Welcome to the topic on User-Defined Values.
On completion of this topic, you will be able to add user-defined values to form fields to automate data entry in forms and documents. You will learn how to add a list of values as user-defined values, and how to use a query as user-defined values.
Here are two examples of requirements that can be met by adding user-defined values to form fields:

- In the first example, the company wants to have the delivery date automatically calculated in sales orders, so that the salesperson does not have to manually enter the date. In the business process, the delivery date of the sales order is not significant since orders are dispatched immediately.

- The salesperson needs the ability to instantly view a customer’s account balance when processing a new sales order over the phone.

**Solution:** These requirements can be implemented using user-defined values.
You can add UDVs to any editable header field in documents and forms, to row level fields in documents and forms, and to user-defined fields added to objects such as documents and master data.

User-defined values can assist and automate data entry for users.

If added at the row level, user-defined values apply to each row.

User-defined values can be added to a field as:

- **List of values.** The user chooses from a list of predefined values for the field.

- **User query.** When the query runs, the query results are stored in the field. In the example, a query has been added to the delivery date field. The query will calculate a valid date for the delivery. Using a query is the most flexible option as the query can be set up to run manually or automatically:
A magnifying glass icon indicates that user-defined values have been added to the field.

Users can toggle the display of this icon on and off, using the menu View → Pickers Display → User-Defined Values.

In the example, we can see that user-defined values have been added to the Delivery Date field, and to a user-defined field in the document header.
To add user-defined values to a field, select the field in the document or form and:

- Press Alt+Shift+F2, or
- Choose Tools > Customization Tools > User-Defined Values - Setup
- General authorization required – “User-Defined Values – Setup”
In the setup window for user-defined values, you select one of three options. The first option, *Without search in user-defined values*, can be used to remove previously added user-defined values from the field. There are no restrictions on removing user-defined values from a field. After you remove the user-defined values, documents saved in the system retain the values entered.
Options for User-Defined Values (Cont.)

Setup options:
- Without search in user-defined values
- **Search in existing user-defined values**
- Search in existing user-defined values according to saved query

The second option, *Search in existing user-defined values*, allows you to define a list of values for the field.
When defining the values, make sure that the value does not exceed the field length as defined in the database.
Options for User-Defined Values (Cont.)

Setup options:
- Without search in user-defined values
- Search in existing user-defined values
- Search in existing user-defined values according to saved query

To select from the list of values, the user can select the magnifying glass indicator or press Shift+F2 in the field.

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The list of values can be maintained directly by the user, and the user can add new values to the list by choosing New. Note: this contrasts to a list of values added for a user-defined field using the User-Defined Fields – Management window. In this case, the user cannot add new values to the list and the list is maintained from the User-Defined Fields – Management window.
This demo will show you how to add a list of values as user-defined values.
Options for User-Defined Values (Cont.)

Setup options:
- Without search in user-defined values
- Search in existing user-defined values
- **Search in existing user-defined values according to saved query**

The last option, *Search in existing user-defined values according to saved query*, lets you attach a query to the field.

This option is very powerful, since the field is populated with the results of the query.

The query can set a value in the field, or store the results of a calculation in the field, or fetch another field value from the database to go in the field.

The query can prompt the user for a parameter, and use the parameter to calculate the results.

In the example shown here, you can use a query to calculate the delivery date based on the current date. The query adds 7 days to the current date and stores the result as the delivery date.

When you use a query, make sure the query result matches the field type in the document, and does not exceed the size of the field. For example, do not return an alphanumeric string result into a field that is defined as numeric.
In many situations, the query needs to reference a field in the active window. In the example shown, you have added user-defined values to a field in the sales order. The query will fetch the customer’s account balance from the master data record and show the balance in the sales order field. The sales order is the active window because the user is working on it.

