

# **vNode Siemens Client Importing TIA Portal Symbolic Addressing**

**Reference Manual**

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## Introduction

This document explains the basic steps to migrate a Data Block (DB) from a Siemens TIA Portal project to vNode WebUI.

Each Siemens DB will be converted separately into a vNode Group Template.

A Microsoft Excel Template will be used to generate a csv that can be imported into a vNode template

## Basic Steps to migrate a DB

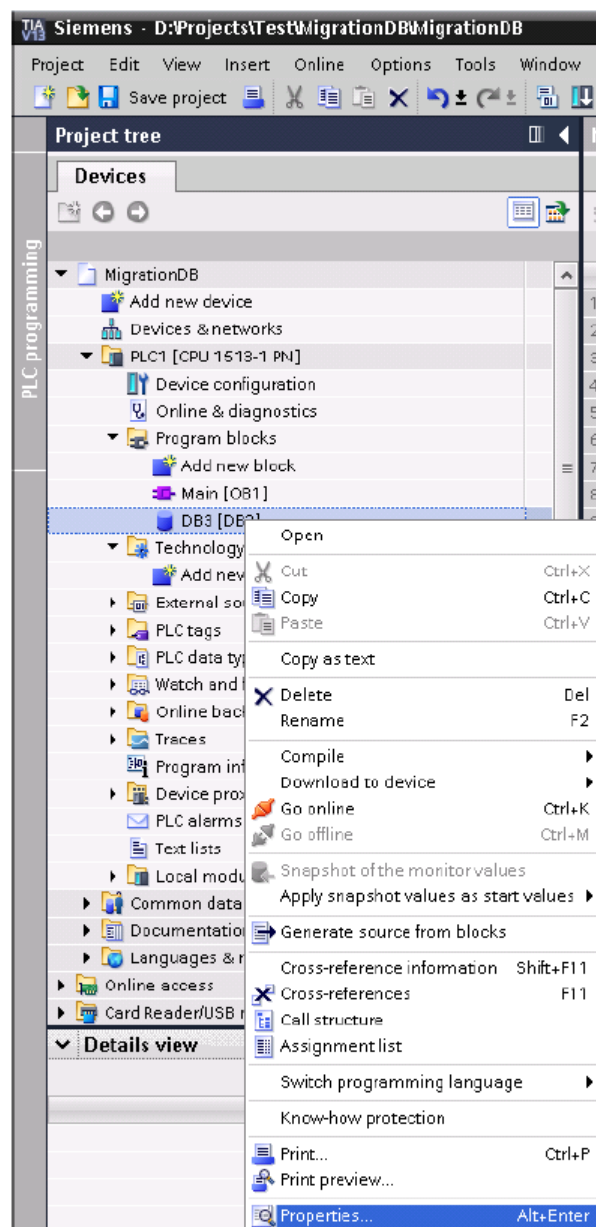
These are the common steps to migrate a Siemens TIA Portal DB to vNode Template:

### Step 1: Open TIA Portal project

Open the TIA Portal project and select Project View.

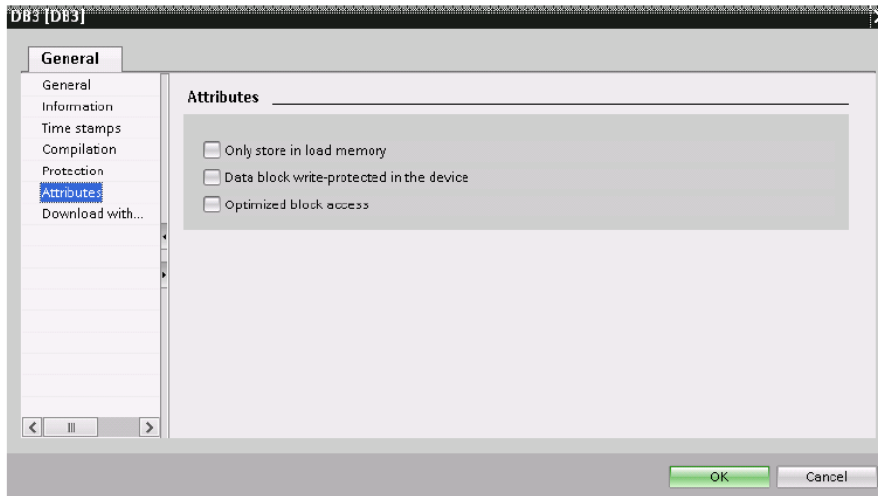
### Step 2: Select the Data Block to migrate

