CSV files Tag Importer

Explanation on to import tags from a CSV file.

Reference **Solution** **Designer** **Settings and Tools** **Import Tags** CSV

The **CSV Tag Importer** wizard lets you quickly create tags in your solution from data stored in CSV files. By selecting a source file, the wizard maps each column to tag properties and automatically generates the corresponding tags or solution components.

When you run the importer for the first time, your configuration is saved. On subsequent runs, the tool switches to a **Sync**mode, which compares new file entries against previously imported tags. This ensures that updates and additions are handled efficiently without duplicating existing definitions.

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CSV Import Wizard

File Format Requirements

Column	Required	Type	Example
TagName	Yes	Text	Tank1_Level
Type	Yes	DataType	Double
Description	No	Text	Tank 1 Level
InitialValue	No	Value	0
Min	No	Number	0
Max	No	Number	100
Units	No	Text	meters
Category	No	Text	Tanks

Import Process

1. **Select File** - Browse for CSV
2. **Map Columns** - Match to tag properties
3. **Preview** - Review import data
4. **Options** - Set import behavior
5. **Import** - Execute import

Import Options

Option	Description	Default
Skip Duplicates	Ignore existing tags	Checked
Update Existing	Overwrite properties	Unchecked
Create Devices	Auto-create channels	Checked
Apply Template	Use tag template	None

CSV Columns

The CSV allow tags, points, alarms and historian to be imported everything in the same CSV. The columns available to import are:

Tags properties

Tag Property	Description
TagName	Specifies the unique identifier or name of the tag used within the system.
Type	Defines the data type of the tag, such as integer, float, string, or boolean.

Member	Represents the specific member of a structured data type or object that the tag refers to.
Array	Indicates whether the tag is an array and specifies its dimensions if applicable.
Parameters	Specifies additional parameters or settings associated with the tag.
StartValue	Sets the initial value of the tag when the system starts or the tag is initialized.
Min	Defines the minimum allowable value for the tag, often used for validation or scaling.
Max	Defines the maximum allowable value for the tag, often used for validation or scaling.
Units	Specifies the engineering units associated with the tag's value, such as "kg", "m", or "°C".
DisplayText	Shows the text or label displayed to users for the tag in interfaces.
Format	Defines the display format for the tag's value, such as number of decimal places or date format.
Retentive	Indicates whether the tag's value is retained through system restarts or power cycles.
Category	Categorizes the tag into a group or class for organizational purposes.
Domain	Specifies the scope or area within which the tag is valid or used.
ReadSecurity	Assigns the security level required to read the tag's value.
WriteSecurity	Assigns the security level required to write or modify the tag's value.
Visibility	Defines the visibility of the tag in the system or to certain users.
Description	Provides a detailed explanation of the tag's purpose or usage.

CSV Content Structure

```
TagName, Type, Member, Array, Parameters, StartValue, Min, Max, Units, DisplayText, Format, Retentive,
Category, Domain, ReadSecurity, WriteSecurity, Visibility, Description
Process_Temperature, , , , , , , , , , , , , , , , , ,
Motor_Speed, , , , , , , , , , , , , , , , , ,
Valve_Position, , , , , , , , , , , , , , , , , ,
System_Alarm, , , , , , , , , , , , , , , , , ,
Flow_Rate, , , , , , , , , , , , , , , , , ,
Pressure_Setpoint, , , , , , , , , , , , , , , , , ,
Batch_Number, , , , , , , , , , , , , , , , , ,
Operator_Message, , , , , , , , , , , , , , , , , ,
Maintenance_Mode, , , , , , , , , , , , , , , , , ,
Energy_Consumption, , , , , , , , , , , , , , , , , ,
```

Nodes properties

Node Property	Description
Node	Identifies the device within the network hierarchy, specifying its role and position for communication purposes.
Address	Specifies the specific location or path used to communicate with the device, such as an IP address or a physical address in a protocol.
AccessType	Defines the level of access or permissions for interacting with the device's data, determining whether it is readable, writable, or both.
Modifiers	Applies additional settings or parameters that modify how the device operates or communicates, customizing its behavior for specific requirements.
DataType	Indicates the type of data that the device sends or receives, such as integer, float, string, or boolean, ensuring proper data handling and storage.
Scaling	Adjusts the raw data values from the device to meaningful engineering units, converting measurements for accurate representation and analysis.