The query matches the CardCode from the active window to the CardCode in the master data.
Whenever you refer to a field in the active window, you must include a $ sign in front of the field name to reference the active window. Fields that are stored in the database, such as the balance field from the master data record, do not need the $ sign.
To test a query that references the active window, keep the document as the active window and run the query from the Tools menu.
Using Queries as UDs

Setup options:
- Without search in user-defined values
- Search in existing user-defined values
- Search in existing user-defined values according to saved query

![Delivery Date field with search icon and Auto Refresh When Field Changes checkbox]

The Auto Refresh When Field Changes checkbox determines if the query runs automatically.

If auto refresh not selected, the query only runs when the user selects the magnifying glass icon or presses Shift+F2 in the field.

When you select the option to use a query as user-defined values, you can decide if you want the query to automatically run without user involvement.

The Auto Refresh When Field Changes checkbox determines if the query runs automatically.

If you do not select this checkbox, the query is not automatic and only runs when the user clicks the magnifying glass or presses Shift+F2 in the field.
If you select the *Auto Refresh When Field Changes* checkbox, you are prompted to select a dependent field. The query runs automatically when the dependent field changes in value or the user enters a value in the dependent field.
Here is an example to illustrate how the auto refresh function works.

A query is added to a field in the sales order using user-defined values. The *Customer/Vendor Code* is selected as the dependent field. When the user selects the business partner code in a sales order, this action triggers the query to run.

This is typically the first action when a user processes a new marketing document. Therefore it is a common practice to use the *Customer/Vendor Code* as a dependent field to trigger the query to run.
There are two rules for selecting dependent fields.

For a query added to a header field in a document, you can only select another header field as the dependent field. This includes all fields in the document that are not in the row table.
For a query added to a row-level field, you can select either a header field or a row-level field as a dependent field.

To select a header field as the dependent field, select When Field Changes from the dropdown list.

To select another row-level field as the dependent field, select When Exiting Altered Column from the dropdown list.
Note that, when you add user-defined values to a specific marketing document type, such as a sales order, other similar document types such as deliveries and invoices are unaffected. In other words, user-defined values behave differently to user-defined fields and are not inherited by other document types. Therefore you need to add user-defined values to each specific document type as required.

However, the value entered in a field with user-defined values is transferred to a target document using the Copy To/ Copy From function.
When you choose *Auto Refresh When Field Changes*, two further options appear. These options determine if the query runs only once, or if the query runs whenever the dependent field changes.

The default option is *Display Saved User-Defined Values* and is recommended since it maintains the initial result of the query. The query runs once when the dependent field changes, and will not run again even if the dependent field changes.

An example is a query added to the Delivery Date in a document. The query calculates a delivery date based on the system date. You only want the query to run once. If the query ran multiple times, the delivery date might be incorrectly updated.
If you choose *Refresh Regularly*, the query will run each time the dependent field changes or is selected in a document.

You should use this option with caution since it can result in the field value changing when not expected.

The query will run when you browse through records, or drill-down to open a document that contains a query. When the query runs, the document status will change to Update mode, and you must save the changes if you want to record the new query results.

An example of using *Refresh Regularly* is a query that shows the up-to-date account balance of a business partner. You want the query to run whenever you browse or open the document so you can always see the latest balance. However, you will still be prompted to update the document if you want to save the query results.
Demo: Saved User Values

This demo will show you how to add a saved query as user-defined values.
Here are some points to take away regarding user-defined values. Please take a minute to review these key points:

- **User-defined values (UDVs) automate data entry.**
- You can add UDVs to editable header and row level fields, and to any user-defined field. To add UDVs, select the field, then press **Alt+Shift+F2**.
- **Magnifying glass indicator shows if UDVs exist for a field.**
- User-defined values can be a list of values or a user query.
- User can open list of values by selecting the indicator or pressing **Shift+F2** in the field.
- To set a query to run automatically, use auto refresh and select a dependent field. Then select either:
  - **Refresh Regularly** – query will run each time the dependent field changes or is selected.
  - **Display Saved User-Defined Values** – query runs once then retains the result in the field.
- Queries should be written to reference the active window.

Queries should be written to reference the active window, where needed.
You have completed the topic for

User-Defined Values.

Thank you for your time!