Select <Project name> → <PLC name> → <Program blocks folder> → <Data Block name>  
Push right button of the mouse and select *Properties*



### Step 3: Uncheck the *Optimized block access* option

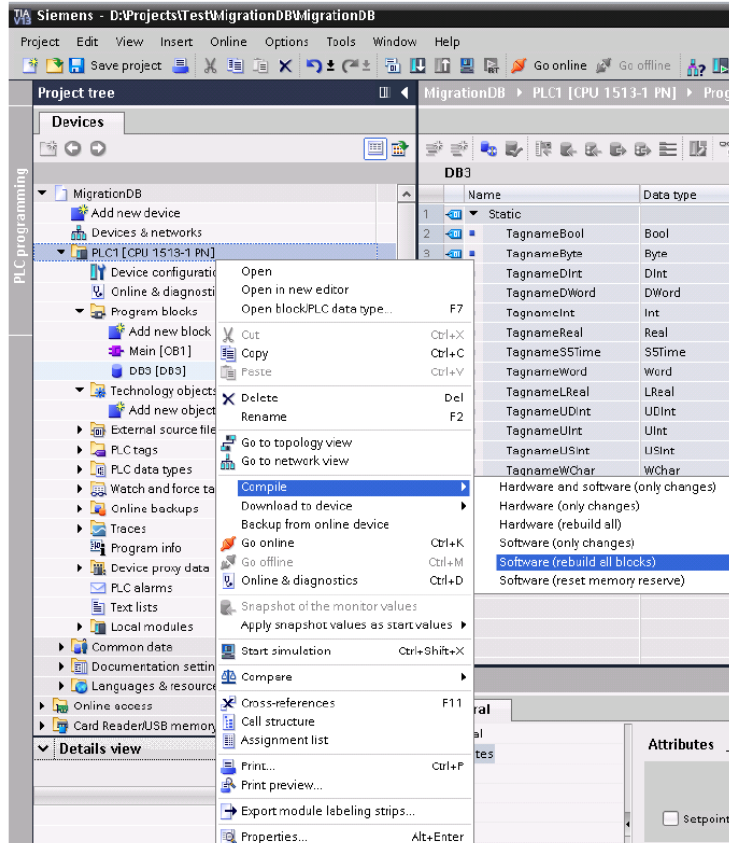
Select Attributes menu and uncheck the *Optimized block access* option.



