Customizing

Extension of the database structure

TITLE	Customizing
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CONTENTS

1. INTRODUCTION

Customizing in Docusnap means customizing and creating your own reports, extending the database and tree structure (metaobjects) and input masks.

This HowTo is dedicated to the extension of the database structure and the associated extension of the input masks and metaobjects.

The database structure can be extended for existing tables with new fields and with new tables.

Adjustments to the database structure must be made in Docusnap. If the adjustments are made directly to the database, the changes will not be visible or usable in Docusnap!

Adaptations to the database structure are usually completed with an extension of metaobjects (extension of the tree structure) and input masks.

Customizations to the database structure and metaobjects are stored directly in the database and in the metaschema of Docusnap. This metaschema can be understood as a directory of existing tables, columns and metaobjects. By exporting this metaschema, customized database structures and metaobjects can be exported / imported. The export of a metaschema is done in the file type .DSU.

Input masks are available as files. Customized or newly created input masks can be found within the system paths - Local / Team Settings, in the subfolder DataEdit. Input masks have the file extension .DEU.

Chapter 2 describes the present Docusnap database structure. Here you will learn how to find the names of used tables in Docusnap. This way you will identify the tables that you may want to extend with your own fields. Furthermore, Chapter 2 describes the structure of the data tree as well as input masks.

Chapter 3 describes how to extend an existing table with new fields and how to adjust the input mask.

In Chapter 4 you will learn how to create a new table with associated fields.

In Chapter 5 you will learn how to map an M:N connection by extending the database.

In chapter 6 you will find the icon collection.

2. PRINCIPLES

2.1 DATABASE STRUCTURE

Docusnap uses a classic relational database model. All values that you find in Docusnap either by inventory or manually are stored in tables in the database. The tables have relationships to each other. Besides tables, views and virtual tables also exist in Docusnap's metaschema.

In this HowTo we dedicate ourselves to tables. For creating your own SQL views in Docusnap you can find a corresponding HowTo in our Knowledge Base.

Part of the tables are the corresponding data fields. These data fields can have different data types, e.g. text, numbers, dates, Boolean (Yes / No) etc.

All available tables can be found in Administration - Customizing - Manage tables.

It is important to know that Docusnap distinguishes between static and dynamic data. Extensions to tables where dynamic data is available makes no sense! These data are no longer available after x inventories and an input mask can also not be adapted, because none exists.

Dynamic data

Dynamic data is data that is available through inventories in Docusnap. This data is no longer available after a quantity of inventories (default 4) that you set. Dynamic data is available "below a snapshot". Performed customizations, specifically manually maintained values, are no longer available after X inventories have been performed.

Static data

Static data is available independently of inventories in Docusnap. The data must be adjusted or deleted manually. Static data is available "above the snapshot". You can make adjustments to the tables used, these adjustments, e.g. manually added information, remain even after X inventories have been performed.

2.2 STRUCTURE OF THE DATA TREE

The data tree is constructed using metaobjects. Metaobjects can exist in various categories. The most frequently used categories are **captions** and **data**.

The heading serves as a placeholder / categorization, for the subsequent data. Data requires a table, which can also be called a data source. The data source can also be an SQL view. The metaobject is linked to a data source by selecting it.

You can view the structure of the data tree in detail in Administration:

- Administration - Customizing - Manage objects

More information about metaobjects can be found in our configuration manual. Press the F1 button within the administration (assuming an active internet connection).

2.3 STRUCTURE OF INPUT MASKS

Input masks are used to manually adjust or add information and are linked to a meta object. The meta object is linked to a table. For a metaobject the option **Editable** must be active, so that an input mask can be created or is available by default. You will only find input masks for static data!

You can open an input mask by clicking the Input mask button after selecting a corresponding meta object.

Input masks provide different **controls** that are available within the **toolbox**. If a new input mask is created, you should always add a control of type **Layout Control** first - this simplifies the creation of the input mask considerably!

Following to the layout control element, add the appropriate controls to the input mask. The controls to use depend on what data fields are available in the linked table - text field, date, check boxes, etc.

After selecting a control, it is linked to the column from the corresponding table via **Properties - Fieldname**.

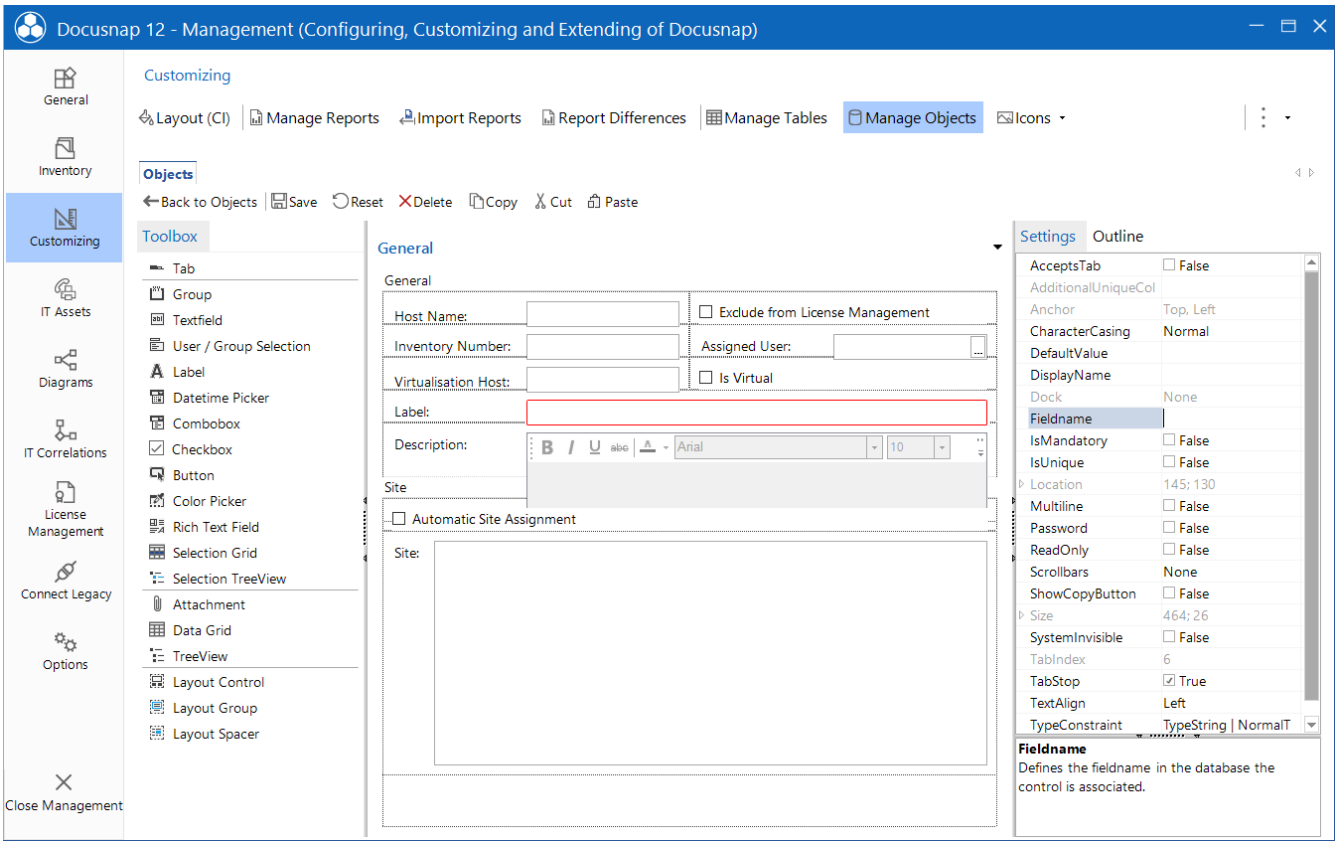

Figure 1 - Linking a control to the data field

2.4 IDENTIFYING TABLES IN USE

If you want to extend an existing table with your own fields, it is necessary to identify the used table.

You can do this within Administration - Customizing - Manage objects.

The relevant category in this case is **Data**. On the following screenshot you can see that for the objects of the **Data** category the **Table** field is filled - **tHosts**. In this case, this is the table where all systems (Windows, Linux, Mac, SNMP, etc.) are stored. This table will be extended with additional fields in the next chapter.

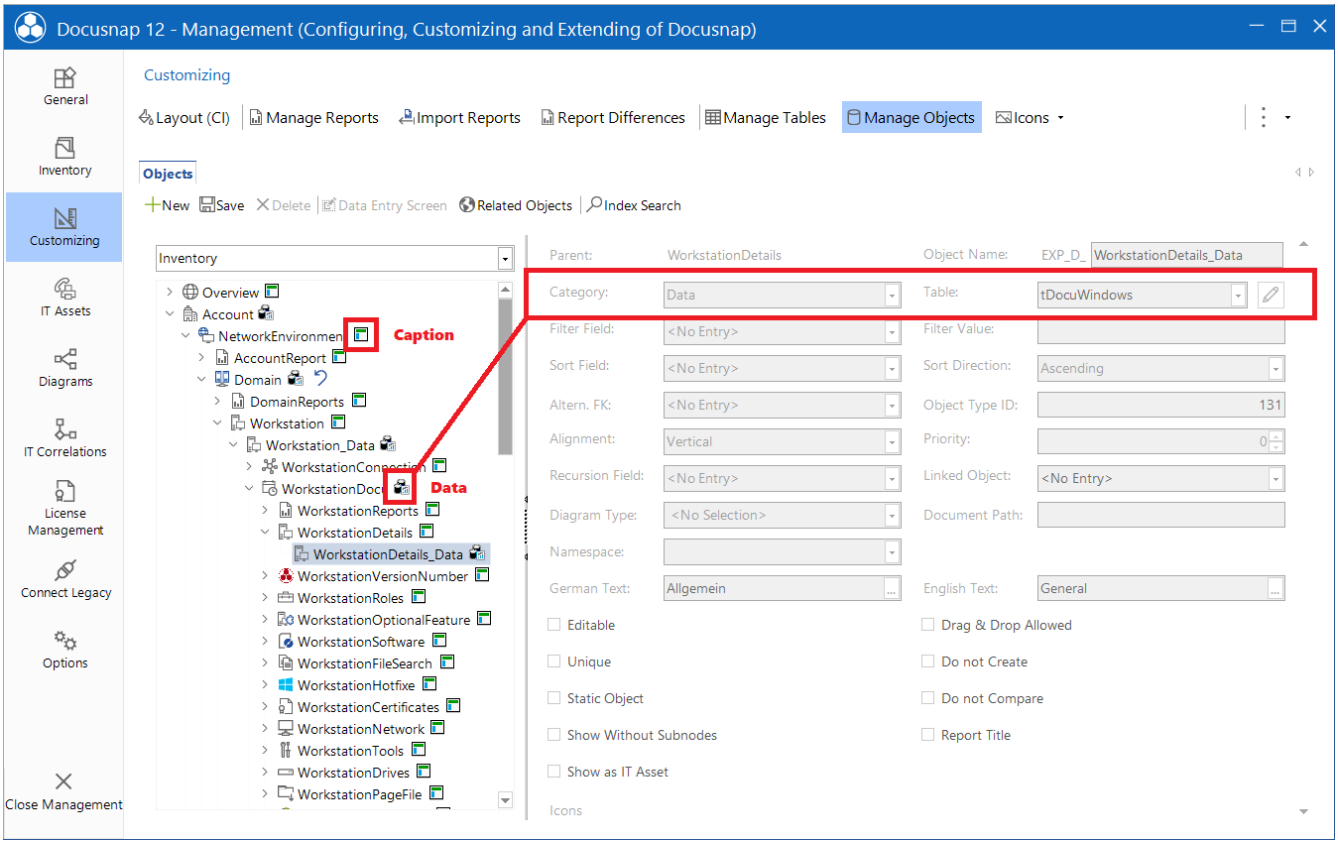

Figure 2 - Docusnap data tree

3. EXTEND EXISTING TABLES

This chapter describes how to add new fields to existing tables and how to extend the input mask by these fields.

