

# Item Creation

## Overview

### Individual CSV File

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

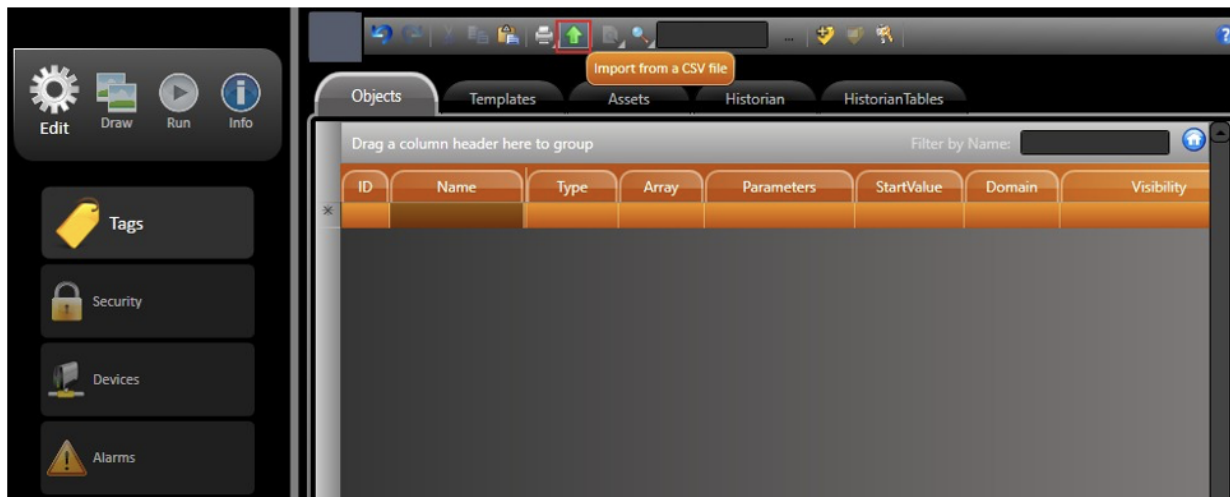
In your Engineering Environment, you should find a toolbar located on the top of the display with green arrow in it.

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 on, a dialog window will open.

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



## Examples

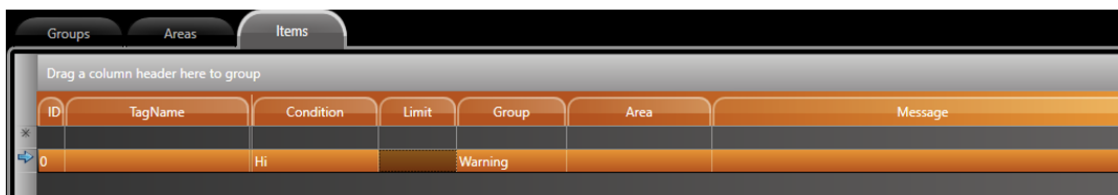
To better understand how to use this feature, we are going to add Alarm Items into our sample project.

Assuming we have two Tags, *Tag1* and *Tag2*, in our project. 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 **Edit > Alarms > Items**, create a dummy row, and copy it (Ctrl + c).
- On your external Table Editor (ex. Excel, Google Docs, Notepad, etc), paste the copied content.



*Dummy row created in Alarm Items*

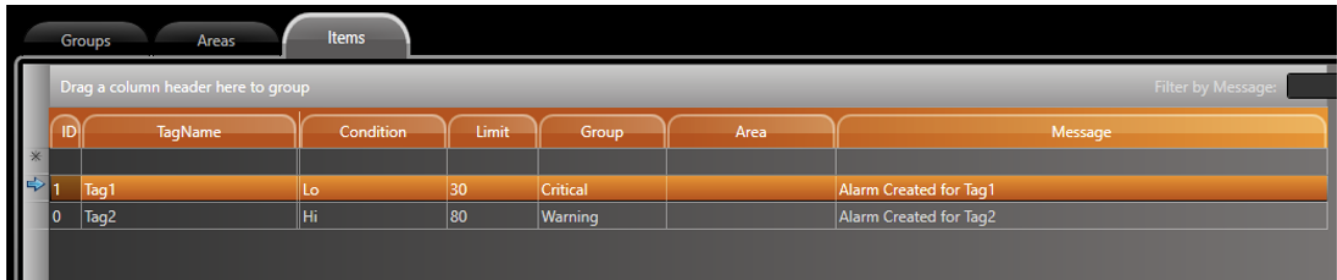
	A	B	C	D	E	F
1	TagName	Condition	Limit	Group	Area	Message
2		Hi		Alarm.Group.Warning		
3						
4						
5						

*Pasted content in Excel*

3. Fill your table with the required information.


	A	B	C	D	E	F
1	TagName	Condition	Limit	Group	Area	Message
2	Tag1	Lo	30	Alarm.Group.Critical		Alarm Created for Tag1
3	Tag2	Hi	80	Alarm.Group.Warning		Alarm Created for Tag2
4						
5						

4. Save the file as a '.csv'.
5. Go back to the **Edit > Alarms > Items** page and click on the 'Import CSV File' Button.



