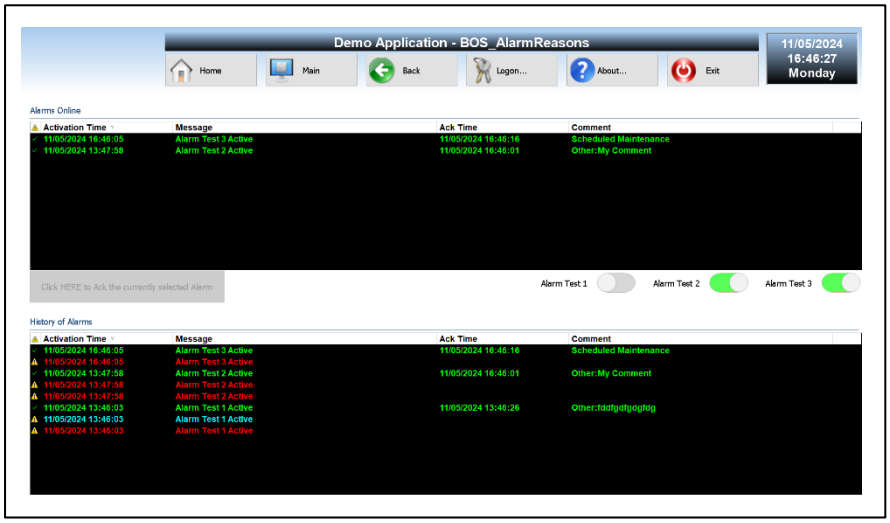
Sample Templates Document: Blue Open Studio Alarm - Reasons



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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.
Failure to observe this information can result in injury or equipment damage.

Safety Information

Important Information

NOTICE

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

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A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation and has received safety training to recognize and avoid the hazards involved.

About the Book

At a Glance

Document Scope

This manual describes how to use this product.

Validity Note

This documentation is valid for this product.
The technical characteristics of the device(s) described in this manual also appear online at *https://www.proface.com/en/download/search?fileTypeId=manual*.

The characteristics presented in the present document should be the same as those that appear online. In line with our policy of constant improvement we may revise content over time to improve clarity and accuracy. In the event that you see a difference between the document and online information, use the online information as your reference.

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Product Related Information

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In the event this product does not run properly due to whatever reason, it may be difficult or impossible to identify a function. Functions that may present a hazard if not immediately executed, such as a fuel shut-off, must be provided independently of this product. The machine's control system design must take into account the operator being unable to control the machine or making mistakes in the control of the machine.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise should be allowed to program, install, alter, and apply this product.

- Follow all local and national safety standards.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

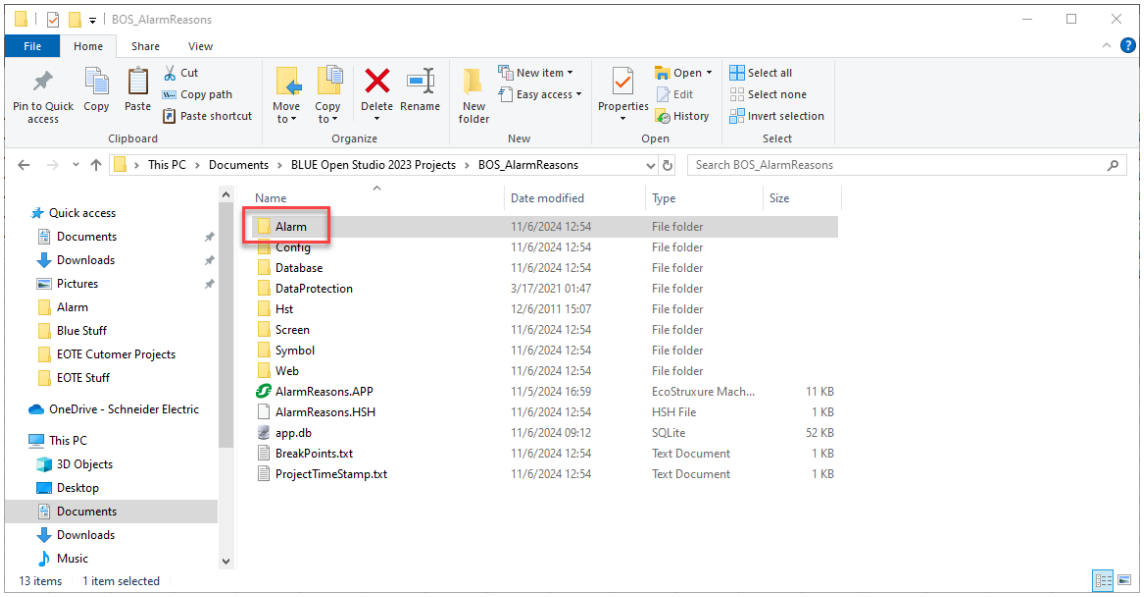
For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