As an example, information about the purchase price, date and warranty end of a device is to be stored. For this purpose, the following fields are added.

- Purchase price Type: Decimal
- Purchase date Type: Date
- Warranty end Type: Date

3.1 EXTEND EXISTING TABLES WITH OWN FIELDS - Weiter GEHT'S!!!!!!!

The first step in extending a table with additional fields is to identify the table. In this course it must also be checked whether the extension is possible or reasonable - keyword dynamic and static data.

In the previous chapter (2.4) the table was already identified - **tHosts**.

The new fields will be added in

- Administration - Customizing - Manage tables.

In the left pane - **Tables** - the table can be searched by using the filter. After selecting the table, in the right pane - click **Edit Fields** - all the available fields are displayed, and new ones can be added.

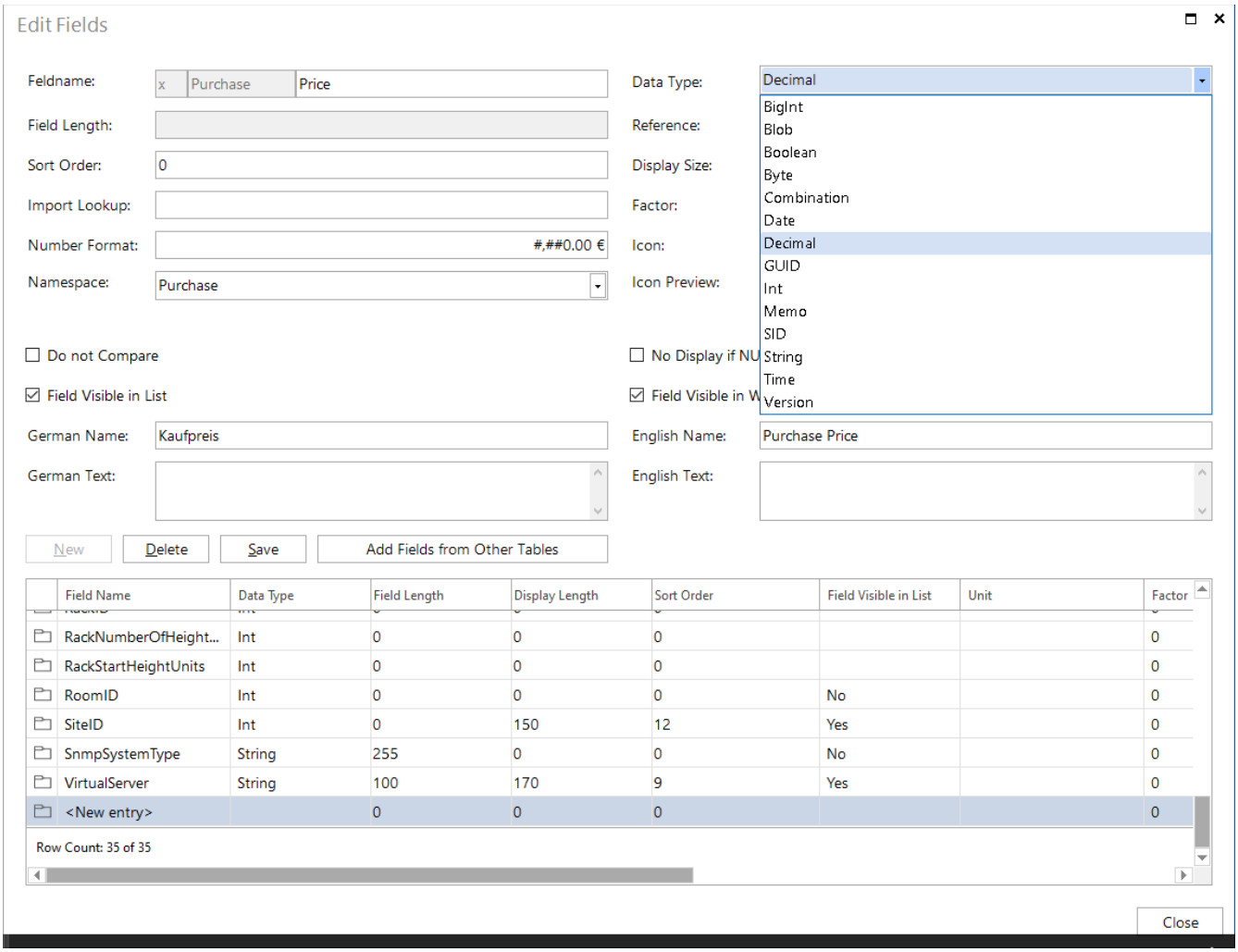

Figure 3 - Adding new fields

All newly added fields as well as tables are marked with a beginning "x". The data type tells which data the field accepts. The descriptions of the available data types can be found by pressing the F1 key.

In the previous screenshot, the purchase price (xPurchasePrice) has been added. A special number format has been added to this field, which formats the entered number in the data area as a purchase price with currency: #,##0.00 €.

The following fields should also be noted:

- **Display size:** Specifies the column width in the data area - good guideline is 150.
- **Display field in lists:** Specifies whether the field is displayed in the data area.
- **Show field in web client:** Specifies whether the field is displayed by default in the web client
- **Reference:** Is needed to resolve initial values. More about this in chapter 4.3

Create the fields with the following specifications:

Field name	Data type	German name	English Name	Other	Namespace
PurchasePrice	Decimal	Kaufpreis	Purchase Price	Number format: #,##0.00 €	Purchase
PurchaseDate	Date	Kaufdatum	Purchase Date		Purchase
WarrantyEnd	Date	Garantieende	Warranty End		Purchase

3.1.1 NAMESPACES

The namespace is used to assign tables, fields and views, for example to a more extensive customizing. In this way, all tables, fields and views used for a specific customizing can be related to each other. This is especially useful when a specific customizing is to be exported from a Docusnap environment.

3.2 EXTENDING THE INPUT MASK

Now that the fields have been added to the database, the input mask must also be extended. This must be done for each input mask of the specific system types.

To customize the input masks, go to **Administration - Customizing - Manage objects**. Navigate to the object **Workstation_Data** and select **Data Entry Screen**.

Three new controls are needed - the controls are displayed on the left side below **Toolbox**.

- 2x date / time selection
- 1x text field

Drag and drop the controls into the input mask. A label and the actual control will be added automatically.

Make the following settings for the labels - select the label and switch to the Settings.

Control type	TextDE	TextEN	Width
Textfield	Kaufpreis	Purchase Price	50
Datetime Picker	Kaufdatum	Purchase Date	50
Datetime Picker	Garantieende	Warranty End	50

Width determines the width of the new element in % of the total width of the input mask. This way two elements are displayed side by side.

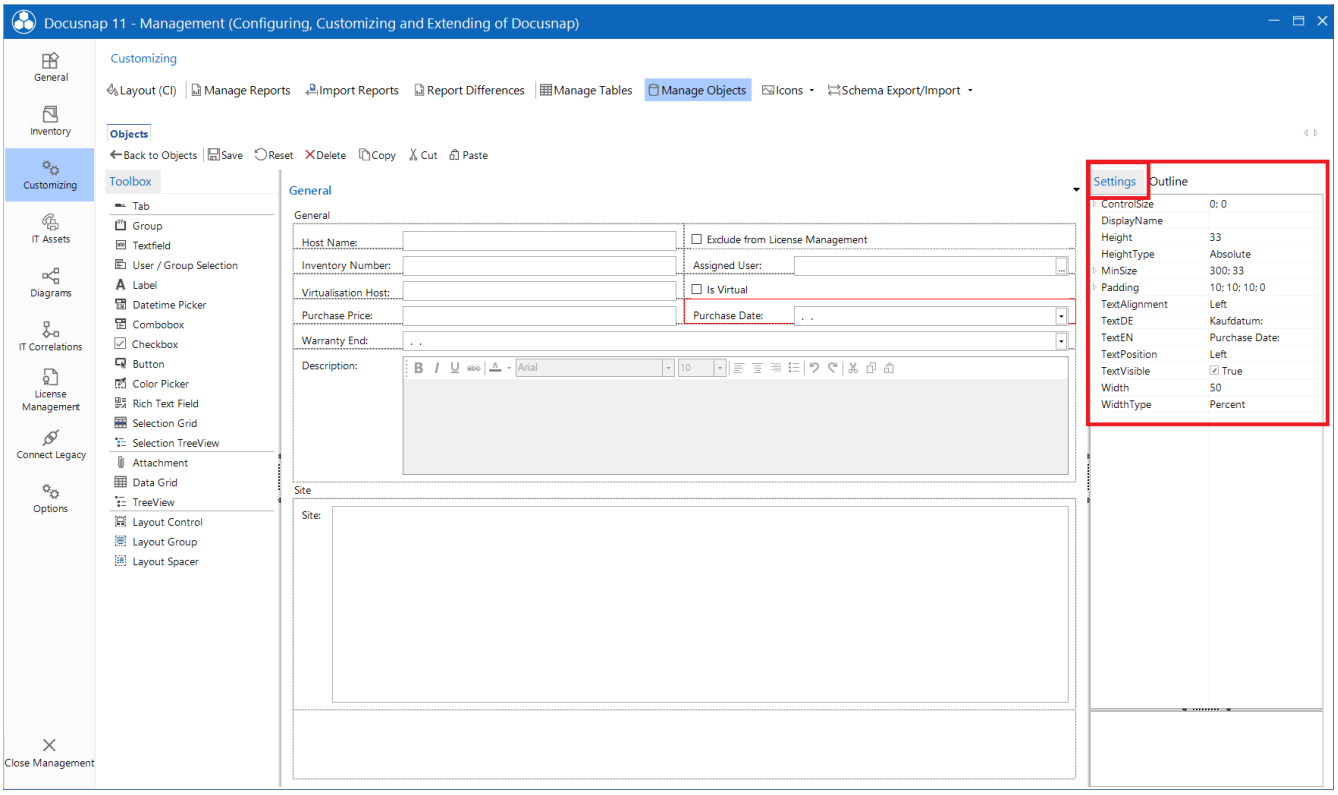

Figure 4 - Extending input mask

In the next step, the actual controls must be configured - this means that the controls are bound to the previously created fields.

