Customizing – Create a Data view

Extension of the tree structure with own views

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1. INTRODUCTION

By creating your own view, you can merge data from different tables and display it in a list. SQL knowledge is required to create your own view. Furthermore, a more intensive familiarization with the table structure of the Docusnap database is necessary.

In addition to creating your own views via the Customizing area, you can also implement your own queries with Docusnap Connect. The idea behind Docusnap Connect is to select and display specific data content via the user interface quickly and easily. SQL knowledge and in-depth knowledge of the Docusnap database are not a prerequisite here. Detailed information about Docusnap Connect can be found in a separate HowTo in the Knowledge Base - Docusnap Connect - Creating your own queries and exporting data.

For requirements that cannot be covered by Docusnap Connect, this document helps you to create your own view. It describes the possibility to create own views on the data of the Docusnap database in the tree structure. It is a guide for Microsoft SQL experienced system administrators.

2. PREPARATIONS

2.1 IDENTIFY DATA SOURCES

The first step is to identify the data sources (tables and columns) that you need within the view and familiarize yourself with them.

You can **manage** this in **Administration - Customizing - Manage Objects**.

This area contains the structure of the data tree. The data tree is built from meta objects of different categories. The two most common categories are **heading** and **dates**.

The relevant category for you is **data**. On the following screenshot you can see that for the objects of the category **Data** the field **Table** is filled - **tDocu**. In this case, this is the table in which the data of the snapshots of a system are stored.