### Step 4: Compile Software (rebuild all blocks)

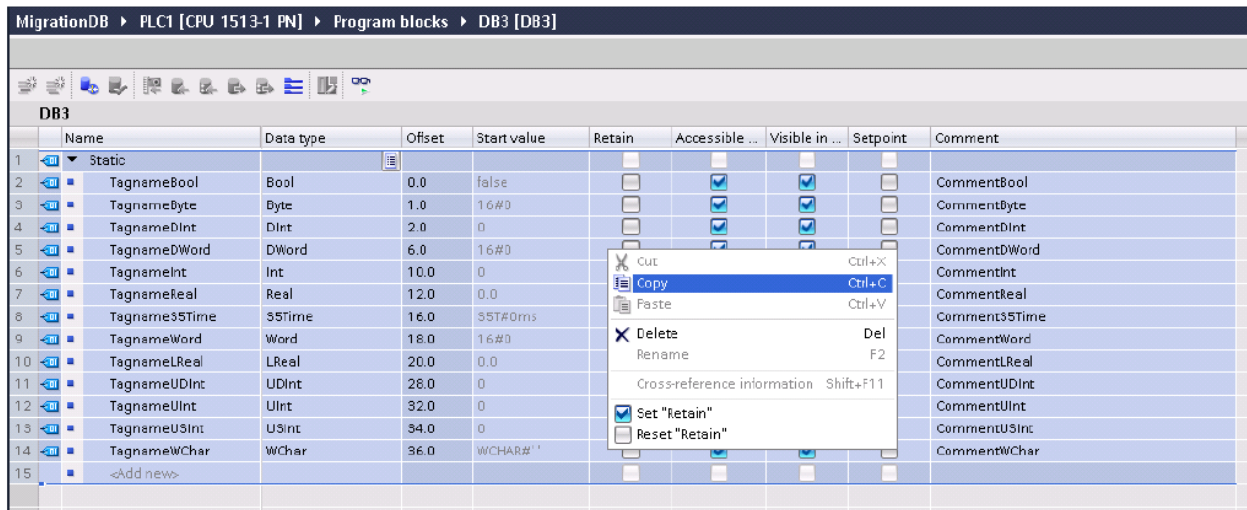
Select <PLC name> and push right button of the mouse.

Select *Compile* menu and click on *Software (rebuild all blocks)* submenu.



### Step 5: Open DB

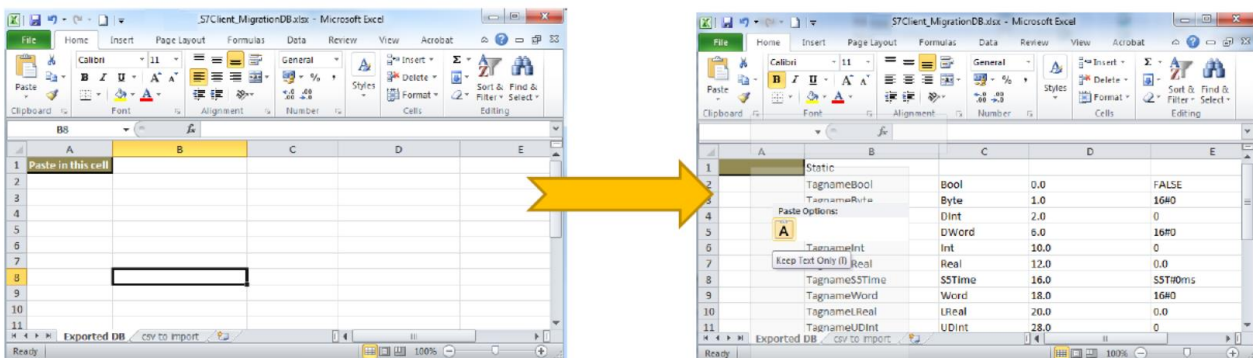
Select <Data block name> and open it. Select all cells and copy them.