The screenshot shows the 'Items' tab in the Engineering Environment. At the top, there are tabs for 'Groups', 'Areas', and 'Items'. Below the tabs is a header bar with the text 'Drag a column header here to group' and a 'Filter by Message:' dropdown. The main area contains a table with the following columns: ID, TagName, Condition, Limit, Group, Area, and Message. The table has two rows of data.

ID	TagName	Condition	Limit	Group	Area	Message
1	Tag1	Lo	30	Critical		Alarm Created for Tag1
0	Tag2	Hi	80	Warning		Alarm Created for Tag2

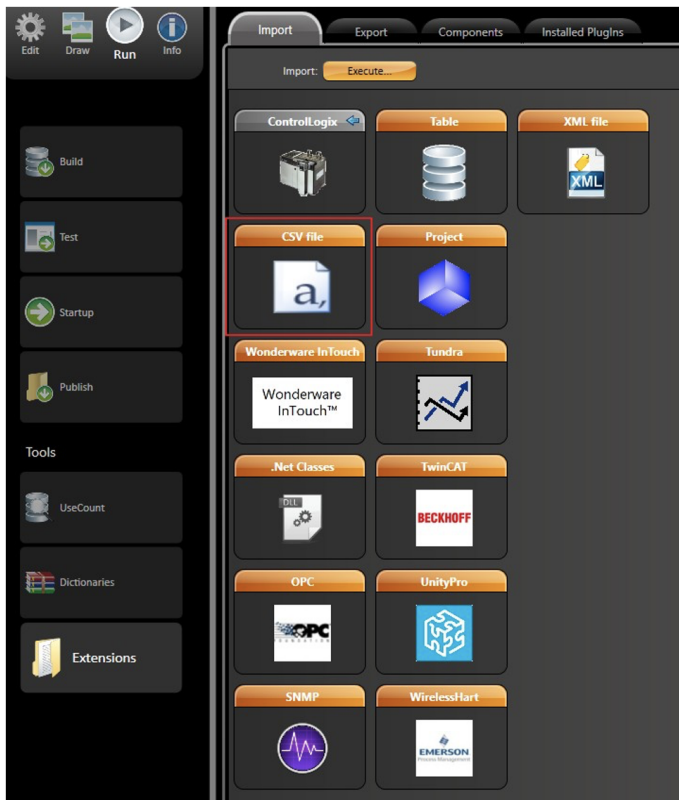
 If you used a text editor (Notepad, Notepad++, etc), you need to add the comma separator (',' ) between each column.

## Full CSV File

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

In your Engineering Environment, navigate to **Run > Extensions > Import**. You should see many supported files that can be imported into a project.

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 project and paste on Sheet Editor.

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

## Examples

To illustrate the usage of this feature, we will add a couple of items to our sample project. 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:
  3. Hi alarm limit (configured for 'Critical' alarm group) set to 1 and Message 'Tag Alarm is Hi'.
  4. 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):

