

Value Types

Value types

Mathematical apparatus implemented in the [D2000 Calc](#) calculation process (eval tags) and in the [D2000 Event Handler](#) process (events) operates with these basic value types:

- **Boolean** - logical type
- **Integer** - integer (cardinal) type
- **Real** - real type
- **Absolute time**
- **Time interval (relative time)**
- **Text**
- **HBJ** - reference to an object

Boolean type

The values of Boolean type are labeled by the predefined identifiers **@TRUE** and **@FALSE**.

Integer type

The value range of an Integer type is -9 223 372 036 854 775 808 .. 9 223 372 036 854 775 807.

Note: until version 21.0.70, the value range of an Integer type was -2 147 483 648 .. 2 147 483 647.

Real type

The value range of Real type is 2.3×10^{-308} |x| 1.7×10^{308} and zero value (0).

Absolute time type

The forms of values of Absolute time type are **hh:mm:ss DD-MM-YYYY** or **hh:mm:ss DD-MM-YY**

- **hh** - hour,
- **mm** - minute,
- **ss** - second,
- **DD** - day,
- **MM** - month,
- **YYYY** or **YY** - year

Time interval (relative time) type

The form of values of Relative time type is **DDD hh:mm:ss**

- **DDD** - number of days,
- **hh** - hours,
- **mm** - minute
- **ss** - second.

The time interval may be also expressed by a real number as a number of seconds.

Text type

Value of Text type represents a sequence of characters with the maximal length of 100 000 symbols enclosed in the quotes (e.g. "text" or 'text'). To display the characters " or ' in a value of Text type, use the character twice (e.g. "text:""hallo"" or 'text:"hallo"). In case, that a text value exceeds this limit, the system "trims" it automatically to 1000 000 characters and assigns the attribute [s_val_Weak](#) (Weak) to the value.

HBJ type

A value containing an internal identifier of the D2000 system that uniquely determines an object. It is used in some special cases. It is compatible with the Integer type, however, it is only 32-bit.