### Step 6: Open Microsoft Excel template and paste the copied cells

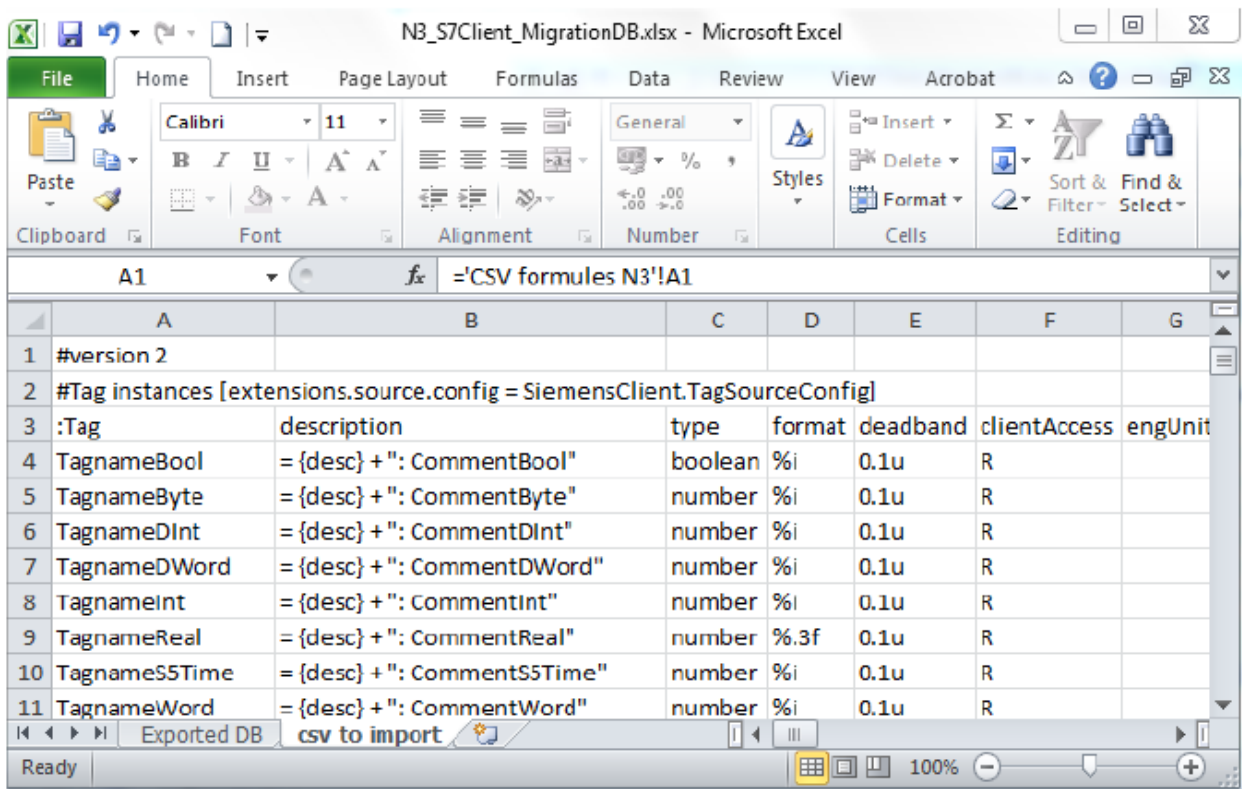
Open Microsoft Excel template called *S7Client\_MigrationDB.xlsx*.  
 Paste the copied cells (step 5) on A1 cell of the *Exported DB* sheet.

**Note:** use *Keep text only* as *Paste* option



### Step 7: Select csv to import sheet and copy the valid rows

Select csv to import sheet. Configure the tags for your specific needs (scaling, history, etc).



Copy only the valid cells. For this example, it would be A1:Y16 matrix.

|    | U                                | V                             | W                             | X                          | Y                         | Z |
|----|----------------------------------|-------------------------------|-------------------------------|----------------------------|---------------------------|---|
| 1  |                                  |                               |                               |                            |                           |   |
| 2  |                                  |                               |                               |                            |                           |   |
| 3  | extensions.source.config.address | extensions.source.config.type | extensions.source.config.rate | extensions.history.enabled | extensions.history.module |   |
| 4  | = "db"+{db}+":0.0"               | boolean                       | 5000                          | FALSE                      |                           | 0 |
| 5  | = "db"+{db}+":1"                 | int8                          | 5000                          | FALSE                      |                           | 0 |
| 6  | = "db"+{db}+":2"                 | int32                         | 5000                          | FALSE                      |                           | 0 |
| 7  | = "db"+{db}+":6"                 | uint32                        | 5000                          | FALSE                      |                           | 0 |
| 8  | = "db"+{db}+":10"                | int16                         | 5000                          | FALSE                      |                           | 0 |
| 9  | = "db"+{db}+":12"                | float32                       | 5000                          | FALSE                      |                           | 0 |
| 10 | = "db"+{db}+":16"                | uint32                        | 5000                          | FALSE                      |                           | 0 |
| 11 | = "db"+{db}+":18"                | uint16                        | 5000                          | FALSE                      |                           | 0 |
| 12 | = "db"+{db}+":20"                | double64                      | 5000                          | FALSE                      |                           | 0 |
| 13 | = "db"+{db}+":28"                | uint32                        | 5000                          | FALSE                      |                           | 0 |
| 14 | = "db"+{db}+":32"                | uint16                        | 5000                          | FALSE                      |                           | 0 |
| 15 | = "db"+{db}+":34"                | uint8                         | 5000                          | FALSE                      |                           | 0 |
| 16 | = "db"+{db}+":36"                | uint16                        | 5000                          | FALSE                      |                           | 0 |
| 17 | #N/A                             | #N/A                          | 5000                          | FALSE                      |                           | 0 |