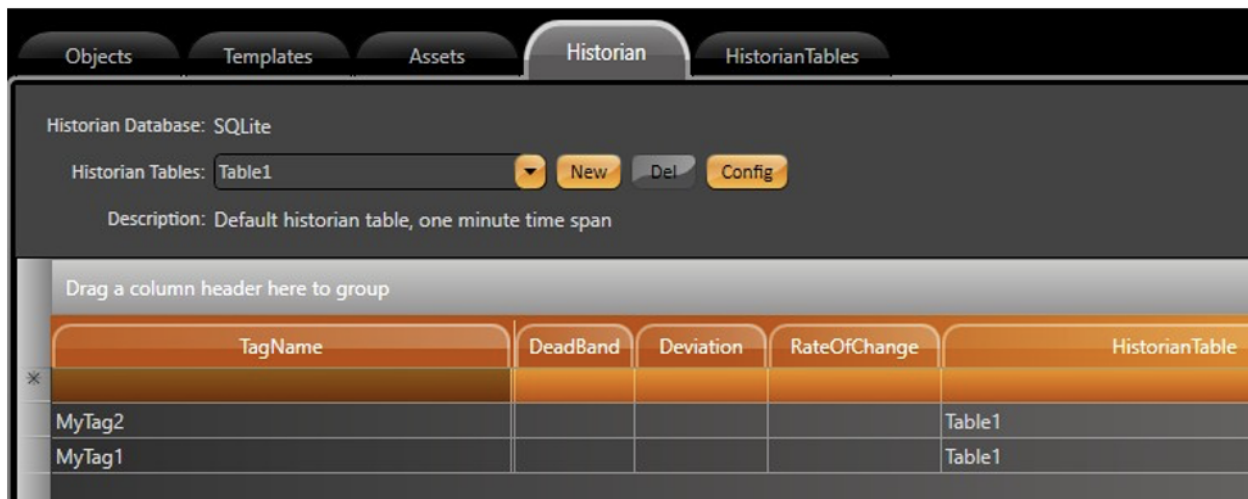
Following the importation procedure in **Run > Extensions > Import**, select the CSV option, browse for the filled csv file, and click on import.



ID	Name	Type	Array	Parameters	StartValue
2	MyTag2	Digital			
1	MyTag1	Integer			0



ID	TagName	Condition	Limit	Group	Area	Message
3	MyTag2	Lo	0	Warning		Tag Alarm is LoLo
2	MyTag2	HiHi	1	Critical		Tag Alarm is Hi
1	MyTag1	Lo	10	Warning		
0	MyTag1	HiHi	95	Critical		



## EngWrapper Tool

In this scenario, we are using an API that allows C# or VB.Net applications to create and edit projects with third party applications.

When the software is installed, it will install the EngWrapper.dll inside the binaries folder (xx-2016.2). This is the file containing the EngWrapper API.

For this feature, you will need to have a C# or VB.Net IDE installed on your computer. We recommend Visual Studio, as there is a sample solution already developed for it.

Through this IDE, you will be able to call one method to create items in the project, without the need to manipulate the project database.

You must use a WebServer (TWebServer or IIS) configured to the software. When creating a new object for the Project class from EngWrapper, it will use the WebServer to connect to the project. It is recommended to close the project before using the EngWrapper API or to open the project as remote development. If you do not do this, you will see the created project configuration when you close and reopen the project.

There are more details on every available method for the EngWrapper API on the documentation that comes with the sample project. Contact support if you do not have the project files.

To initiate the project configuration, you need to connect to a project using the syntax below:

```
public Project(
    string projectName, string version = "xx-8.1",
    string server = "http://localhost/TProjectServer/", bool enableLogger = false,
    bool assetLevel = true)
// Parameters:
// projectName: Full filename of the of project file
// version = Product version
// server = TProjectServer path. Defaults: http://IPAddress:Port/TProjectServer/
// enableLogger = Flag indicating whether log is enabled
// assetLevel = Indicates if the assetLevel is created
```

For more syntax on the other project objects (Tags, Templates, Devices, etc.), see the [EngWrapper documentation](#).

## Examples

This section contains examples on API usage in the C# programming language.

### Connect to Project:

```
Project project = new Project(@"C:\Projects\Project.tproj", "xx-8.1", "http://localhost/TProjectServer/", true)
```

**Add new Tag Name:**

```
project.AddTag("Tag1","CommentTag1",Project.eTagType.Double,"V","25","0","800","","", "#1", tagDescription:"DescTag1");

project.AddTag("TagEnum1","CommentTagEnum1",Project.eTagType.Digital,tagParameters:"Enum=Enum1;",
tagDescription:"DescTagEnum1");
```

**Add Script Class:**

```
string script = "public int Add(int a)+" + Environment.NewLine + "{" + Environment.NewLine + "\t"+
"return a + 1;" + Environment.NewLine +
"}" + Environment.NewLine;
project.AddScriptClass("class1",Project.eScriptCode.CSharp,Project.eDomain.Server,script);
```

**Add Device Node:**

```
project.AddDeviceNode("Node1","Channell","192.168.10.19;502;1","192.168.10.19;503;1","Node For Channell",0);
```

**Add Device Point:**

```
project.AddDevicePoint("Tag1","Label for Tag1","Node1", "40001",Project.eDataType.Native,"", "ReadWrite",
Project.PrepareScaling(0, 65535, 0, 800));
```