Select the **text field / datetime picker - properties** and enter the fieldnames. Make sure that the previously created fields always start with "x".

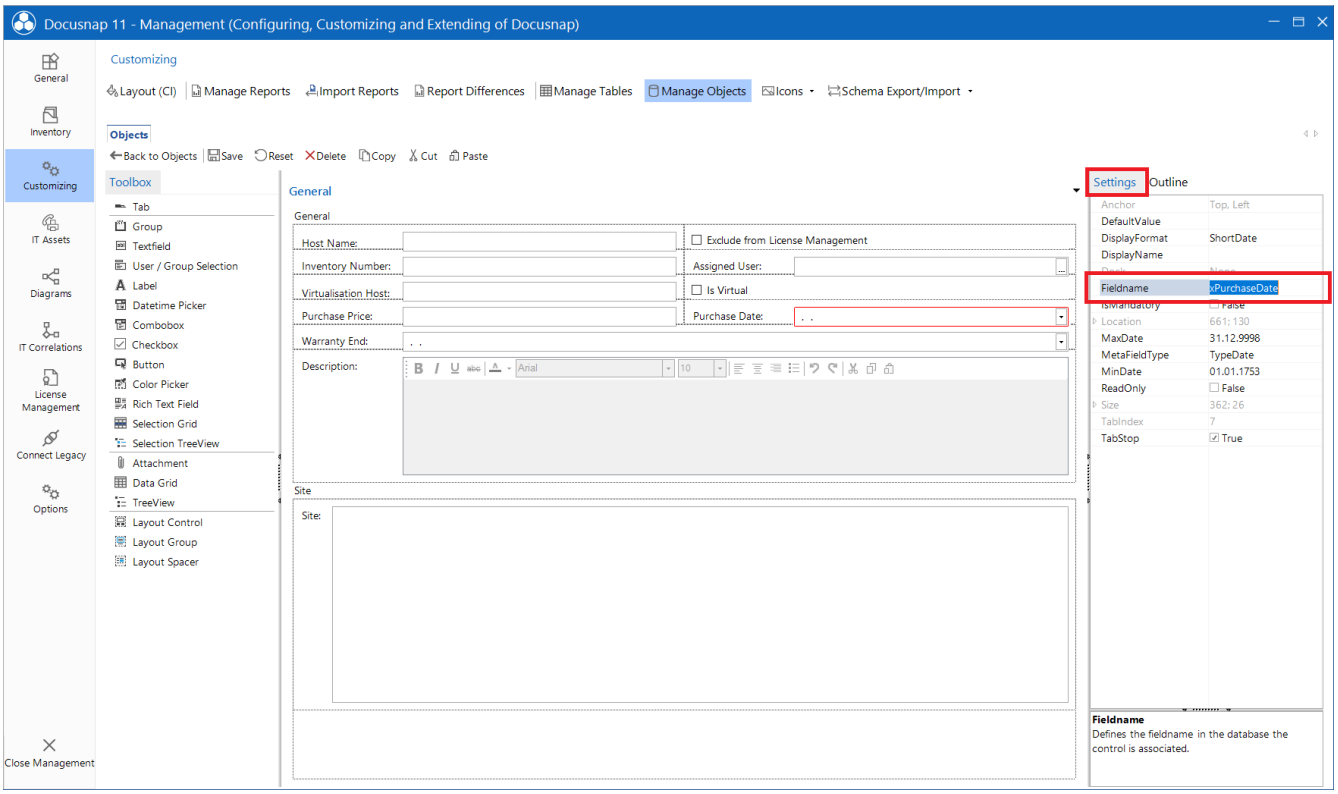

Figure 5 - Expand Input Mask - Bind Control to Field

After the adjustments have been made, save the input mask in the upper left corner.

You can now transfer the newly created controls to the other input masks using Copy / Paste. To do this, select the elements you have created while holding the CTRL key and copy them using CTRL + C. Now switch to the next input mask and insert the elements here using CTRL + V.

3.3 RESULT OF CUSTOMIZATION

Switch to the main interface of Docusnap, to the workstations. Here you will first see the new fields in the data area:

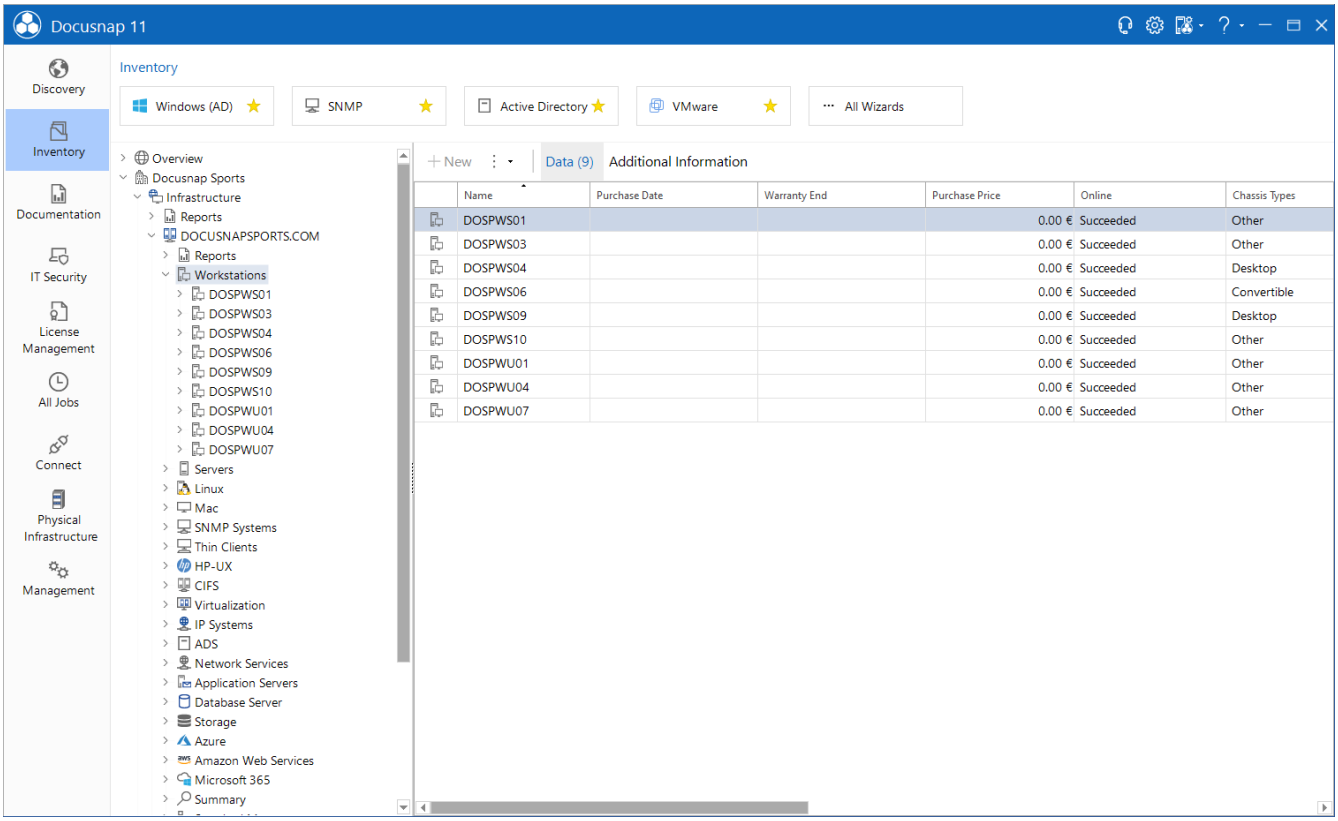

Figure 6 - newly added fields in the data area

If you now switch to the editor of a selected workstation, you will see the adjustments to the input mask. In the following figure, the Warranty End field is grayed out. This means that the binding of the control to the related field in the database is not correct - you will not have stored the field name correctly.