### Step 8: Create a new sheet, paste only values and save as a csv file

Paste the copied cells (step 7) in a new sheet (paste only values).

The screenshot shows an Excel spreadsheet with the following data:

| Tag                 | descripio | type    | format | deadband | clientAcce | engUnits | default  | simulat |
|---------------------|-----------|---------|--------|----------|------------|----------|----------|---------|
| Tagname[ = {desc} + |           | boolean | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameE = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| Tagname[ = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| Tagname[ = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| Tagname[ = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameF = {desc} + |           | number  | %.3f   | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameS = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| Tagname\ = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameL = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameL = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameL = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameL = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| TagnameL = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |
| Tagname\ = {desc} + |           | number  | %i     | 0.1u     | R          |          | 0 <null> | FALSE   |

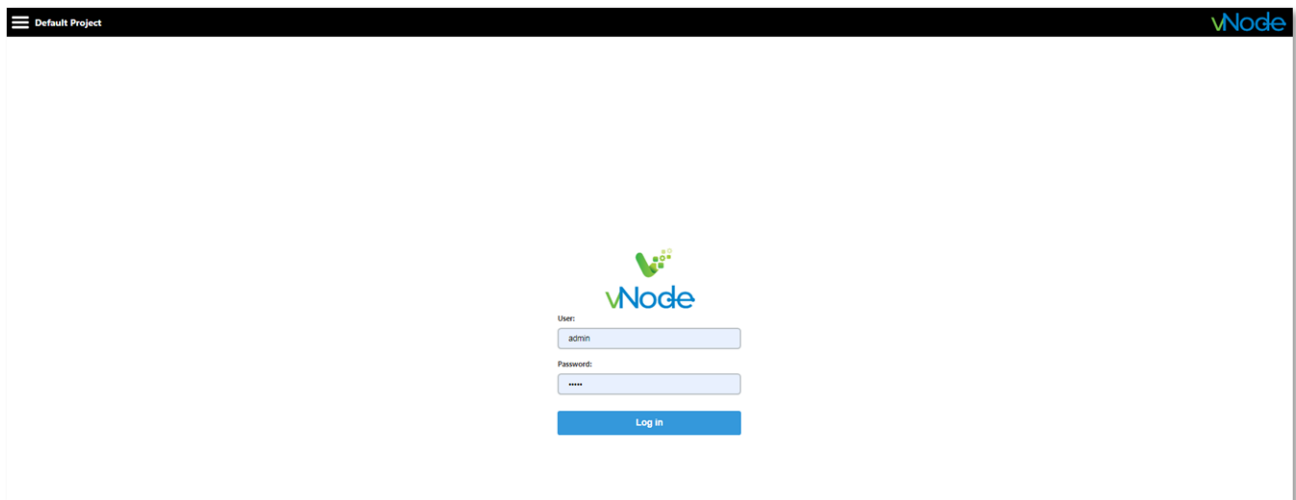
Save as a csv file. For example: *LoadDB.csv*

|               |                               |
|---------------|-------------------------------|
| File name:    | LoadDB.csv                    |
| Save as type: | CSV (Comma delimited) (*.csv) |