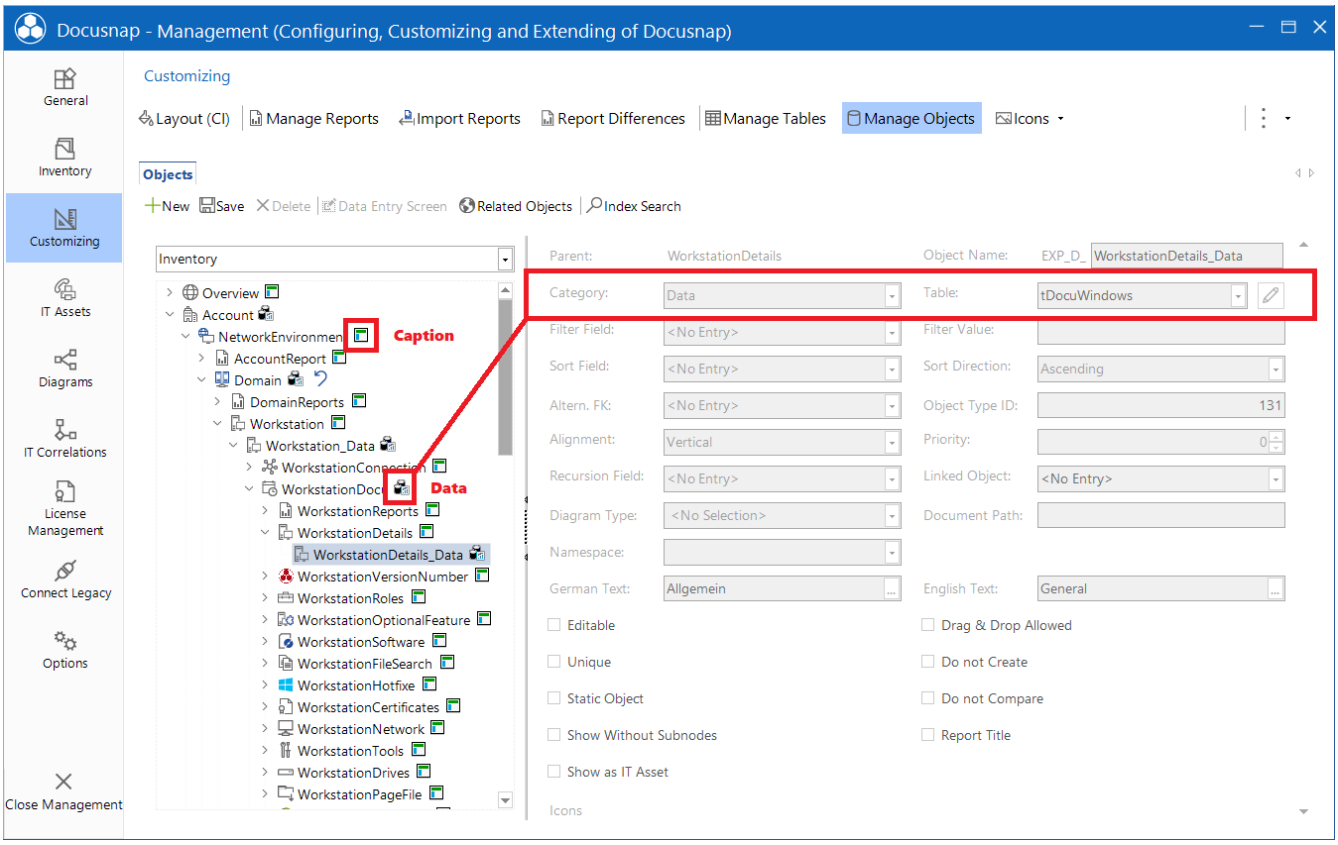

Fig. 1 - Docusnap data tree

Also check the tables for the following objects:

- Account — tAccounts
  - Domain — tDomains
    - Server_Data — tHosts
      - ServerDocu — tDocu
        - ServerDetails_Data — tDocuWindows

If you now look at these tables within SQL Management Studio, you will see the corresponding dependencies between them.