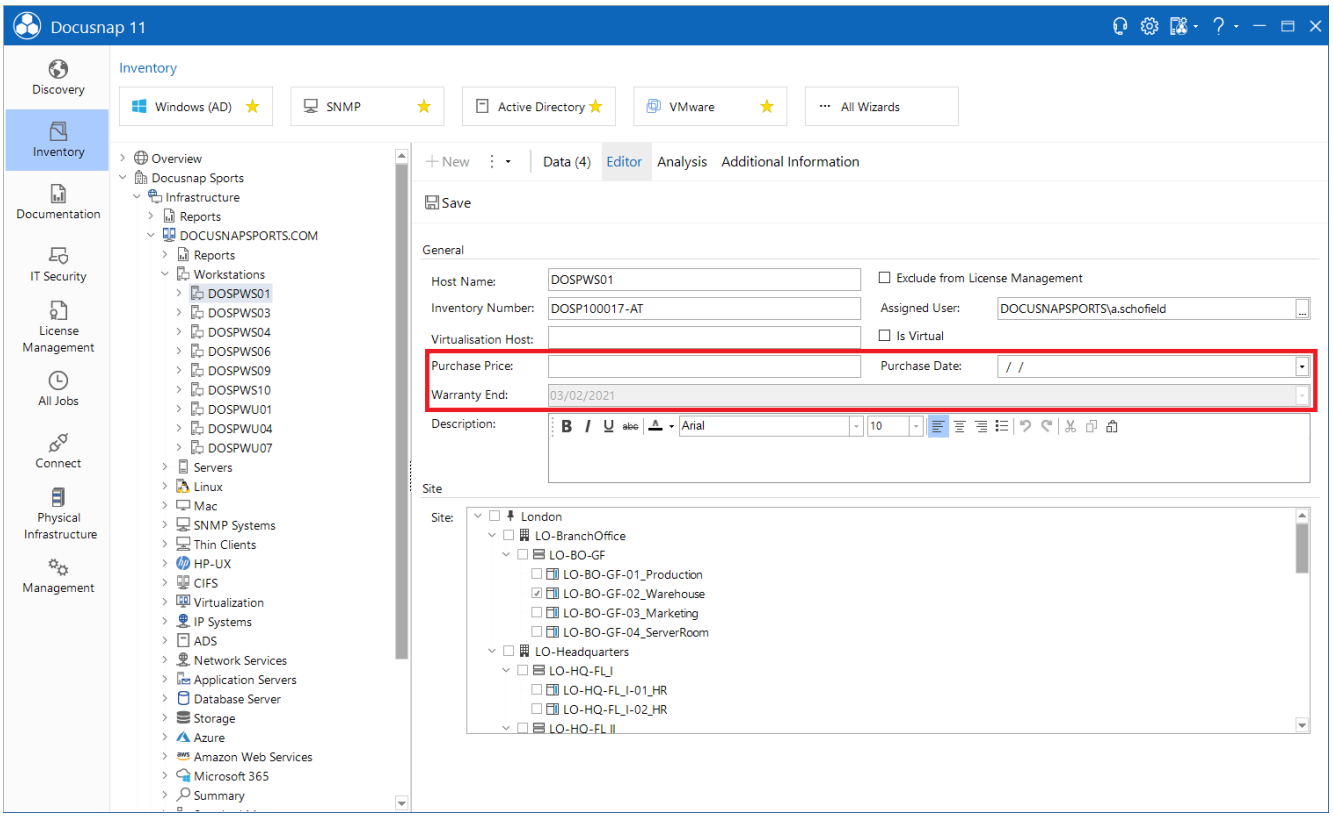

Figure 7 - Newly added fields in the input mask

3.4 SPECIAL CASES

The previous figure shows the data area of the Windows workstations. This data area is identical for the other system types - if the tHosts table is used as data source here.

This is not the case for SNMP and IP systems. If you check the data sources of these system types in Administration - Customizing - Manage Objects, you will find that the following are used:

- SNMP: vSNMPHosts
- IP systems: vIpHosts

In this case, you still need to add the new fields from the tHosts table to the views listed above.

To do this, go to Administration - Customizing - Manage Tables and filter on the two views. Here you will see that the primary table is tHosts.

Choose Edit Fields - Add Fields from Other Tables - Search for Table tHosts and select the three new columns and save. Do this steps for both views.

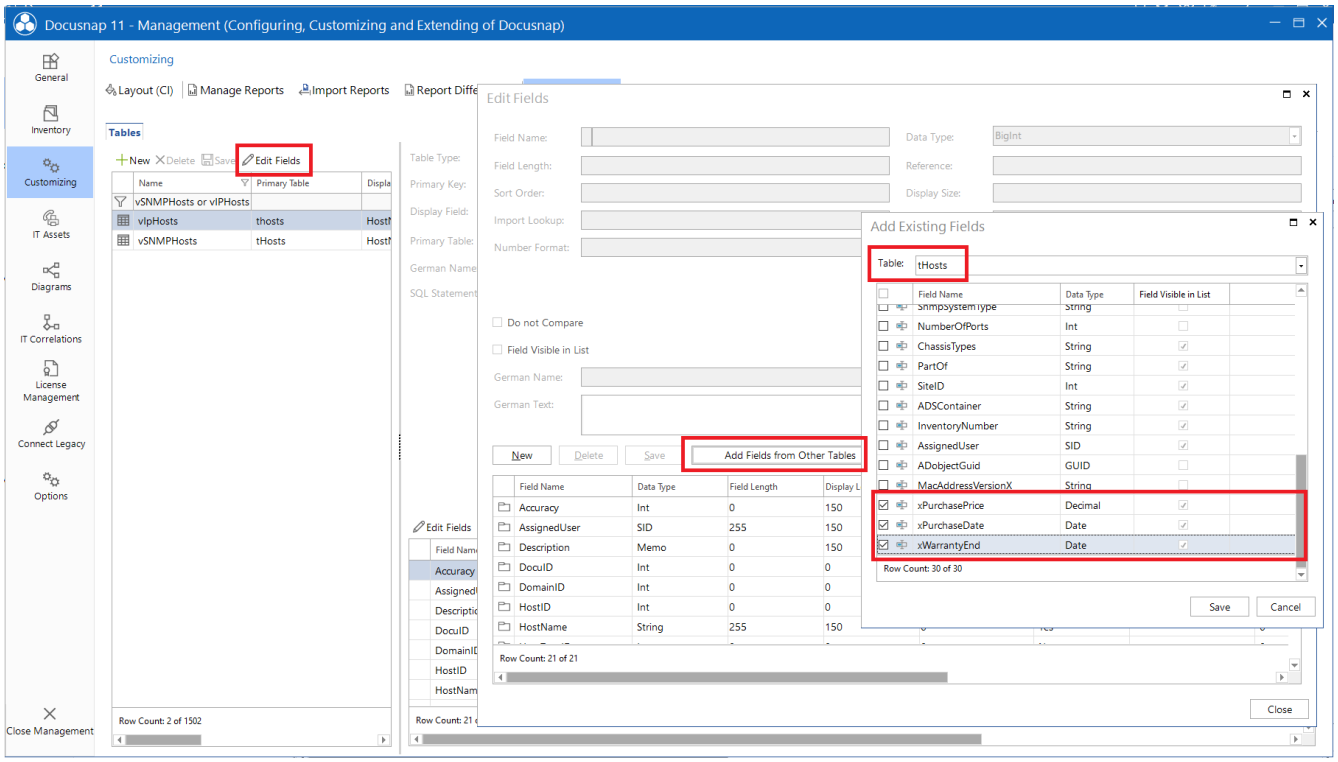

Figure 8 - Extend the used views with the new fields

4. CREATING NEW TABLES

This chapter describes how to create a new table, with associated fields, metaobjects and input masks.

Suppliers are to be maintained within the table. Finally, these suppliers are to be stored with the devices via a selection list.

4.1 CREATING A NEW TABLE

The first step is to create the table. To do this, go to Administration - Customizing - Manage tables.

Create a new table (xt)**Supplier**. Also store a name in German and English.

Then create the following fields in the table:

Field Name	Data Type	German Name	English Name	Others
Supplier	String	Lieferant	Supplier	
CustomerNumber	String	Kundennummer	Customer Number	
Contact	String	Kontakt	Contact	
Phone	String	Telefon	Phone	
Email	String	E-Mail	E-Mail	
AccountID	Int	AccountID	AccountID	Field Visible in List: No

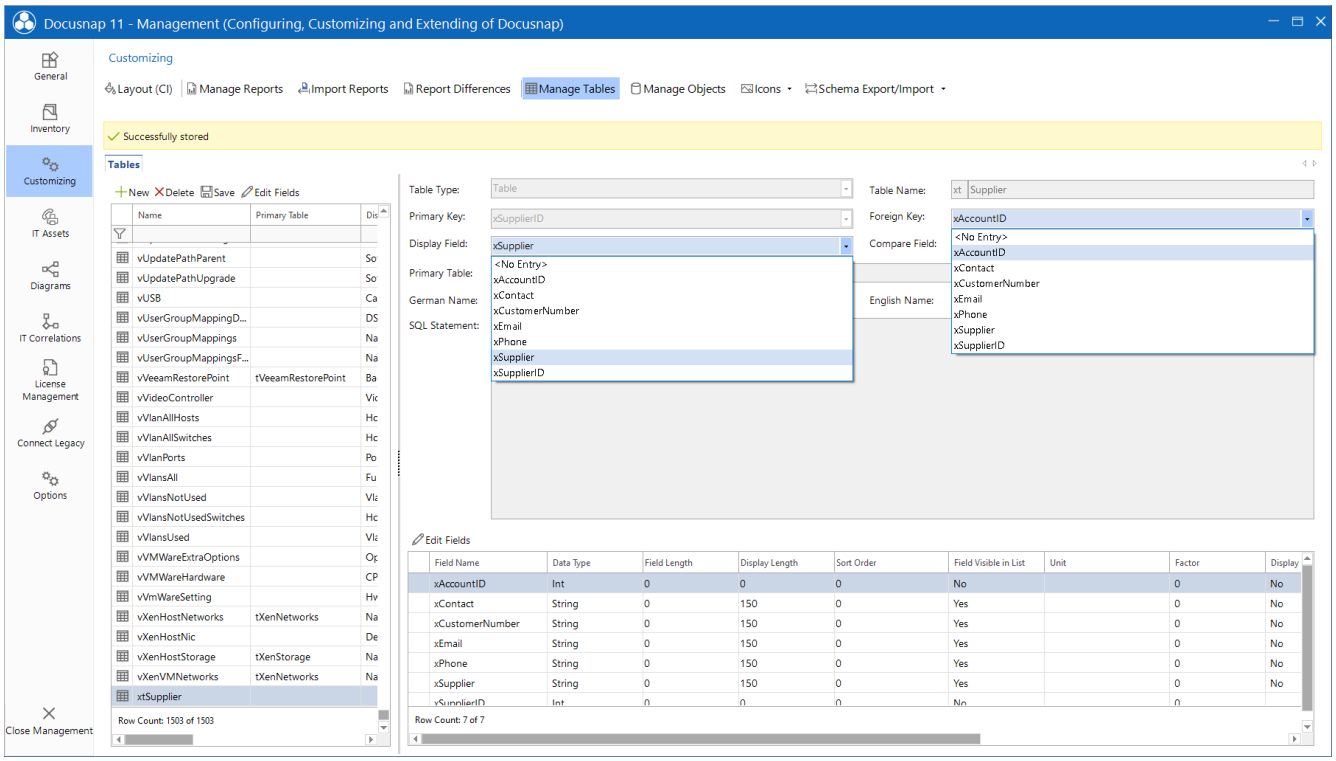

Figure 9 - Create new table and fields

After the fields have been created in the table, in the are Metatables, still select the **display field: xSupplier** and the **foreign key: xAccountID**.

Foreign key:

The foreign key establishes a relationship with another table. In Docusnap, the foreign key is mainly used to map the hierarchy within the data tree (metaobjects). The suppliers will be built in and maintained in the Organization section in the next chapter. The next higher data object in this case is the company (tAccounts with the primary key AccountID). If a new supplier is now created, the AccountID of the client is automatically transferred and entered.

This way it is also ensured that suppliers for client A are not displayed below client B if you have several clients in the database.

