



JSON Utilities

With the “JSON Utilities” library, data can be read and written in JSON format from a CODESYS controller.

The library “JSON Utilities” is now part of the product [IIoT Libraries SL](#) and is no longer available as single product.

Product description

The ‘JSON Utilities’ library provides the following functionalities:

- Read JSON files (UTF-8 and UTF-16)
- Read JSON byte arrays
- Write JSON files (UTF-8 and UTF-16)
- Read JSON byte arrays
- Search for keys, values, and child and parent elements

The data is stored in an array of structures. Data access and element search is performed by means of methods from the `JSONData` function block. The function blocks `JSONByteArrayReader` and `JSONFileReader` read data in JSON format and save the values in the `JSONData` function block. Writing files and byte arrays is performed by means of the function blocks `JSONFileWriter` and `JSONByteArrayWriter`.

A simple REST client can be implemented easily in connection with the library ‘Web Client’ (available in the CODESYS Store).

The package contains the library ‘JSONUtilities’, the sample project ‘JSONUtilitiesExample’, and a description of the programming interface in CHM format.

The sample project provides three applications to demonstrate how to use the library.

Application: JSONArrayExample

In this example, a JSON byte array is read and written. The data is displayed in a visualization.

Application: JSONFileExample

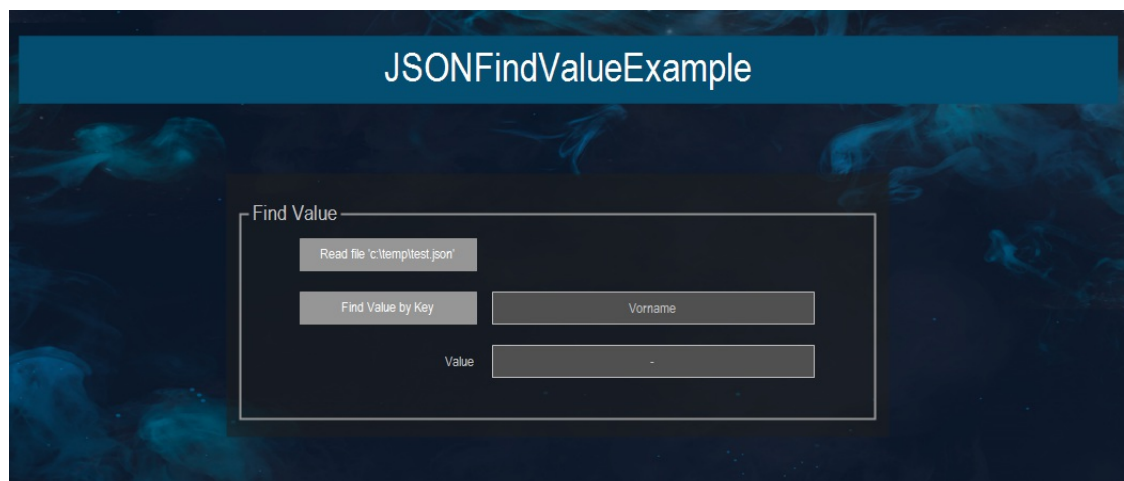
In this example, a JSON file is read and written. The data is displayed in a visualization.

Application: JSONFindValueExample

This example demonstrates how to search for values within a JSON file.

Application: JSONDataExample

This example demonstrates how to generate a JSON string.



Find Value Example

JSONArrayExample

Read JSON Data

Read JSON data from WSTRING

	Index	Parent Index	Type	Value
	0	-1	Object	
1	1	0	Key	Herausgeber
2	2	1	String	Xema
3	3	0	Key	Nummer
4	4	3	String	1234-5678-9012-3456
5	5	0	Key	Deckung
6	6	5	LReal	-4.44e-1
7	7	0	Key	Waehrung
8	8	7	String	EURO
9	9	0	Key	Inhaber
10	10	9	Object	
11	11	10	Key	Name

Write JSON Data

Write JSON data to WSTRING

```
{
  "Herausgeber": "Xema",
  "Nummer": "1234-5678-9012-3456",
  "Deckung": -4.44e-1,
  "Waehrung": "EURO",
  "Inhaber": {
    "Name": "Mustermann",
    "Vorname": "Max",
    "maennlich": true,
    "Hobbys": [
      "Reiten", "Golfen", "Lesen"
    ],
    "Alter": 42,
    "Kinder": [],
    "Partner": null
  }
}
```

Array Example

JSONFileExample

Read / Write JSON File

Read JSON File: c:\temptest.json

Write JSON File: c:\temptestWrite.json

	Index	Parent Index	Type	Value
	0	-1	Object	
1	1	0	Key	Herausgeber
2	2	1	String	Xema
3	3	0	Key	Nummer
4	4	3	String	1234-5678-9012-3456
5	5	0	Key	Deckung
6	6	5	LReal	-4.44e-1
7	7	0	Key	Waehrung
8	8	7	String	EURO
9	9	0	Key	Inhaber
10	10	9	Object	
11	11	10	Key	Name
12	12	11	String	"Mustermann"
13	13	10	Key	Vorname
14	14	13	String	Max
15	15	10	Key	maennlich
16	16	15	Bool	TRUE
17	17	10	Key	Hobbys

File Example

General information

Supplier:

CODESYS GmbH
 Memminger Strasse 151
 87439 Kempten
 Germany

Support:

<https://support.codesys.com>

Item:

JSON Utilities

Item number:

2111000024

Sales:

CODESYS Store

<https://store.codesys.com>

Included in delivery:

CODESYS Package

System requirements and restrictions

Programming System	CODESYS Development System V3.5.14.0
Runtime System	CODESYS Control V3.5.14.0
Supported Platforms/ Devices	Note: Use the project "Device Reader" to find out the supported features of your device. "Device Reader" is available for free in the CODESYS Store.
Additional Requirements	-
Restrictions	-
Licensing	Workstation license
Required Accessories	CODESYS Key for CODESYS < 3.5.14.0

Note: Not all CODESYS features are available in all territories. For more information on geographic restrictions, please contact sales@codesys.com.

Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.