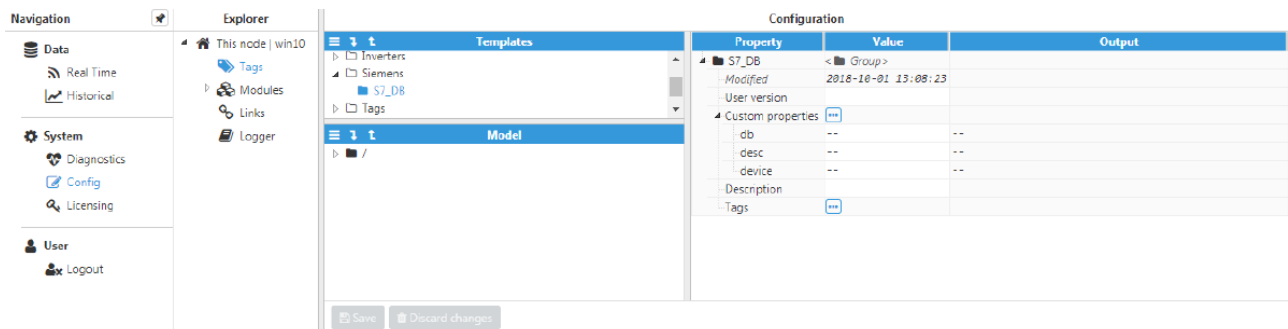
## Step 9: Open vNode WebUI

Connect to vNode node and open WebUI where it is required the DB migration

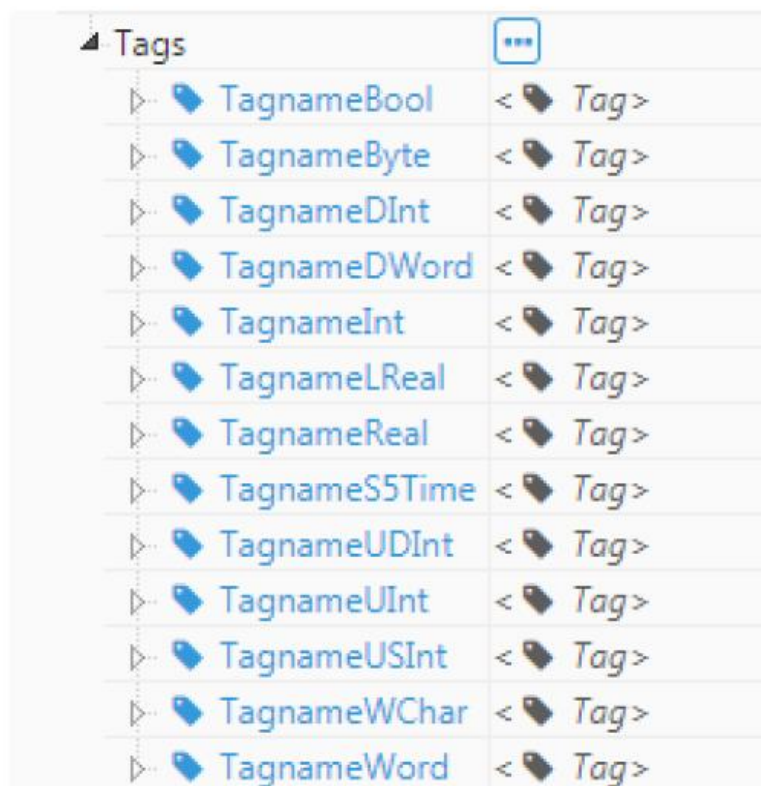
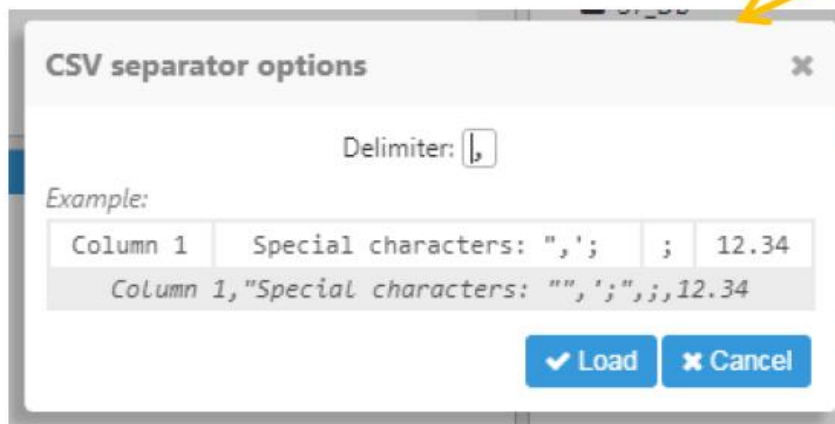
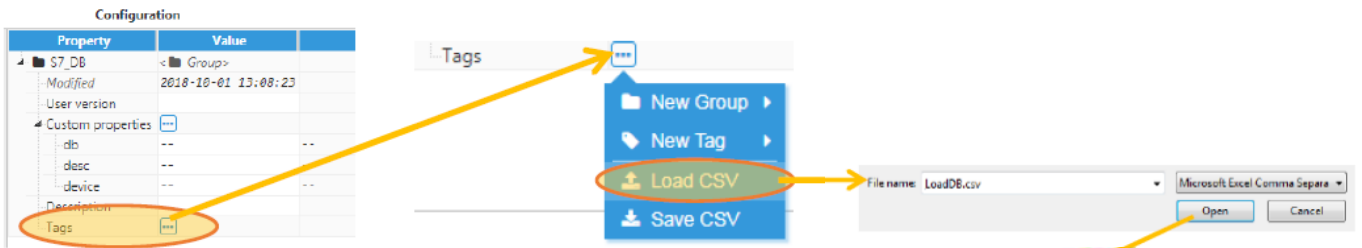