About the Node column, if the name configured in the Node column not exist the system will search a Protocol with the same name configured in this column, if found a channel and a node will be created with this name, and the PrimaryStation will not be configured. If the node string already exist the system will use this node in the configuration.

Historian properties

Alarm Property	Description
Limit	Specifies the threshold value that triggers the alarm when a monitored variable exceeds or falls below it.
Group	Categorizes similar alarms together for organizational and management purposes.
Area	Identifies the specific physical or logical area within a facility or system that the alarm is associated with, aiding in localization and response efforts.
Message	Displays the text to operators when the alarm is triggered, providing details about the alarm condition and recommended actions.
Priority	Assigns the level of importance or urgency to the alarm, used to determine the order in which alarms are addressed or displayed to operators.
Setpoint	Specifies the exact value at which the alarm should trigger.
SetpointDeadband	Defines a range around the setpoint that prevents the alarm from repeatedly triggering due to minor fluctuations, ensuring stability in alarm notifications.
Deadband (string)	Represents a deadband value specified as a string, potentially indicating a qualitative setting or referencing a predefined deadband configuration.
AuxValue	Provides an auxiliary value offering additional data or parameters relevant to the alarm condition, enhancing diagnostic capabilities.
DisplayText	Shows the message or information displayed on interfaces or panels when the alarm is active, possibly including dynamic data or formatting.
AuxValue2	Supplies a second auxiliary value offering further details or context related to the alarm, such as supplementary sensor data or calculations.
AuxValue3	Delivers a third auxiliary value providing additional information to support troubleshooting or analysis of the alarm condition.
Disable	Indicates whether the alarm is currently disabled (inactive) or enabled (active), allowing control over alarm monitoring.

Historian properties

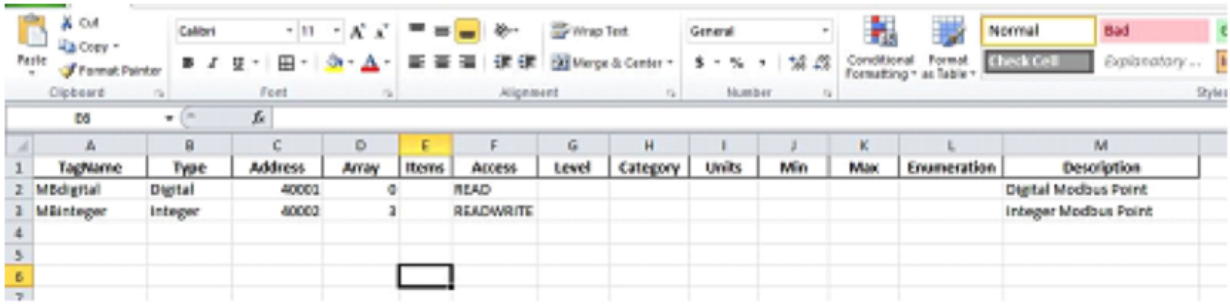
Historian Property	Description
HistorianTable	Specifies the name or identifier of the table within the Historian database where the collected data for a particular tag or measurement is stored.
DeadBand	Defines a range around a value within which changes are ignored (not stored), helping to reduce data storage by filtering out insignificant fluctuations.
Deviation	Represents the difference between the current data point and the last recorded value; if this difference exceeds a set threshold, the new data point is recorded.
DeviationDeadBandType	Indicates the method used for calculating the deviation deadband, such as Absolute or Percentage, determining how deviations are assessed against limits.
DeviationDeadBandLimit	The threshold value for the deviation deadband; when the deviation surpasses this limit, it triggers the storage of the new data point in the Historian.
RateOfChange	Measures how quickly a data value changes over time; if the rate exceeds a predefined limit, the data point is recorded to capture significant trends or spikes.