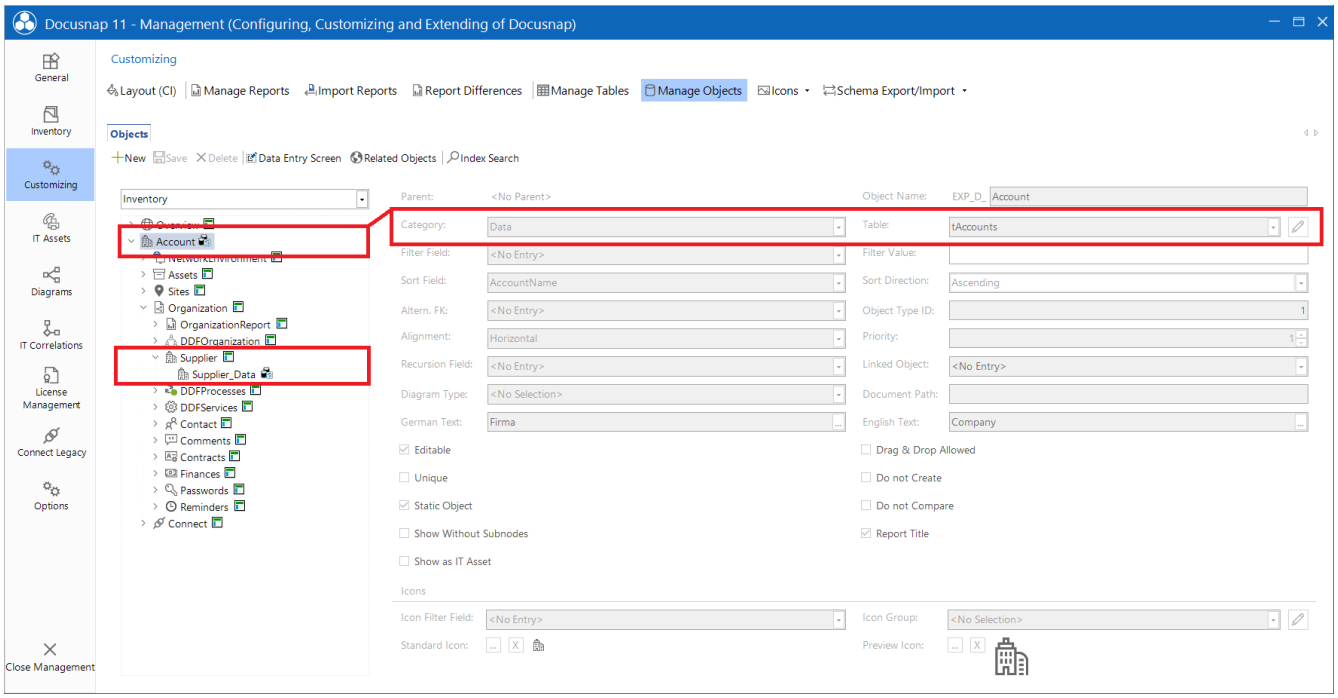

Figure 10 - Data Tree - Hierarchy

4.2 CREATING THE META OBJECT - INTEGRATING INTO THE DATA TREE

The next step is to extend the data tree. For this purpose, two new metaobjects are required. To do this, go to Administration - Customizing - Manage objects.

Navigate to the Organization metaobject (Inventory - Account).

Create two new objects with the following properties:

- Object name: Supplier
- Category: Caption
- Text German: Lieferanten
- Text English: Supplier
- Static object
- Display without subnodes
- Standard Icon - 16x16 - png
- Preview Icon - 100x100 - png

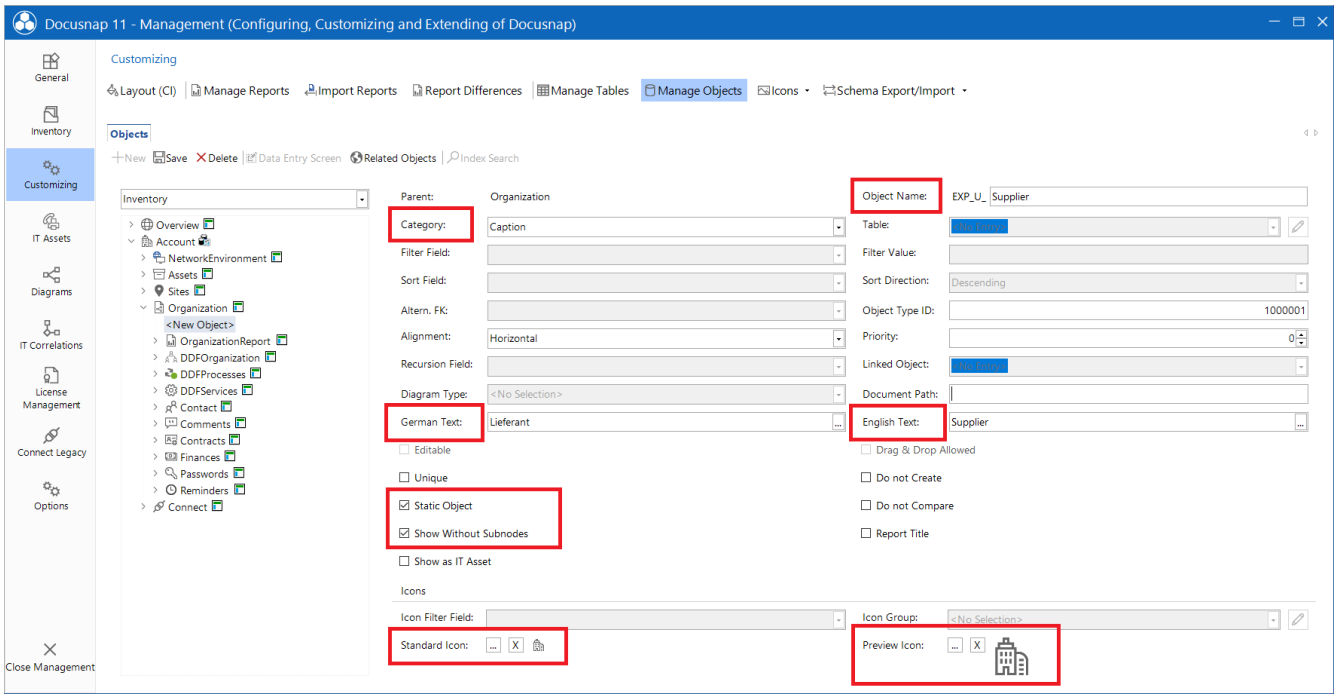

Figure 11 - Creating the meta object I

Static object: If an object is marked as a static object, additional information (comments, contracts, etc.) can be linked to it.

Display without subnodes: This value specifies whether the object is displayed if no data follows below it. Since the data for the suppliers is stored manually, this option must be activated.

- Object name: Supplier_Data
- Category: Data
- Table: xtSupplier
- Sort field: xSupplier
- Editable
- Static object
- Text German: Lieferant
- Text English: Supplier
- Standard Icon - 16x16 - png
- Preview Icon - 100x100 - png

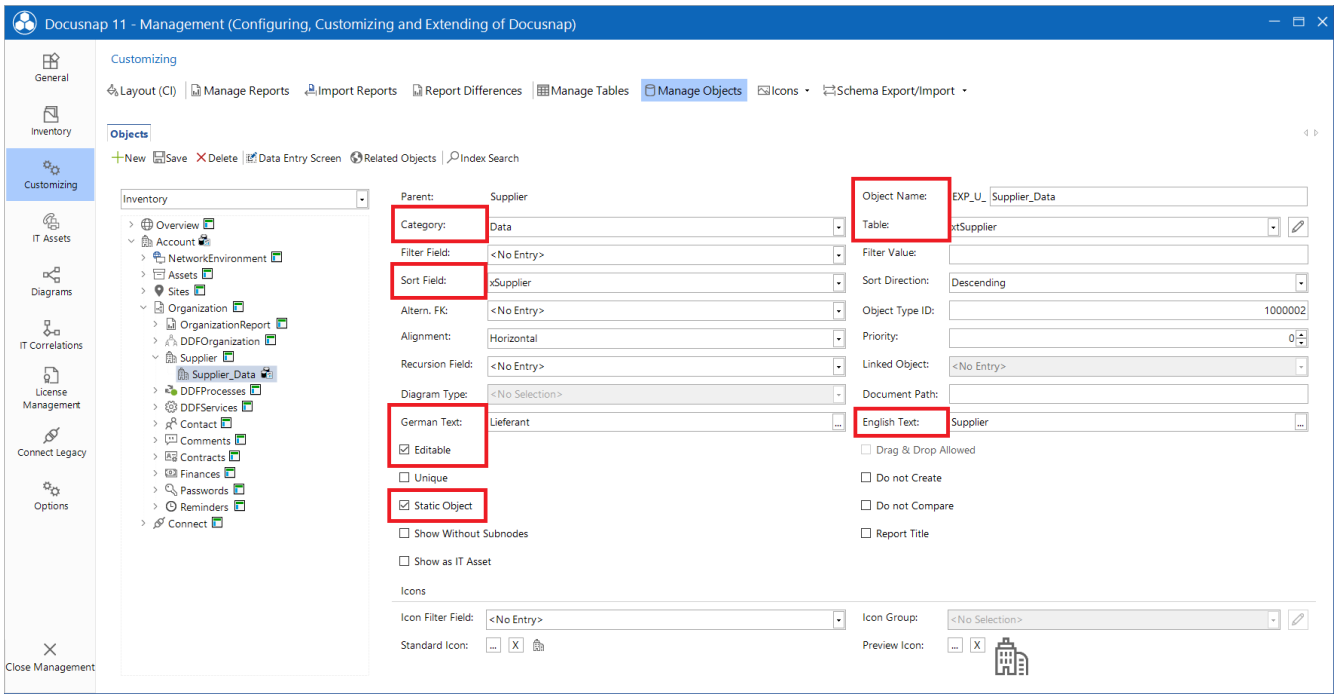

Figure 12 - Creating Metaobject II

Editable: If an object is editable, an input mask can be created.

4.3 CREATING THE INPUT MASK

After the table has been created and the data tree has been extended, the input mask must be created.

To do this, select the **Supplier_Data** metaobject created earlier and select **Data Entry Screen**. Start creating the input mask by adding the control type **Layout Control**.

Adjust the property Dock - select Fill.

When you select a property, below it you will find a description of the selected property.