## Step 10: Edit S7\_DB configuration

In *Config* → *Tags* → *Templates* import the template *S7\_DB\_template.zip*:



Click on the button with three points next to *Tags* and select the option to *Load CSV*. Find the saved csv file (step 8) and after open this. Finally, select the appropriate delimiter and click on *Load* button.



## Step 11: Save the new configuration

Remember to click on the *Save* button to avoid losing the new configuration of the S7\_DB template.

The screenshot displays the Siemens Client vNode interface. On the left, the 'Navigation' pane shows 'Data', 'System', and 'User' sections. The 'Explorer' pane shows the project structure, with 'Tags' highlighted in orange. The 'Configuration' pane shows the 'S7\_DB' template configuration. The 'Property' column lists various properties, and the 'Value' column shows their current values. The 'Output' column is empty. At the bottom, the 'Save' button is highlighted in orange, along with the 'Discard changes' button and the current time '00:13:21'. The status bar at the bottom indicates 'Logged in as: admin' and the date '2018-10-02 14:35:16 GMT+02:00'.

| Property          | Value               | Output |
|-------------------|---------------------|--------|
| S7_DB             | < Group >           |        |
| Modified          | 2018-10-02 14:33:40 |        |
| User version      |                     |        |
| Custom properties |                     |        |
| db                | --                  | --     |
| desc              | --                  | --     |
| device            | --                  | --     |
| Description       |                     |        |
| Tags              |                     |        |
| TagnameBool       | < Tag >             |        |
| TagnameByte       | < Tag >             |        |
| TagnameDInt       | < Tag >             |        |
| TagnameDWord      | < Tag >             |        |
| TagnameInt        | < Tag >             |        |
| TagnameLReal      | < Tag >             |        |
| TagnameReal       | < Tag >             |        |
| TagnameSSTime     | < Tag >             |        |
| TagnameUDInt      | < Tag >             |        |
| TagnameUInt       | < Tag >             |        |
| TagnameUSInt      | < Tag >             |        |
| TagnameWChar      | < Tag >             |        |
| TagnameWord       | < Tag >             |        |

## Step 12: Instantiate the new template

Now it is possible to create the instances of the template providing the following Custom properties for each instance:

- db: Data Block corresponding to the instance.
- desc: (optional) prefix added to the Description of the tag.
- device: the name of the device configured in the SiemensClient driver.