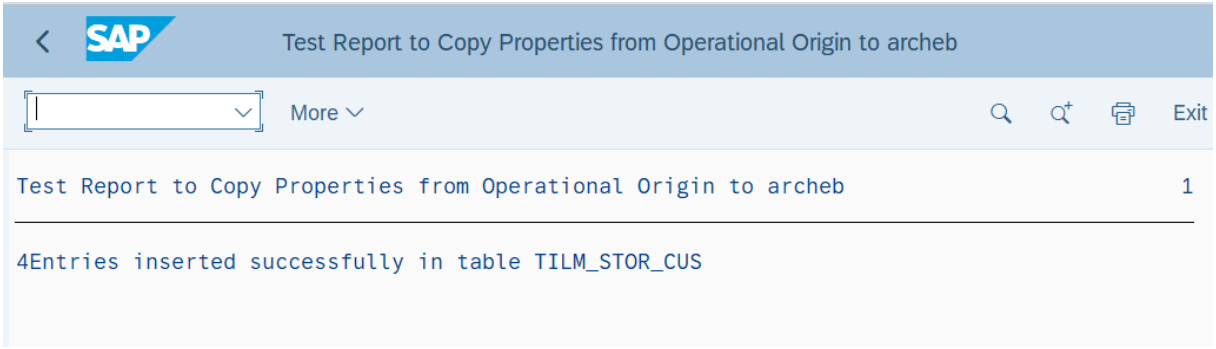

Figure 22: Test Result for Operational Origin **ARCHEB**

7.2 Test Reports

A set of reports are available to test the ILM Store setup and process.

7.2.1 Testing the Store Functionality

1. Start transaction **SE38**.
2. Execute report **RILM_STOR_TEST_PF_SINGLE**.

3. Enter the value of the RFC destination created earlier (see Creating a RFC Destination [page 24]) and click on *Execute*.
4. Compare the results to fig. 22.