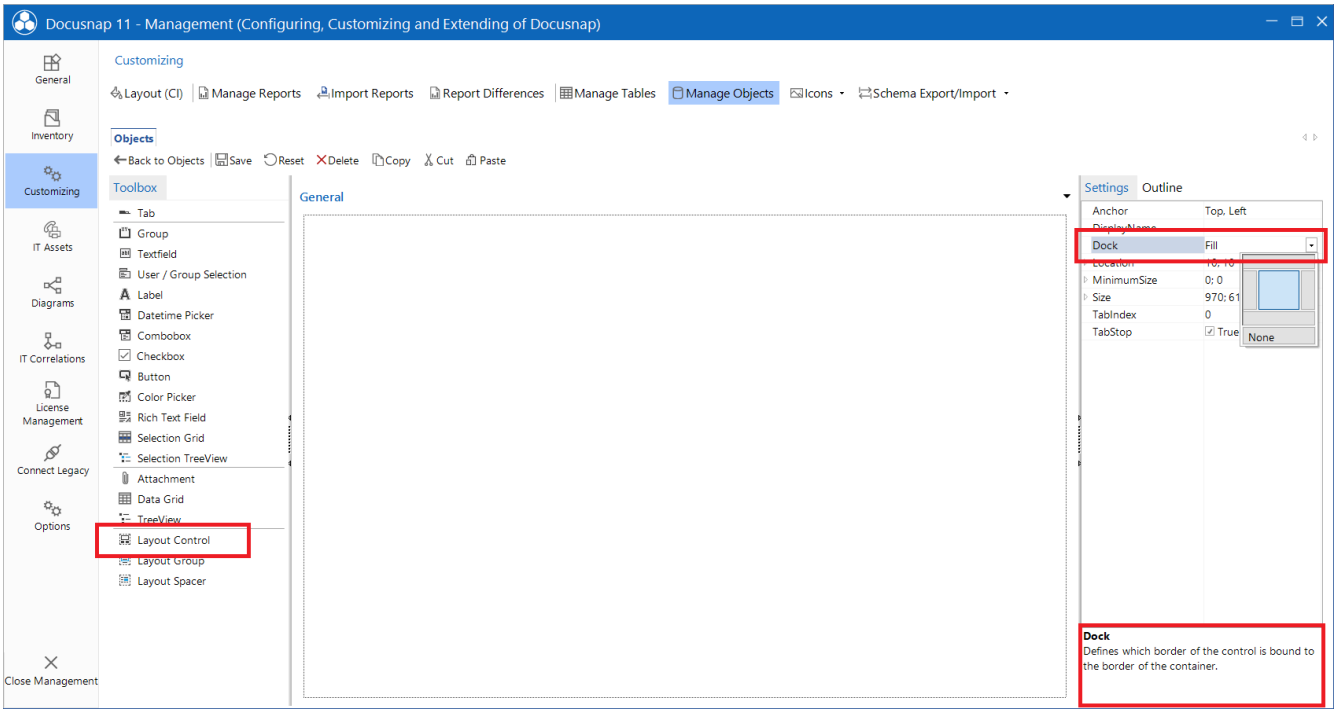

Figure 13 - Creating the input mask

Add the following controls to the input mask and make the appropriate adjustments for the label as well as the actual control:

Control	TextDE	TextEN	Width	Fieldname
Textfield	Lieferant	Supplier	50	xSupplier
Textfield	Kundennummer	Customer Number	50	xCustomerNumber
Textfield	Kontakt	Contact	50	xContact
Textfield	Telefon	Phone	50	xPhone
Textfield	E-Mail	E-Mail	50	xEmail

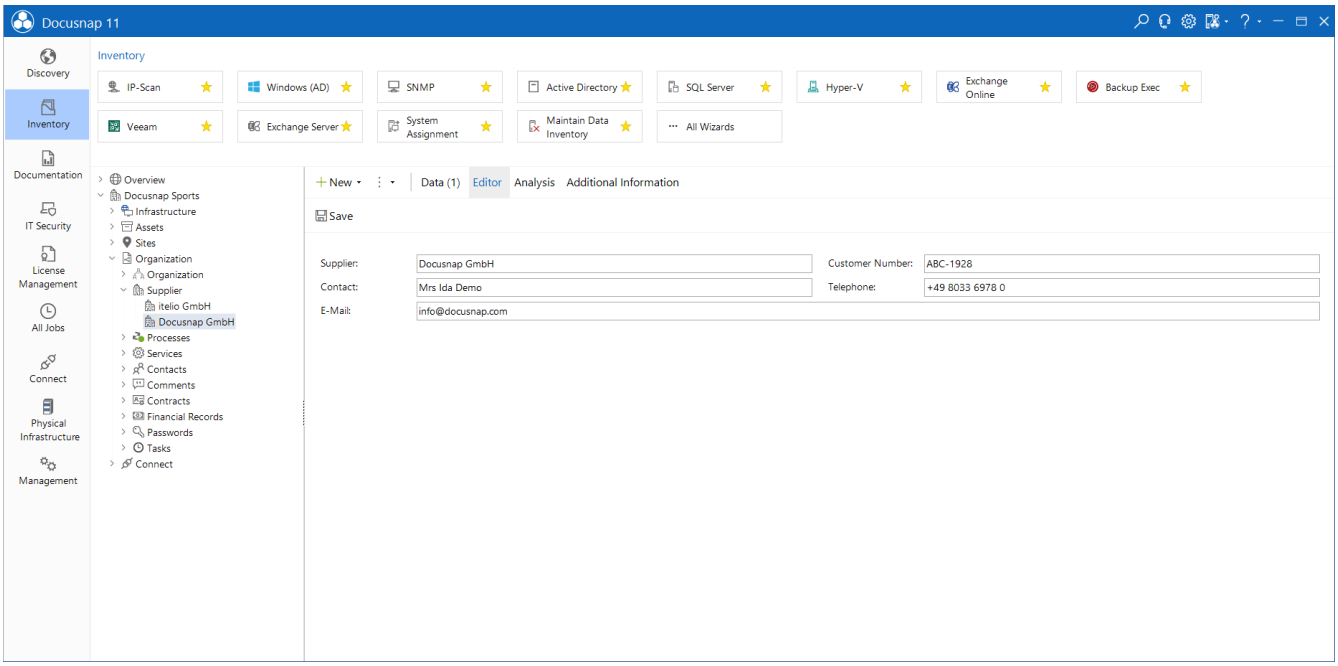

Figure 14 - Finished input mask

4.4 ASSIGNING VALUES WITH COMBINATION FIELD

In the next step, the newly available suppliers, in addition to the new fields added in Chapter 3, should be able to be assigned to the devices using a selection field:

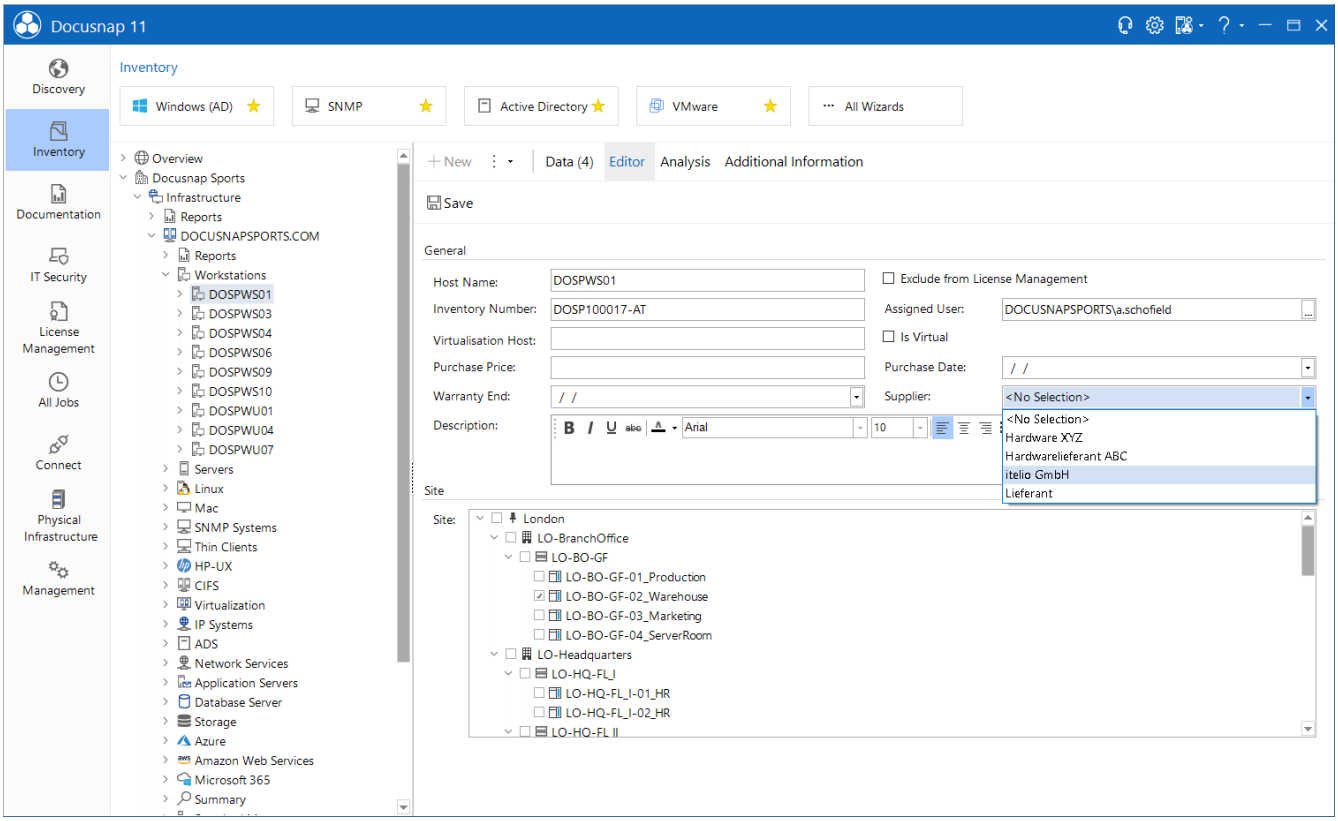

Figure 15 - Supplier selection

Switch to Administration - Customizing - Manage tables.