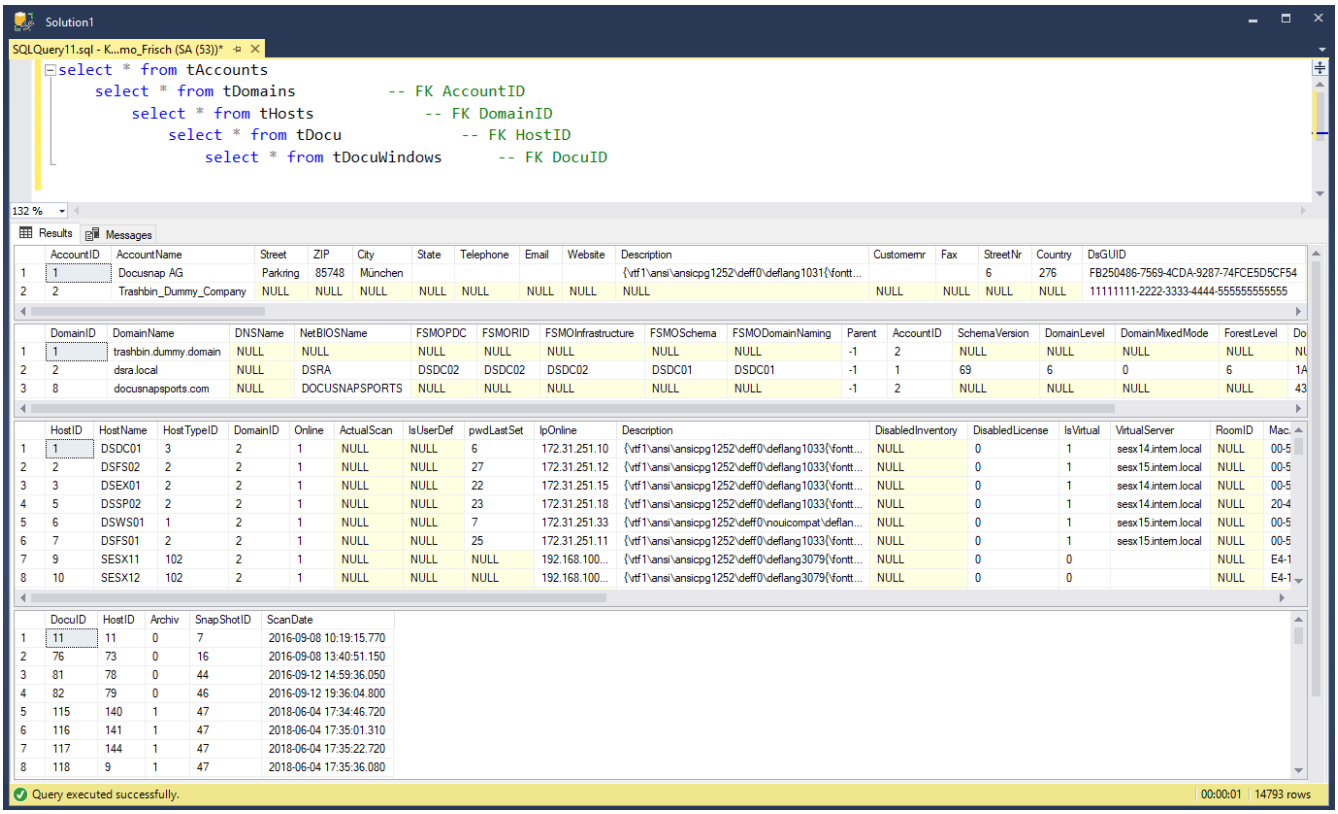

Fig. 2 - Analysis of tables in SSMS

2.2 CREATION OF AN SQL QUERY

In a view, an SQL query is required to determine the data.

This SQL query can be created, for example, with the Query Designer in SQL Management Studio.

