# CSV data specification

**CSV data** are created by a conversion of [XML files](#) representing the configuration of several objects of the same type in the D2000 System.

## CSV data sections

1. **[*structure_name*]** sections represent the reserved [CFGRECORDS](#) sections of XML files.
2. **[REFERENCES]** section represents the reserved [REFERENCES](#) sections of XML files.
3. **[MEMBEROFLOGGROUP]** section represents the reserved [MEMBEROFLOGGROUP](#) sections of XML files.
4. **[MEMBEROFRESGROUP]** section represents the reserved [MEMBEROFRESGROUP](#) sections of XML files.
5. **[CRC]** section represents the reserved [CRC](#) sections of XML files.
6. **[CVSSECTION]** section representing [CVS tags](#).

CSV file contains the above mentioned order of sections that are separated by one or more space lines. The first section is **[TObjItemData]** representing the **object identification structures.** The section is followed by the sections for the other object structures of the given type.

**Note:** The reserved [OBJLIFELOGS](#) sections of XML files are not transformed into CSV file.
[CVSSECTION] section does not represent the reserved section of XML file but it stores the CVS tags existing in the note of XML files. It enables a backward conversion. **This section must not be edited!**

## Syntax of sections

- The first row consists of the section name enclosed in the square brackets.
- The second row contains the columns of section separated by semicolon
  :
    - the name of the first column is always **OBJECT_NAME,**
    - the first column is followed by the names of attributes of proper structure or section.
- The third and next rows contain the values of columns separated by semicolon.

## Syntax of the column names

- The name of columns for attributes that are nested more deeply in structure than in the first level, contains also a prefix of the nesting.
- The special type of columns can also contain the suffix in the name:
    - suffix [R] belongs to the columns of **RAW DATA** type - the values of these columns contain the names of bin files; They consist of object name, a path of the nesting in XML file and bin,
    - suffix [T] belongs to the columns of **absolute time** type,
    - suffix [C] belongs to the columns of **CDATA** type,
    - the other columns do not contain the suffix.

The values, belonging to values of String type in D2000 System, are checked if they contain some of these sign: CR, LF, ";" and """. If the text contains these signs, the quotation marks will be duplicated and the whole text will be enclosed in the another quotation marks.

**Exception:**
An exception for the columns in the [REFERENCES] section: The column **OBJECT_NAME** is followed by the columns for <HOBJ_REF> structure and finally by the columns for <COL_REF> structure. There are the attribute names of two structures one after another.
If the row of values in [REFERENCES] section describes the <HOBJ_REF> structure the values are set for both OBJECT_NAME and the columns defining the <HOBJ_REF> structure. If the <COL_REF> structure is described the values are set only for the columns defining the <COL_REF> structure. It also holds that one row of the <HOBJ_REF> structure is followed by several rows of the <COL_REF> structure.

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ⓘ **Related pages:**

[D2000 XML](#)
[XML - CSV conversion](#)

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