Add a new field to the table tHosts and to the views vSNMPHosts, vIPHosts:

Field Name	Data Type	German Name	English Name	Reference
Supplier	Int	Lieferant	Supplier	[xtSupplier]

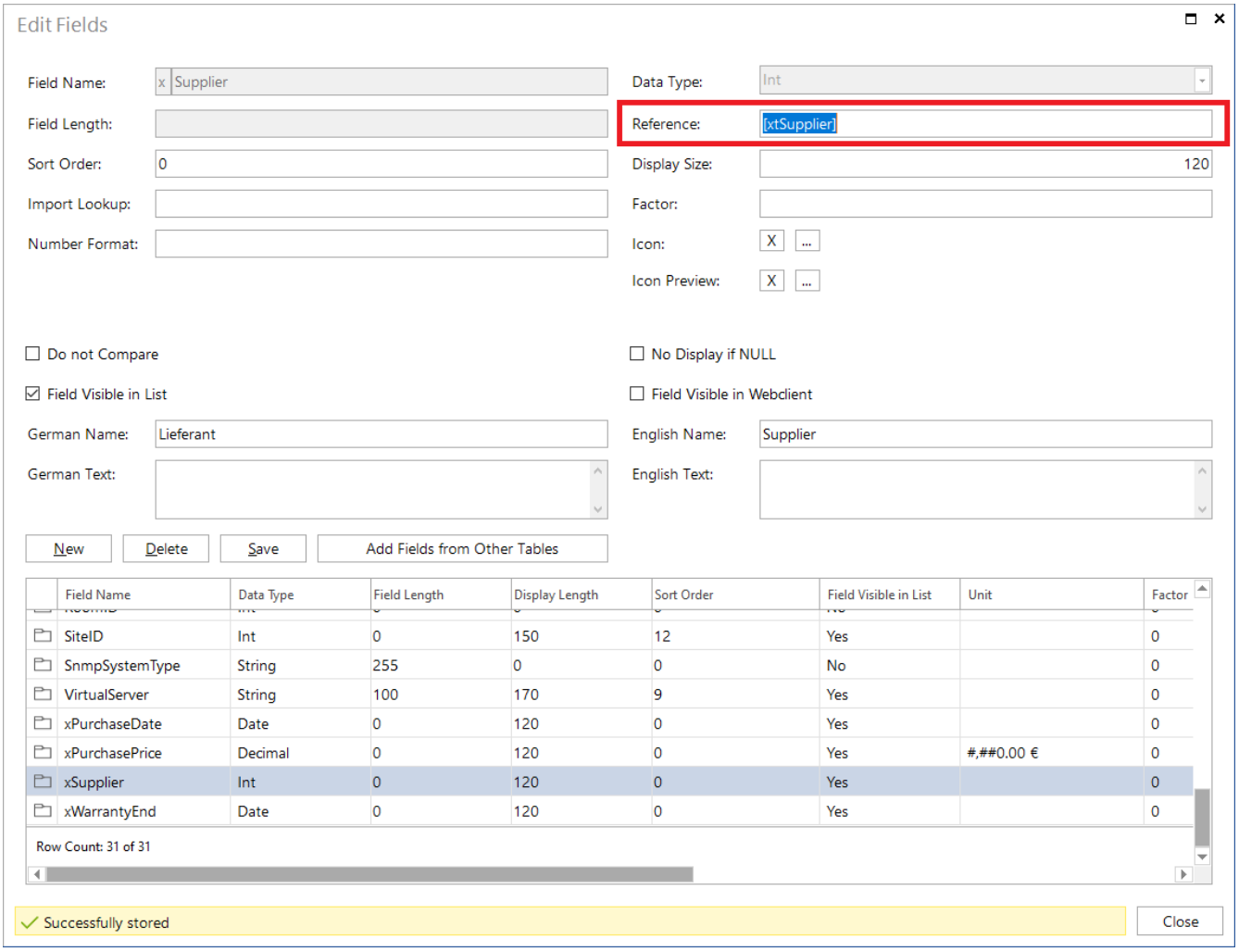

Figure 16 - Create the field xSupplier

For the new field, set a reference to the xtSupplier table. References to tables are placed in square brackets: [xtSupplier].

When a supplier is selected, its ID is stored in the field. By specifying the reference, Docusnap takes the numeric value and performs a query on the specified table, thus displaying the name of the supplier.

Now the new field is also needed in the input mask. Go to Administration - Customizing - Manage objects and navigate to the Workstation_Data object and open the input mask.

Add a control of the Combo Box type. Customize the label as follows:

- TextDE: Supplier
- TextEN: Supplier
- Width: 50

Customize the combo box as follows:

- Fieldname: xSupplier
- NoSelection: True
- Sorted: True
- SourceType: Database
- SourceValue: xtSupplier

As described before, clicking on the property at the bottom of the screen will give you a description of what it does.

Use Copy and Paste to add the new control to the input screens of the other device types as well.

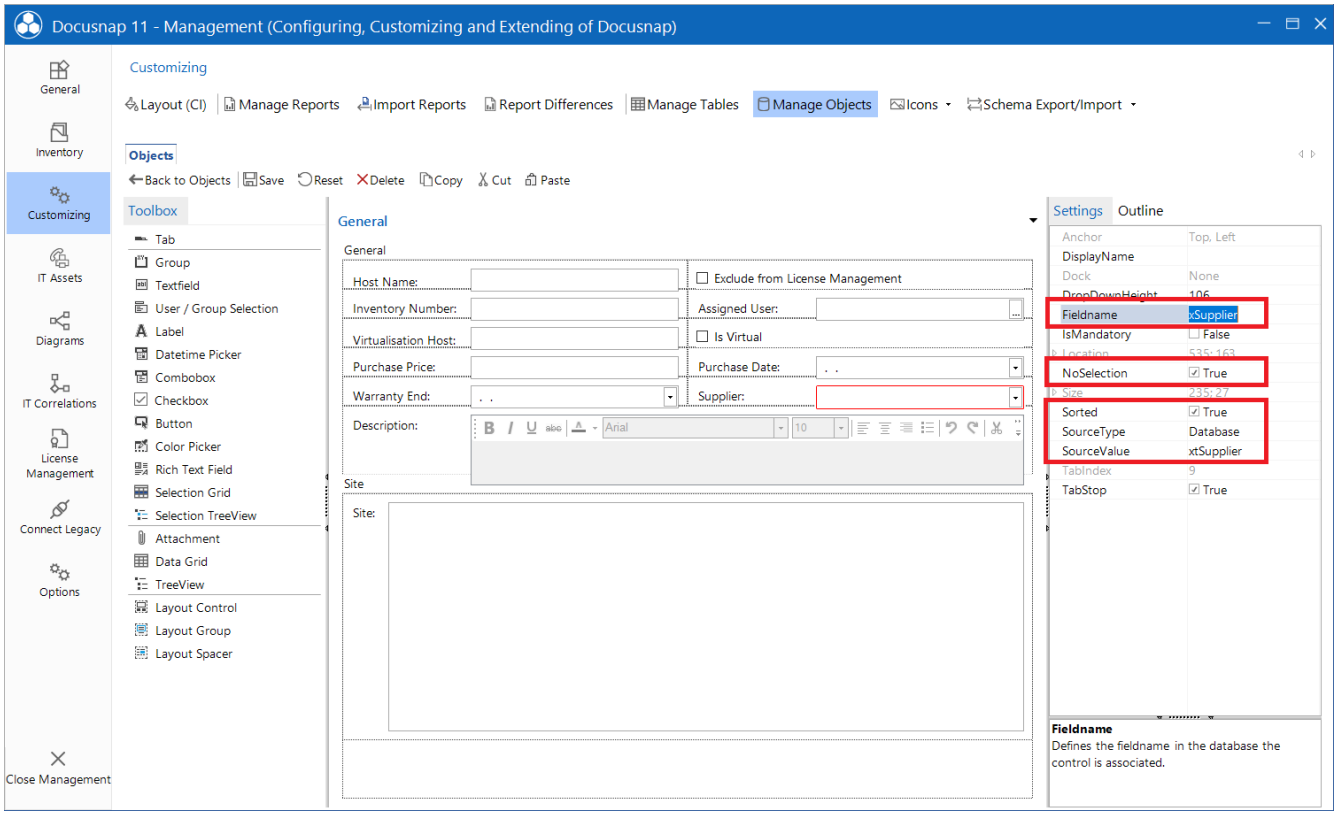

Figure 17 - Configuring the Combo Box

5. MAPPING M:N CONNECTIONS

This chapter describes how to implement customizing where you can assign X objects to an object.

We will set up an order management as an example. Within the order management you can create a purchase order and assign X devices, which have been procured via this same purchase order.

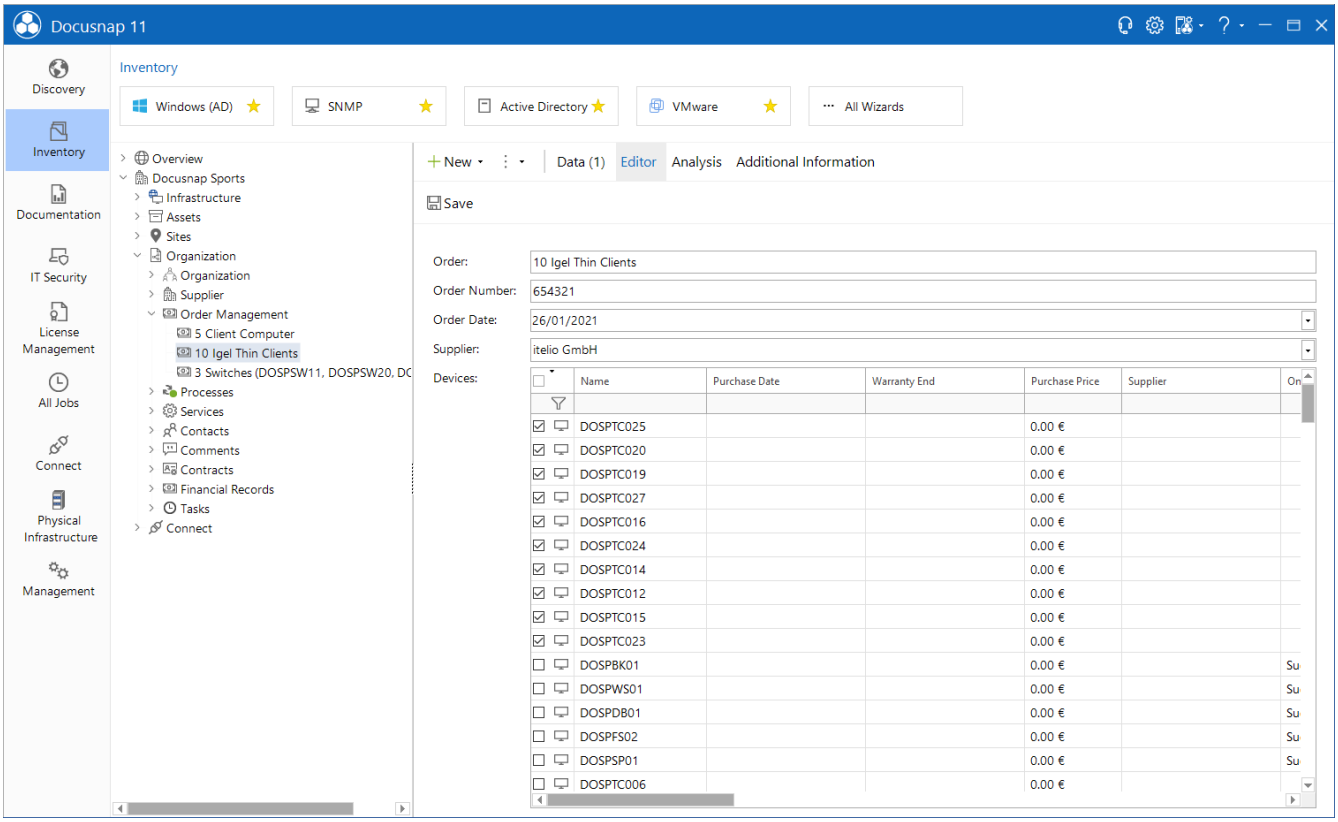

Figure 18 - Finished order management

5.1 DATABASE STRUCTURE

Two new tables are needed for the implementation.