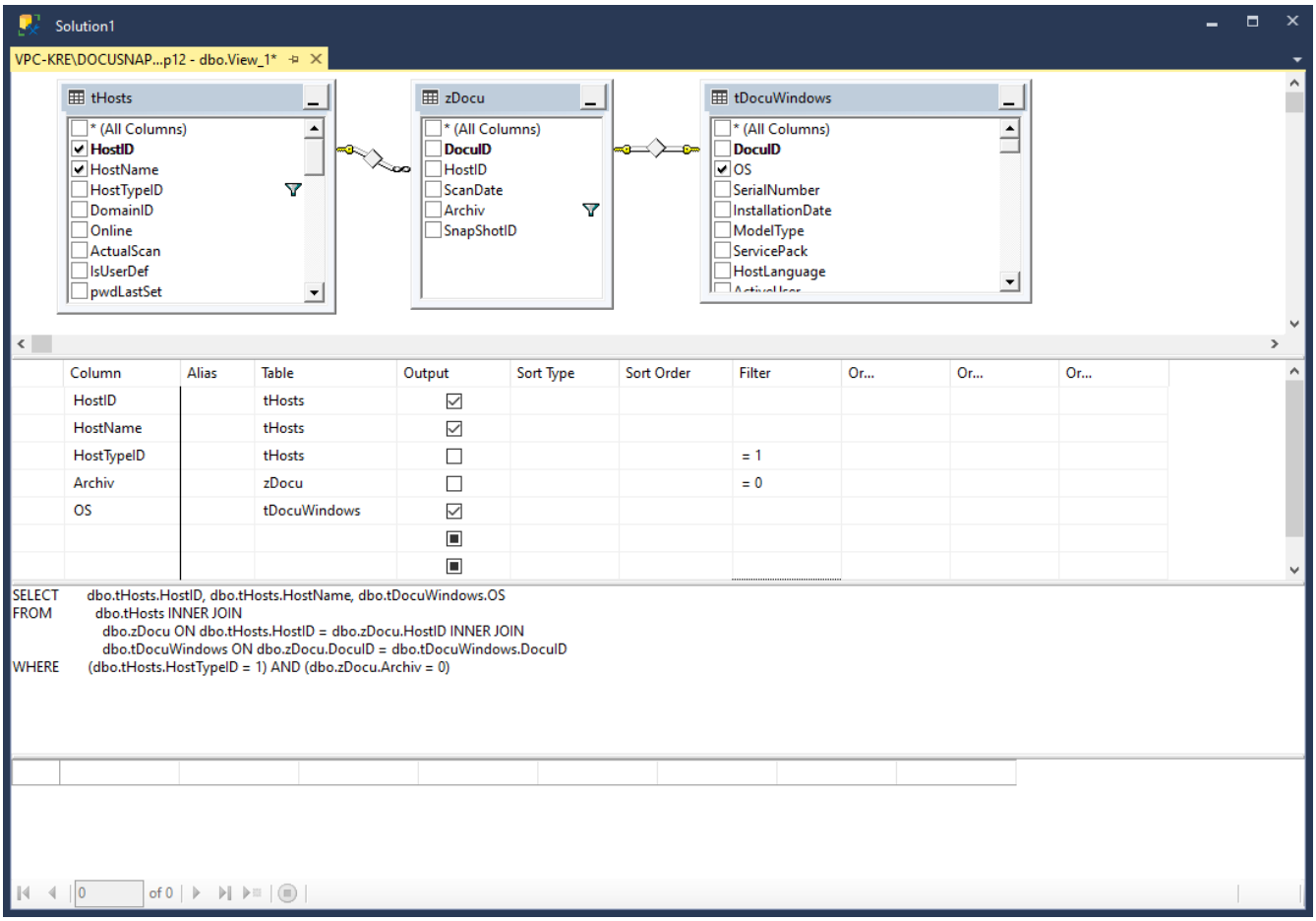

Fig. 3 - Query Designer

The tables required for the application example are

- tHosts contains information about the hosts inventoried (e.g. the host name)
- tDocuWindows contains general information about a host (e.g. the operating system)
- tDocu contains information about the different snapshots of the hosts

Since there can be several snapshots (inventoried) for one host, the query must be restricted to the most recent snapshot by WHERE tDocu.Archiv = 0. With the specification tHosts.HostTypeID = 1 only workstation will be selected.

An overview for the different host types can be found in the table tHostTypes.

2.3 OPTIMIZATION OF THE SQL QUERY

The SQL query generated by the Query Designer:

```
SELECT        tHosts.HostID, tHosts.HostName, tDocuWindows.OS
FROM            tHosts INNER JOIN
                         tDocu ON tHosts.HostID = tDocu.HostID INNER JOIN
                         tDocuWindows ON tDocu.DocuID = tDocuWindows.DocuID
WHERE        (tHosts.HostTypeID = 1) AND (tDocu.Archiv = 0)
```

can be optimized / made easier to read as follows:

```
SELECT tHosts.HostID, tHosts.HostName, tDocuWindows.OS
FROM tHosts
      INNER JOIN tDocu ON tHosts.HostID = tDocu.HostID
      INNER JOIN tDocuWindows ON tDocu.DocuID = tDocuWindows.DocuID
WHERE tHosts.HostTypeID = 1
      AND tDocu.Archiv = 0
```

2.4 LIMITING THE SQL QUERY

The SQL query determined so far covers all entries in the Docusnap database, regardless of whether they belong to a client or a domain.

To ensure that the view only contains the devices that belong to the respective area in the tree structure (e.g. a domain), the SQL query must be extended by AND tHosts.DomainID = {FilterID}.

Advanced SQL query:

```
SELECT tHosts.HostID, tHosts.HostName, tDocuWindows.OS
FROM tHosts
      INNER JOIN tDocu ON tHosts.HostID = tDocu.HostID
      INNER JOIN tDocuWindows ON tDocu.DocuID = tDocuWindows.DocuID
WHERE tHosts.HostTypeID = 1                                    -- Filtering on workstation
      AND tDocu.Archiv = 0                                     -- Filtering on last inventory
      AND tHosts.DomainID = {FilterID}                         -- Filtering on Domain
```

The FilterID is a Docusnap internal variable that can be used to restrict a query to the parent object in the tree structure. In the application example, the view is mounted below the domain, whereby the FilterID dynamically contains the value of the domainID of the respective domain where it is called.

If, for example, the view was to be integrated directly under a company, the FilterID would dynamically have the value of the AccountID under which it is located. A comparison of the AccountID of a company with the DomainID of a host leads to a faulty SQL query, which returns either no result or a wrong result.

If you want to integrate the view underneath the account, you would filter like this:

```
SELECT tHosts.HostID, tHosts.HostName, tDocuWindows.OS
FROM tHosts
      INNER JOIN tDocu ON tHosts.HostID = tDocu.HostID
      INNER JOIN tDocuWindows ON tDocu.DocuID = tDocuWindows.DocuID
      INNER JOIN tDomains ON tHosts.DomainID = tDomains.DomainID        -- join table tDomains
WHERE tHosts.HostTypeID = 1
      AND tDocu.Archiv = 0
      AND tDomains.AccountID = {FilterID}                               -- Filtering on Account
```

3. IMPLEMENTATION

3.1 VIEW APPLICATION

The new view can be created in Docusnap **Administration – Customizing – Manage Tables** using the New button.