Importing Tag and PLC Addresses

You can copy and paste the contents of an Excel table. As long you include the title of the columns when you copy and paste the contents of the table, the tables in your solution can have different columns or can be ordered differently. The system will put the data in the expected columns, even if the order is different in the source.

To create and import Tags:

- In Excel, make a table with the columns that are shown below.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	TagName	Type	Address	Array	Items	Access	Level	Category	Units	Min	Max	Enumeration	Description
2	MBdigital	Digital	40001	0		READ							Digital Modbus Point
3	MBinteger	Integer	40003	3		READWRITE							Integer Modbus Point
4													
5													
6													
7													

To successfully import the tags, you need the TagName, Type, and Address columns.

- After you chose the device protocol and create a new node, click the **Import** button. Then, choose the .CSV file that contains the tag's information and click the **Ok** button.
- The Tags and Points will be created automatically in **UnifiedNamespace / Tags.**
- **Devices / Points**

After you use the Import tool for the first time, the system will save whatever settings you used. The import button switches to now be called the "Sync" button. This make the button execute a synchronization that verifies the previously imported addresses and the new ones.

Import from CSV Files

Individual CSV File

In this scenario, we are importing items for each individual table that is available throughout the Solution Designer.

In your Solution Designer, you should find a toolbar located on the top of the display with green arrow in it.

In Tabs that do not contain a table, the import icon is unfocused and is unable to be selected.

For Tabs that do contain grids, the import button is available when the grid is on focus (selected). When the import button is clicked, a dialog window will open.

Browse for the csv file and click **Open**.

Examples

To better understand how to use this feature, we are going to add Alarm Items into our sample solution.

Assuming we have two Tags, *Tag1* and *Tag2,* in our solution. Each tag must have an alarm configured to it.

1. **Tag1** - Belongs to 'Critical' Alarm Group and triggers an alarm when its value is lower than 20.

2. **Tag2** - Belongs to 'Warning' Alarm Group and triggers an alarm when its value is higher than 80.

The import steps are:

- Go to **Alarms / Items**, create a dummy row, and copy it (Ctrl + C).
- On your external Table Editor (e.g. Excel, Google Docs, Notepad, etc), paste the copied content.

3. Fill your table with the required information.

4. Save the file as a '.csv'.

5. Go back to the **Alarms / Items** page and click the **Import CSV File** Button.

If you used a text editor (Notepad, Notepad++, etc), you need to add the comma separator (' , ') between each column.

Extended CSV Files

In this scenario, we are using a single .csv table to import information on Tags, Devices, Alarms and historian items.

In your Solution Designer, navigate to **Solution / Import Tags**. You should see many supported files that can be imported into a solution.

Select the CSV file and browse for your Table File.

The table must obey a certain format. The required columns can be obtained by following the same method as in the previous section; copy from solution and paste on Sheet Editor.

The difference in this method is that the final table is a concatenation of the various grids from the solution.

Examples

To illustrate the usage of this feature, we will add a couple of items to our sample solution. The following items will be added:

Tags:

- MyTag1: Integer DataType and StartValue = 0.
- MyTag2: Digital DataType.

Alarm Items:

- MyTag1:

1. HiHi alarm limit (configured for ‘Critical’ alarm group) set to 95
2. Lo alarm limit (configured for ‘Warning’ alarm group) set to 10

- MyTag2:

1. Hi alarm limit (configured for ‘Critical’ alarm group) set to 1 and Message ’Tag Alarm is Hi’.
2. LoLo alarm limit (configured for ‘Warning’ alarm group) set to 0, Priority set to 1 and Message ’Tag Alarm is LoLo’.

Historian:

- MyTag1: Added to default Historian Table ‘Table1’.
- MyTag2: Added to default Historian Table ‘Table1’.

The table that contains all the columns and rows required to import the items described above can be found in the pictures below (with additional columns):

Following the importation procedure in **Solution / Import Tags**, select the CSV option, browse for the filled csv file, and click **Import**.

Tutorial

The tutorial in the image below shows how to import tags from extended CSV file.

In this section...
