Structured Variable

Structured variables

The parent of all objects of the *Structured variable* type is the object STRUCTS.

The character of the object value is an array of rows. The number of rows (the configuration parameter **Array length**) must be other than zero. Row structure is given by a connected object of Structure definition type (the configuration parameter **Structure type**). Each value within a structured variable contains the following configuration parameters:

- **Log changes**
- **Save start value**
- **Manual control**
- **Start value**
- **Limits (VHL, HL, LL, VLL, Hysteresis)**
- **Status text**
- **Index to transformation palette**

Configuration parameters

To edit individual configuration parameters, click the left mouse button on the corresponding parameter. According to the type of the parameter, a value is entered by either typing into the input field or by selecting from the list.

Log changes

If the option is checked, each value change is to be written into the log database.

Save start value

If the option is checked, the start value will become a part of the configuration of the corresponding item and therefore each value change that occurred during the application run is written into the log database. An exception is for an item of an Object **type**. Then the start value is understood to be a reference to an object, not an item value. In this case, not the value changes are saved, but changes of the reference, that represents the item (see also the SET AS action for the object of EVENT type).

Example:
The object Sec is associated with the item SV.StructDef[2]^Obj (that is *Object* type), and the association is changed (e.g. in an event) to SysTime during the system run. If the option **Save start value** is not checked, this object change will not be saved in the configuration.

Manual

If checked, it allows controlling the item value during the system run. If the item is of an Object **type**, this option is applied to the reference to this object in the system (see also the action SET AS for object of EVENT type). Setting a value for such an item causes redirecting the request to the object, the current reference points to (mainly it is not a change of the value).

Start value

Limits

Status text

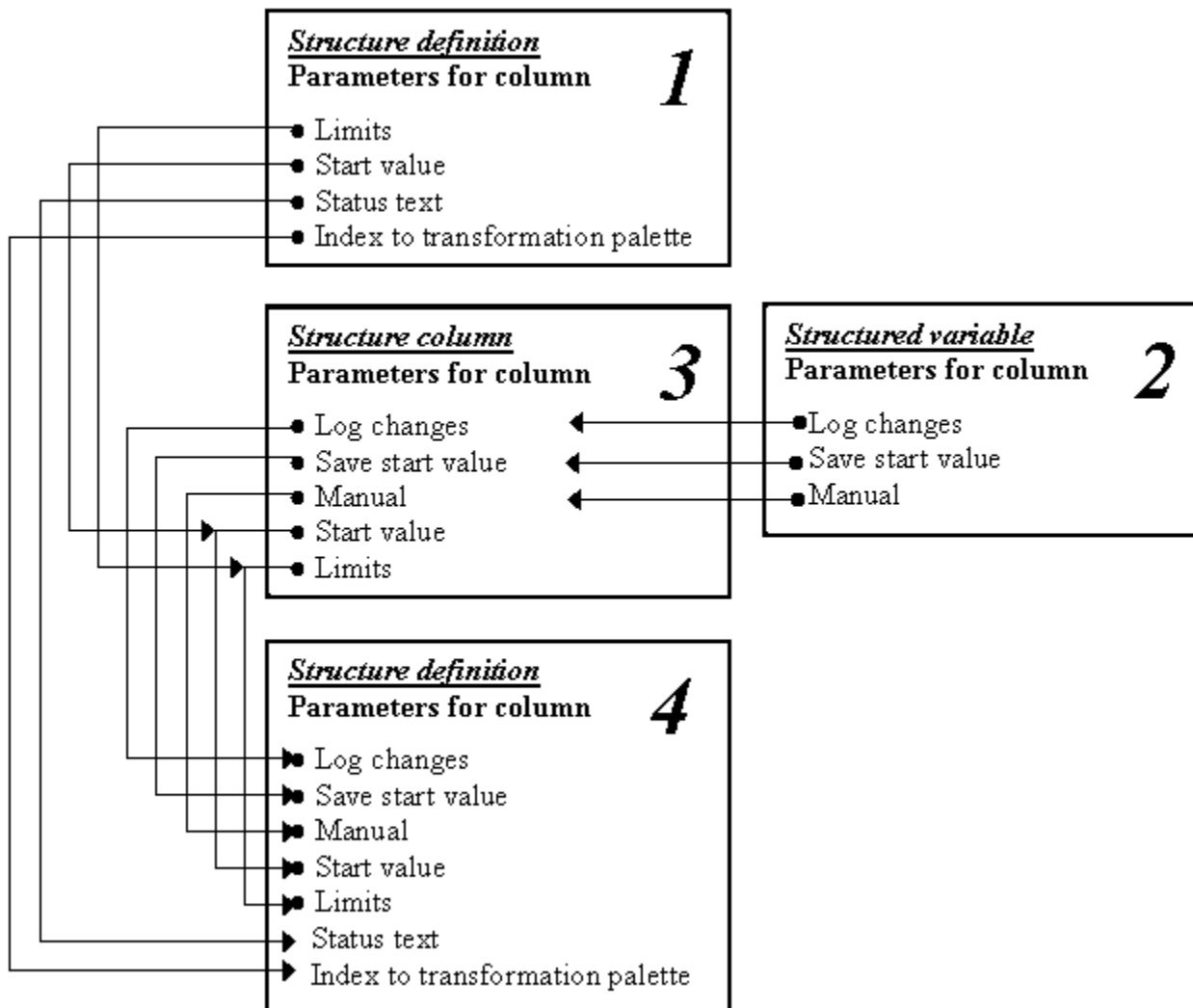The parameter can be changed only at the level of an object of a Structure definition.

Index to transformation palette

The parameter can be changed only at the level of an object of a Structure definition.

Each value of an item configuration parameter is defined in some way. The definition proceeds:

- from an object of Structure definition (figure - section 1) (Status text, Index to transformation palette)
- from *Structured variable* (figure - section 2)(Log changes, Save start value, Manual control)
- from row zero of *Structured variable* (figure - section 3)(Log changes, Save start value, Manual control, Start value, Limits)
- or defined directly on the item (figure - section 4) (Log changes, Save start value, Manual control, Start value, Limits)

They can be defined at various levels, as is shown in the following figure:

Configuration of the parameters for *Column* of a *structure* is performed, when there is set up the row of 0.

The figure shows the possibilities of the hierarchical definition of values of the configuration parameters, where arrows represent a possibility of inheritance of the parameter and the symbol ♣ represents a possibility (and also place) to define the parameter.

Predefined structured variables

D2000 system contains several predefined structured variables that allow showing some important diagnostic information on the status of the D2000 system. A detailed description of the objects is in the chapter Predefined structured variables.

> ⓘ **Related pages:**
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> Structured variable - configuration dialog box
> Predefined structured variables