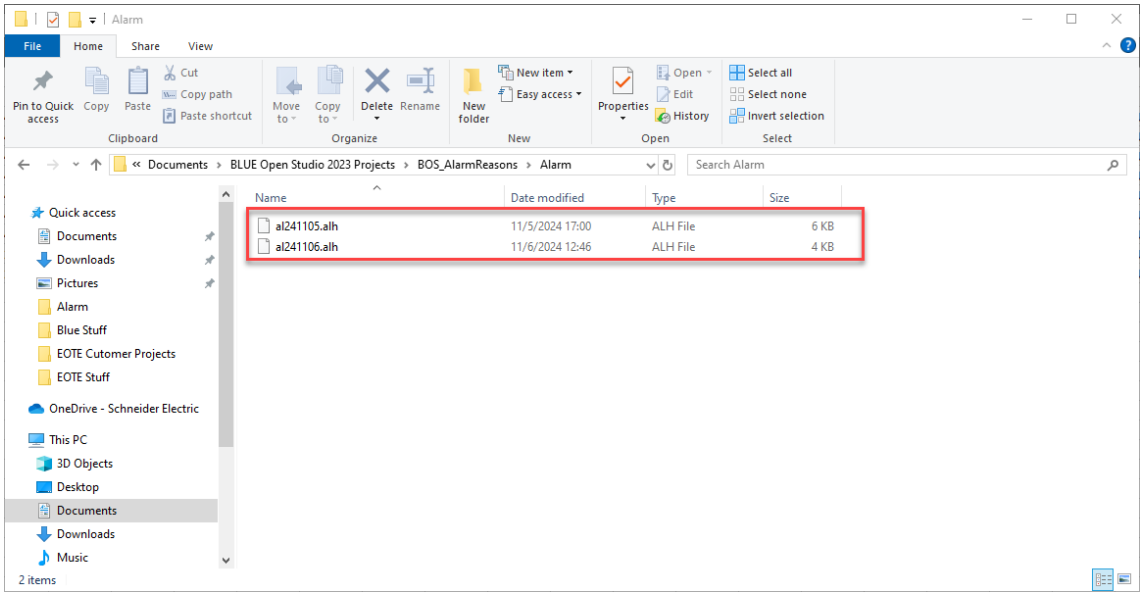
Table of Contents

Blue Open Studio Alarm Reason V2 Extended Technical Description

The purpose of this example project is to provide a simple way to illustrate how by using a combination of the built in BOS Alarm Functionality and built-in commands you can create a system that will allow you to choose a reason from a set of specific reasons or enter a generic reason that allows for a comment.

The alarms are stored in a delimited text file in the Alarms Folder of the Project, the file has a .alh extension. A new alarm file is created every day for the day's alarms.





This document will show you how to use the project, how to integrate the project for your use, how the project works and how you can add alarms and more alarm reasons to the project.

Section 1 -How to use project

Running project from local build time.