The following information must be carried out:

- Table Type — View
- Tablename — The tablename is a combination of the namespace and the tablename
  xv
  HowToView
  WorkstationOS
- Primary key — cannot be selected until the fields are created
- Display field — cannot be selected until the fields are created
- German Name — *Arbeitsstationen mit Betriebssystem*
- English Name — *Workstations with OS*
- SQL statement — the actual SQL statement

After creating the view, the next step is to require the appropriate fields:

- HostID
- Hostname
- OS

Via the button Edit fields they can be created or added from other tables.

Adding fields from other tables means that you select and add the fields to display from existing tables or views. This saves time, especially if you are creating a richer view. In this case, you can add the fields from the tHosts and tDocuWindows table:

- tHosts
  - HostID
  - HostName
- tDocuWindows
  - OS

Alternatively, you can create the fields manually.

Field Name	Data type	German Name	English Name	Show field in lists	Show field in web client	Sorting	Display Length
HostID	Int	HostID	HostID	No	No	0	
HostName	String	Name	Name	And	And	10	200
THE	String	Operating system	Operating System	And	And	20	250

For more information on the available options, refer to the User's Guide, which you can access via the F1 key.

After creating the fields, the information regarding the primary key and the display field must be entered for the view. The primary key does not necessarily have to be unique. However, you should be careful to use a numeric value (INT, BigINT) as the primary key!

3.1.1 NAMESPACES

The namespace serves the assignment of the view, for example to a more extensive customizing. In this way, the view and the metaobjects to be created later can be related to each other. This is especially useful if a specific customizing is to be exported from a Docusnap environment.

3.2 CREATE CAPTION OBJECT

To display the view in the Docusnap tree, an object of type **Caption** must be created in **Customizing - Manage Objects**. The caption is included below the domain.

- To do this, click **New**
- Object Name - WorkstationOS_Header
- Category - Caption
- Namespace - View - Workstations with Operating System
- German Text - Arbeitsstationen mit Betriebssystem
- English Text - Workstations with OS
- In the Icons area, you can store a standard icon (16x16) and a preview icon (100x100)
  - You can download an icon pack in our community

For more information on the additional options available, refer to the User's Guide, which you can access via the F1 key.

3.3 CREATE DATA OBJECT

The next step is to create a new metaobject of type Data.

- To do this, click **New**
- Object Name - WorkstationOS_Data
- Category - Data
- Table - xvWorkstationOS
- Sort Field - Hostname
- Namespace - View - Workstations with Operating System
- German Text - Arbeitsstationen mit Betriebssystem
- English Text - Workstations with OS
- Re-enter the icons

3.4 USING THE VIEW IN DOCUSNAP CONNECT

If you now want to use the view in a Docusnap Connect package, you will receive the following error message:

Cannot connect to parent table. Please insert the foreign key 'DomainID' for the customized table 'xvWorkstationOS' (EXP_U_WorkstationOS_Data)!

In this case, the foreign key is the DomainID (tHosts.DomainID) since the view was included under the domain – see chapter Limiting the sql query. The foreign key – tHosts.DomainID – simply must be queried within the view. Adapt the SQL statement to the previously created view. The view can then be used in Docusnap Connect.

```
SELECT tHosts.HostID, tHosts.HostName, tDocuWindows.OS, tHosts.DomainID
FROM tHosts
      INNER JOIN tDocu ON tHosts.HostID = tDocu.HostID
      INNER JOIN tDocuWindows ON tDocu.DocuID = tDocuWindows.DocuID
WHERE tHosts.HostTypeID = 1
      AND tDocu.Archiv = 0
      AND tHosts.DomainID = {FilterID}
```

LIST OF FIGURES

VERSION HISTORY

Date	Description
April 29, 2020	Version 2.0 - Revision of the HowTos for Docusnap 11
November 30, 2022	Version 2.1 - Adding the namespaces during creation / New chapter Using the view in Docusnap Connect
January 11, 2023	Version 3.0 – Revision of the HowTo for Docusnap 12
April 28, 2025	Version 3.1 - Chapter 4 removed - Docusnap Connect Views can no longer be used