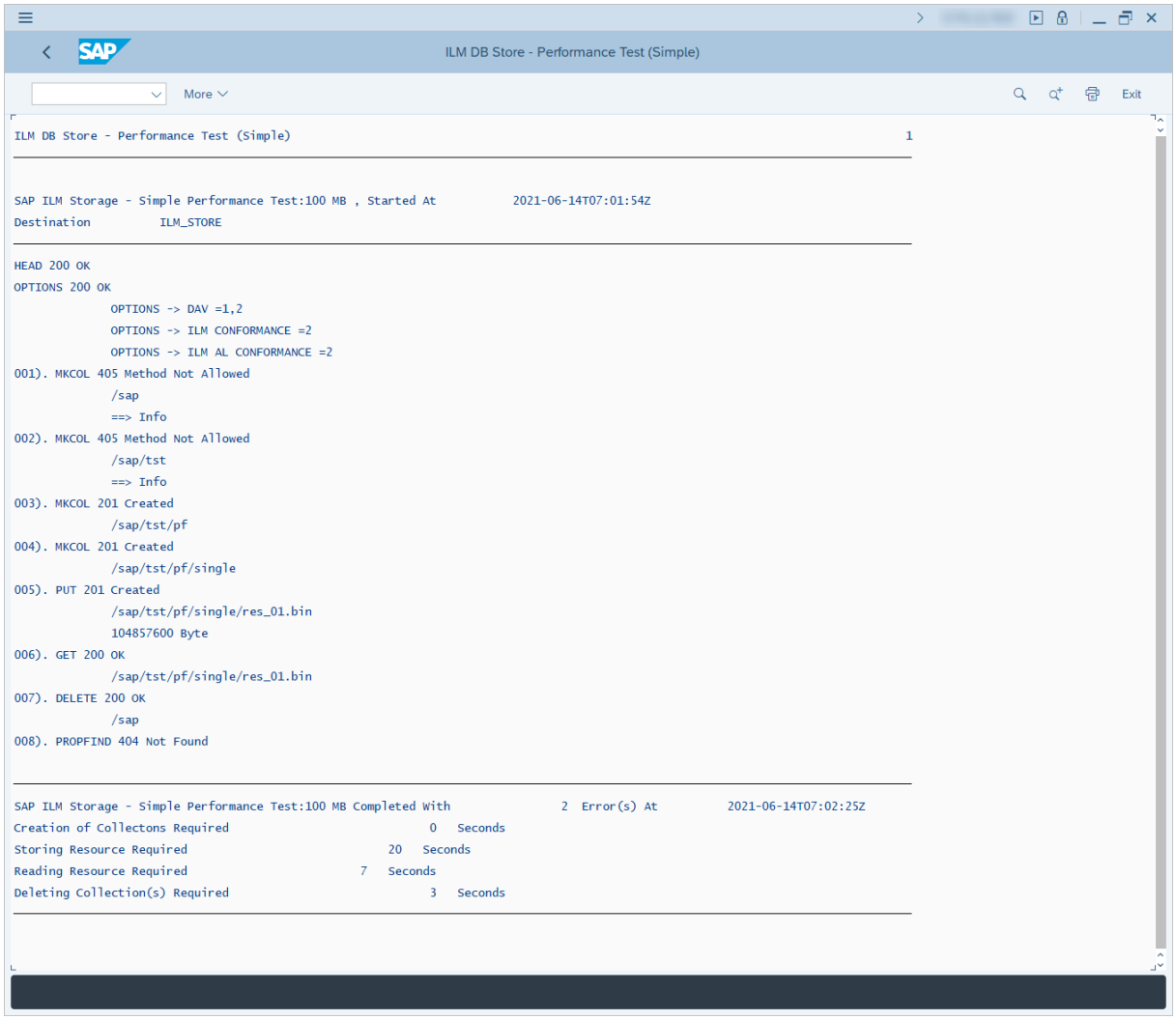

Figure 23: Expected Output for Report `RILM_STOR_TEST_PF_SINGLE`

7.2.2 Testing the ILM Store Customizing

1. Start transaction `SE38`.
2. Execute report `RILM_STOR_TEST_AT`.
3. Enter the RFC destination created earlier (see Creating a RFC Destination [page 24]) and click on *Execute*.
4. Compare the results to fig. 23.

