

Calculated attributes

🌐 Language: [Deutsch](#) · [English](#)

🔧 Calculated attributes

Compute attribute values at runtime via a database function – incl. SQL examples and status traffic lights.

HOW-TO

APPLICATION DEVELOPER

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What is a calculated attribute?

Instead of storing a fixed value, a **calculated attribute** derives its content from a function at database level. The value is **recomputed at runtime** and displayed – without having to save the record. Typical cases: an article's annual revenue, computed date values, status traffic lights.

Calculated attributes behave almost like normal attributes (shown in layouts and result lists) but are **not stored in the database**. Their value therefore cannot be set by a rule; reference fields cannot be calculated.



Performance

Use sparingly: the calculation can be very time-consuming – especially in searches and result lists.



Sorting

Sorting of calculated attributes in the result list is disabled by default and can be enabled via the `SORT_CALCULATED_ATTRIBUTES` parameter.

Two ways to configure

- **Via a database object:** create a database function under [database objects](#). It receives the **record ID** as a parameter and returns the result value (the data type must match the attribute). The function name starts with `CA_` (calculated attribute).
- **Via a data source:** the calculated attribute is defined through a data source.

Example 1: calculate available articles

Computes *stock reserved*. The parameter `id` is the INTID of the current object; the return value is `varchar2` (attribute values are stored as strings).

```

CREATE OR REPLACE FUNCTION CA_ARTIKELVERFUEGBAR(id IN number) RETURN varchar2 IS
  summe number(12);
  bestand number(12);
  reserviert number(12);
begin
  SELECT strvalue INTO bestand
  FROM t_ud_go_attribute
  WHERE intid_t_md_attribute = (SELECT intid FROM t_md_attribute WHERE strattribute='artikelBestand')
    AND intid_t_ud_genericobject = id;

  SELECT strvalue INTO reserviert
  FROM t_ud_go_attribute
  WHERE intid_t_md_attribute = (SELECT intid FROM t_md_attribute WHERE strattribute='artikelReserviert')
    AND intid_t_ud_genericobject = id;

  summe:=bestand-reserviert;

  RETURN(summe);
end CA_ARTIKELVERFUEGBAR;

```

Example 2: return a traffic light as an image

A calculated attribute can also return an **image** – ideal for status traffic lights. The images are uploaded beforehand as resources (Configuration Other Resources).

Positionen (1)	Zahlungen (1)	Dokumente (1)	Bemerkung Intern (1)	Kundenbemerkungen (1)	Migration (löschen)	Erzeugte Gutschriften (0)	Kommissionierung (1)	Email verschickt (2)	Bemerkung an Kunden (0)
									
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Traffic light as a calculated attribute.

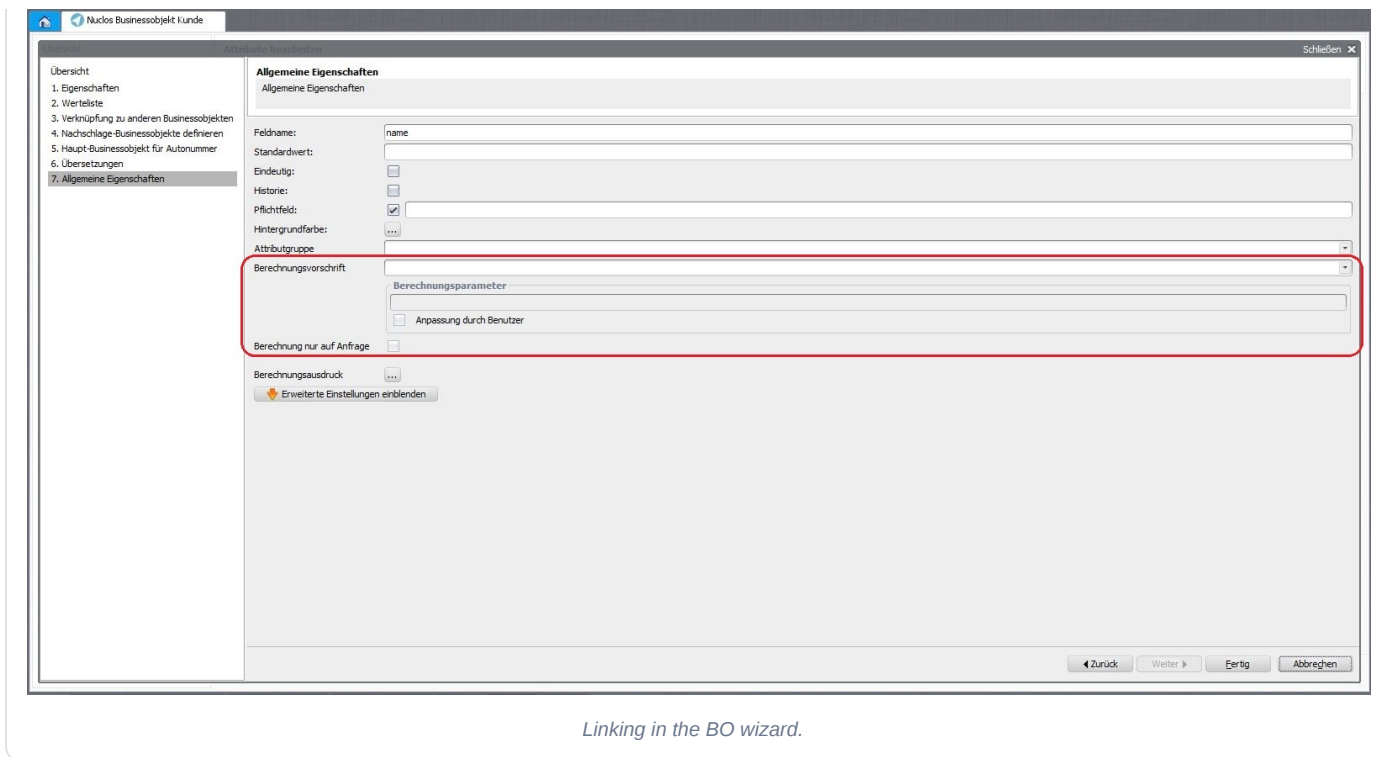
```

CREATE OR REPLACE FUNCTION C31G_CA_PROJEKT_VERFUEGBARKEIT(id numeric)
RETURNS bytea AS
$BODY$
DECLARE
  ist numeric(9,2);
  soll numeric(9,2);
  bild bytea;
BEGIN
  select dblfortschritt, dblusedbudget / dblworkingbudget * 100 into ist, soll from c31g_projekt where
  intid=id;
  if (ist = 100) then
    bild := null;
  else
    if (ist >= soll) then
      select blbcontent into bild from t_md_resource where strname = 'Ampel grün';
    else
      select blbcontent into bild from t_md_resource where strname = 'Ampel rot';
    end if;
  end if;
  RETURN bild;
END;
$BODY$
LANGUAGE 'plpgsql' VOLATILE
COST 100;

```

Usage

In the [BO wizard](#) the calculated attribute is linked in step 7 (attribute definitions).



Linking in the BO wizard.

Related pages

Business object

Attributes.

[Open](#)

Database objects

DB functions.

[Open](#)

Special data types

Data types.

[Open](#)