The first table will store the data of the actual order. The second table, a so-called mapping table, will store the mapping of the devices to the order. Multiple devices can be assigned to one order.

Create the following tables with the corresponding columns.

(xt)OrderManagement

Field Name	Data Type	German Name	English Name	Others
AccountID	Int	AccountID	AccountID	Field visivle in list: No
Order	String	Bestellung	Order	
OrderDate	Date	Bestelldatum	Order Date	
Supplier	Int	Lieferant	Supplier	Reference: [xtSupplier]
OrderNumber	String	Bestellnummer	Order Number	

Select xAccountID as foreign key and xOrder as display field.

(xt)OrderManagementMapping

Field Name	Data Type	German Name	English Name	Others
HostID	Int	HostID	HostID	
OrderID	Int	OrderID	OrderID	

As mentioned before, "only" the assignments of the devices to the order are saved in this table. With this table no specifications to display field and/or foreign key must be done.

5.2 CREATING THE META OBJECT - INTEGRATING IT INTO THE DATA TREE

The next step is to extend the data tree. Two new metaobjects are required for this. To do this, go to Administration - Customizing - Manage objects.

Navigate to the Organization metaobject (Inventory - Account).

Create two new objects with the following properties:

- Object name: OrderManagement
- Category: Caption
- Text German: Bestellverwaltung
- Text English: Order Management
- Static object
- Display without subnodes
- Standard Icon - 16x16 - png
- Preview Icon - 100x100 - png

- Object name: OrderManagement_Data
- Category: Data
- Table: xtOrderManagement
- Sort field: xOrder or xOrderDate
- Text German: Bestellung
- Text English: Order
- Editable
- Static object
- Standard Icon - 16x16 - png
- Preview Icon - 100x100 - png

5.3 INPUT MASK

In the next step the input mask must be created again. The following controls are needed. Start the creation of the input mask again by adding the control of type Layout Control and property Dock = Fill.

Cobntrol	TextDE	TextEN	Width	Fieldname
Textfield	Bestellung	Order	100	xOrder
Datetime picker	Bestelldatum	Order Date	50	xOrderDate
Textfield	Bestellnummer	Order Number	50	xOrderNumber
Combo box	Lieferant	Supplier	100	See below
Data Grid	Geräte	Devices	100 Height: 100 HeightType: Percent	See below

Adjust the combo box as follows:

- Fieldname: xSupplier
- NoSelection: True
- Sorted: True
- SourceType: Database
- SourceValue: xtSupplier

The data grid must be configured as follows:

- MappingForeignKeyField: xOrderID
- MappingReferenceField: xHostID
- MappingTable: xtOrderManagementMapping
- ReferenceTable: tHosts

ReferenceTable:

This is the table that will be used to display the data. In this case all inventoried systems should be displayed, therefore the table tHosts was selected. An existing or newly created view can also be used as the reference table.

MappingTable:

This is the table that was newly created before. This table is where the mappings are stored.

MappingReferenceField:

The field from the mapping table where the reference, HostID of the device, is stored.

MappingForeignKeyField:

Field from the mapping table in which the foreign key is stored. The foreign key in this case is the ID of the order.

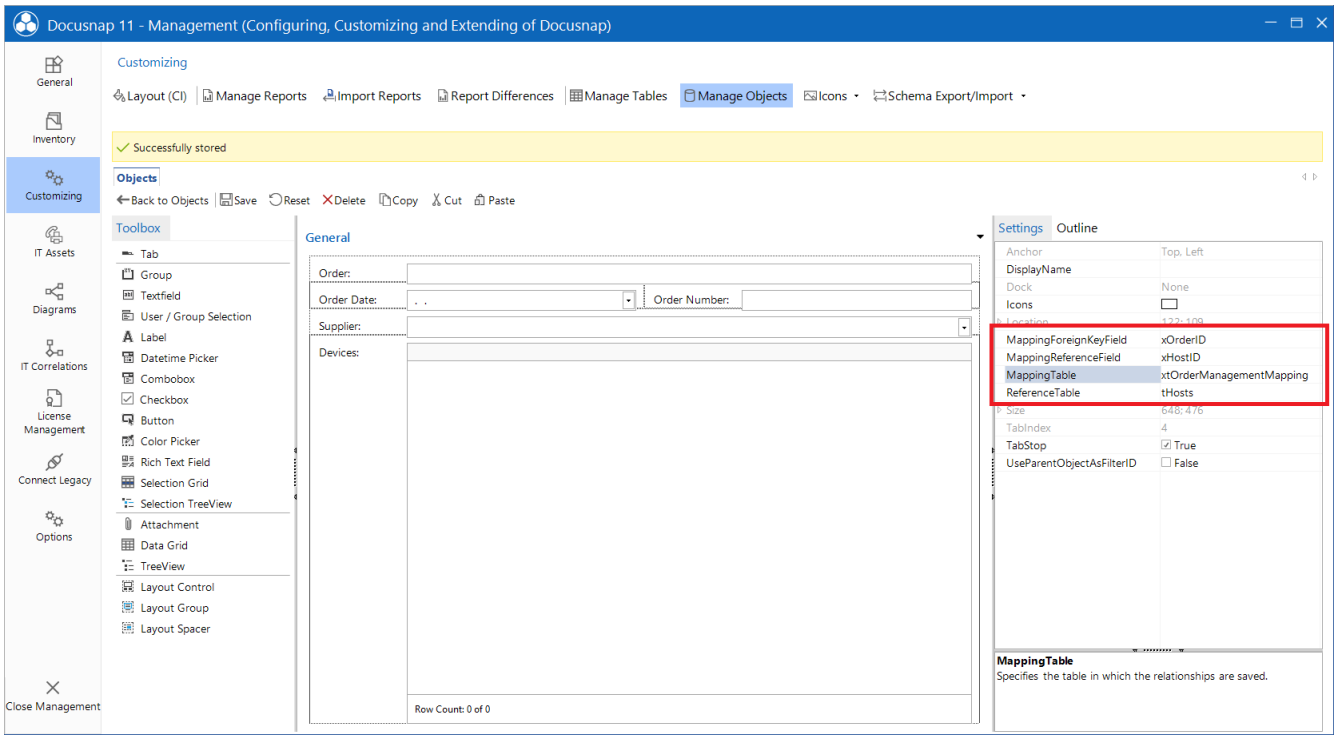

Figure 19 - Creating the input mask

Within the data grid you can also display icons for the different device types. You can perform the assignment via the Icons property. Select the HostTypeID as the filter field. Docusnap uses this to distinguish between the different system types.

- 0 Offline
- 1 Workstation
- 2 Server
- 3 DC
- 4 SNMP
- 4 IP Host
- 6 CIFS
- 8 DFS
- 100 Linux Offline
- 102 Linux
- 104 Linux ESX
- 105 Linux Nutanix
- 106 Linux Storage
- 200 Mac Offline
- 201 Mac
- 301 ThinClientWindows
- 302 ThinClientLinux
- 303 ThinClient
- 401HPUX

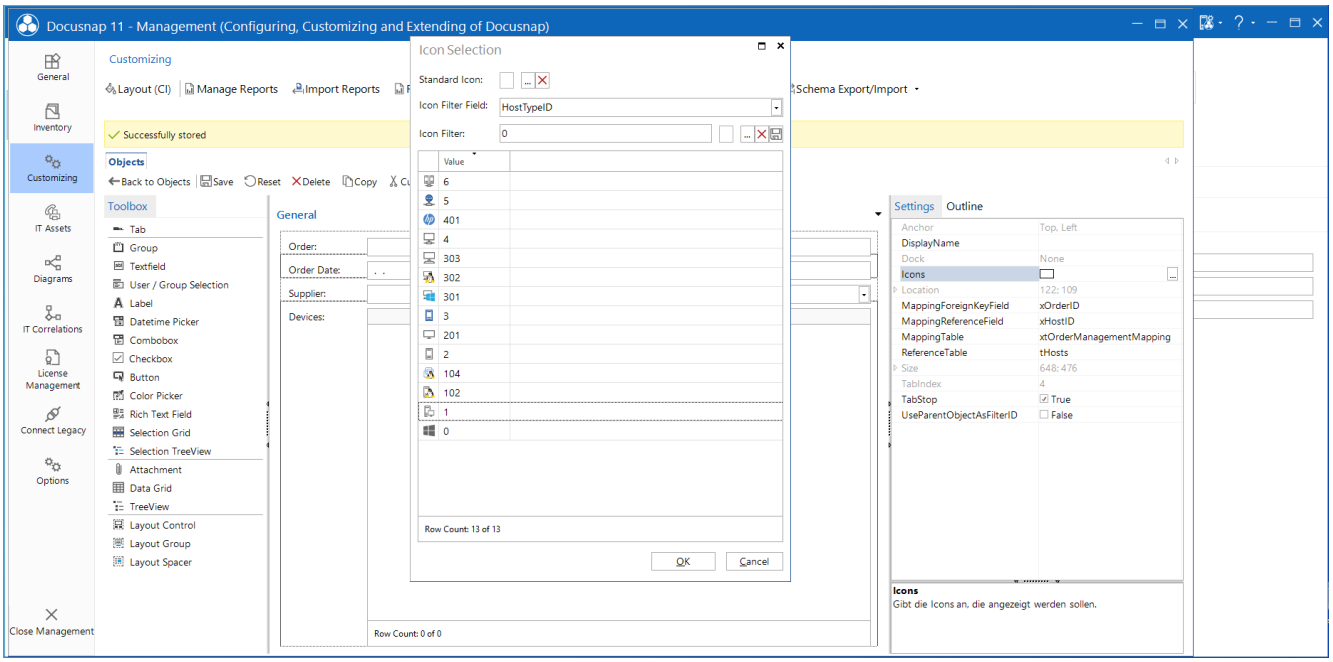

Figure 20 - Configuration of the icons to be displayed

6. DOCUSNAP ICON COLLECTION

The icons used in Docusnap can be downloaded from our Community - Benefits - Customizing - Icon Pack.

VERSION HISTORY

Date	Description
01.2021	HowTo created
11.2021	Screenshots edited
02.2026	Minor adjustments made

LIST OF FIGURES