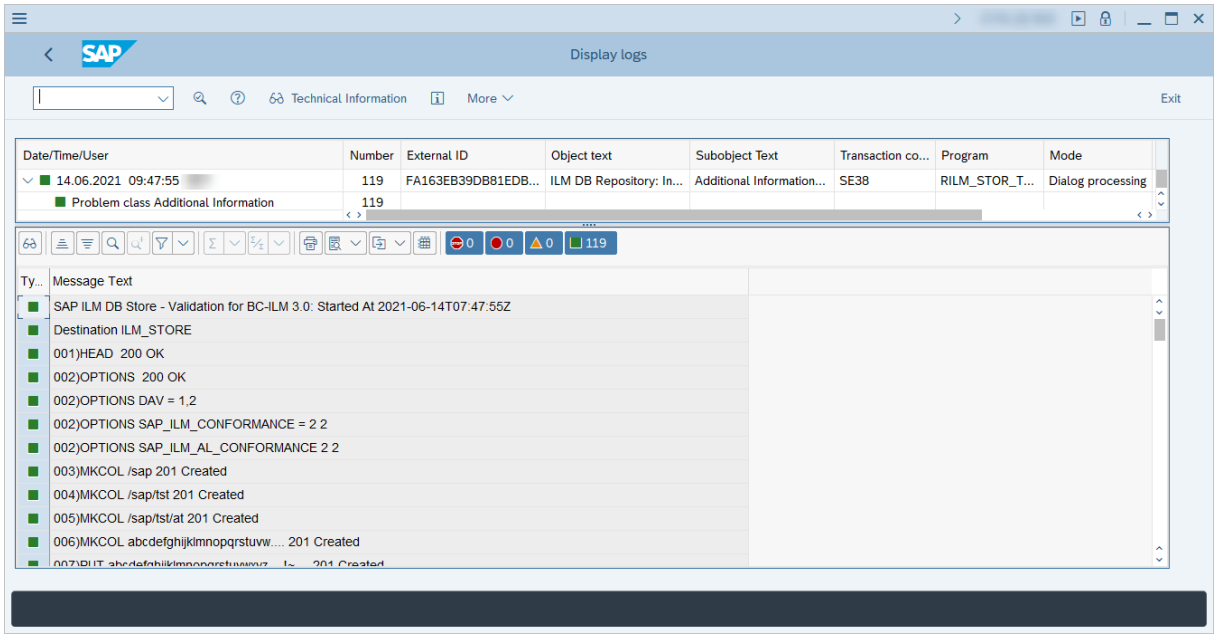

Figure 24: Expected Output for Report `RILM_STOR_TEST_AT`

7.3 Application Logs

The application log object for the ILM Store is `ILM_STOR`. Start transaction `SLG1` and enter the object `ILM_STOR` to see the logs of all operations performed in the store.

8 Storage and Retention Service (SRS)

The Storage and Retention Service (SRS) is needed to store ILM enabled archive files in the ILM Store.

To use the SRS for managing ILM Stores, you need to activate it in the application system.

8.1 Activating the SRS

To activate the SRS, the following options are available:

- Activate the SRS that runs locally in the application system.
- Activate the SRS that runs on a separate (remote) system. For this option, you need a HTTP connection between the relevant systems.

For more information, refer to the Installation and Configuration Guide for the ILM Store.

8.2 Creating an ILM Store with the SRS Administration

You can create ILM Stores which are further configured to connect to storage media linked via RFC connections. Follow the steps below:

1. Start transaction `ILMSTOREADM`.
2. Create a new entry.
3. Enter the values for the ILM Store:
   Name: an identifying name for the store
   Description: descriptive text
   HTTP Connection: the previously created RFC destination (see Creating a RFC Destination [page 24])
4. Save the changes (see fig. 24).

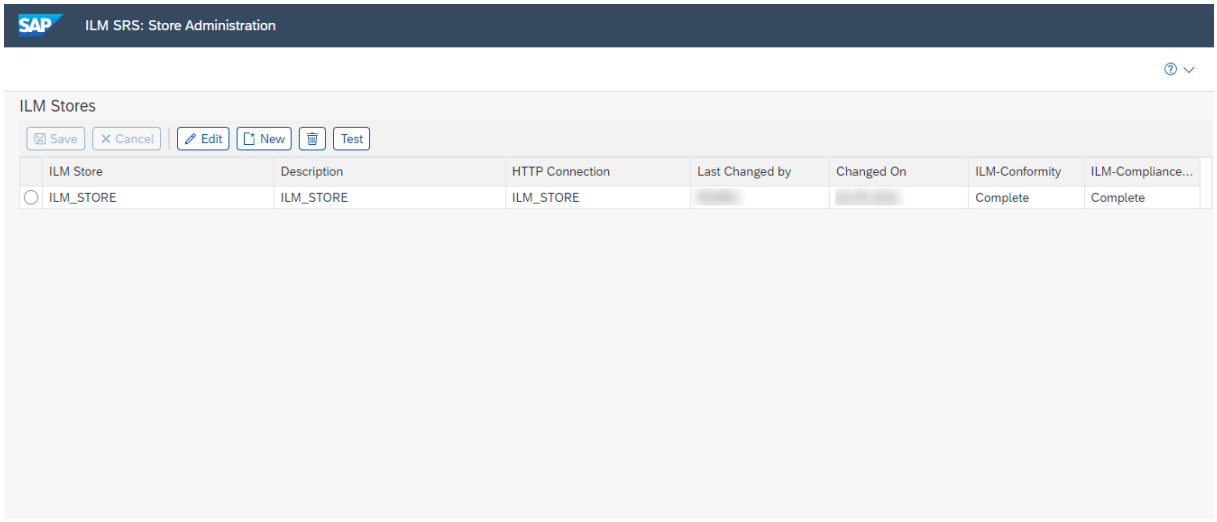

Figure 25: ILM Store Creation

This store can further be used for ILM rule maintenance in transaction `IRMPOL`. For more information, refer to Editing Retention Rules.

8.3 Troubleshooting

If you run into issues, access the troubleshooting blog to find a list of common issues.

For further support, report an incident in the application component `BC-ILM-STO`.

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