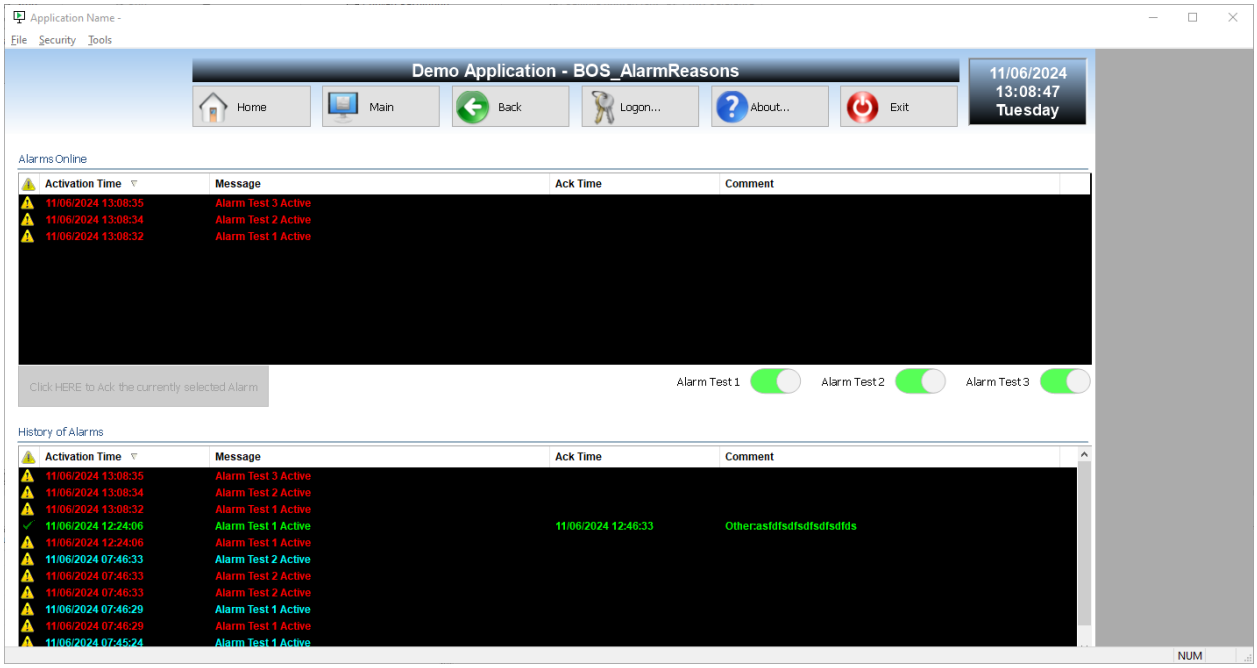
Opening Screen (Home Screen)

Demo Application

BOS_AlarmReasons

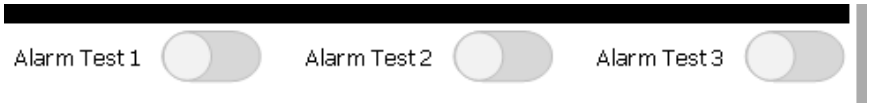
Selecting Main Screen navigates to Main Project Screen. Security is enabled in the project, but no users or levels are configured.
About shows the BOS runtime version. Exit exits the viewer.

Main Project Screen

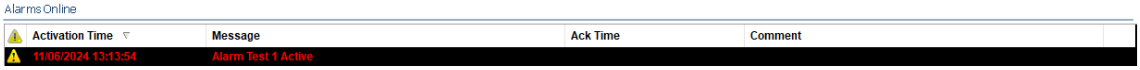


The top Alarm Window is an Alarms Online Alarm Window which is only showing the current alarm messages. The bottom Alarm window is showing the Alarm history.

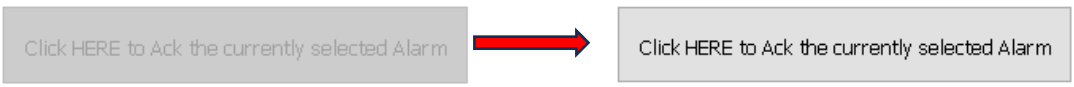
Use the Alarm Test Slider buttons to activate the alarms.



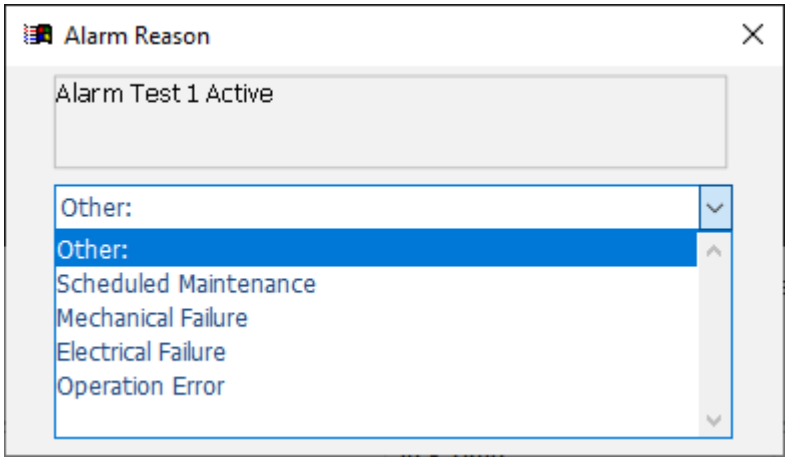
This will activate the given alarm.



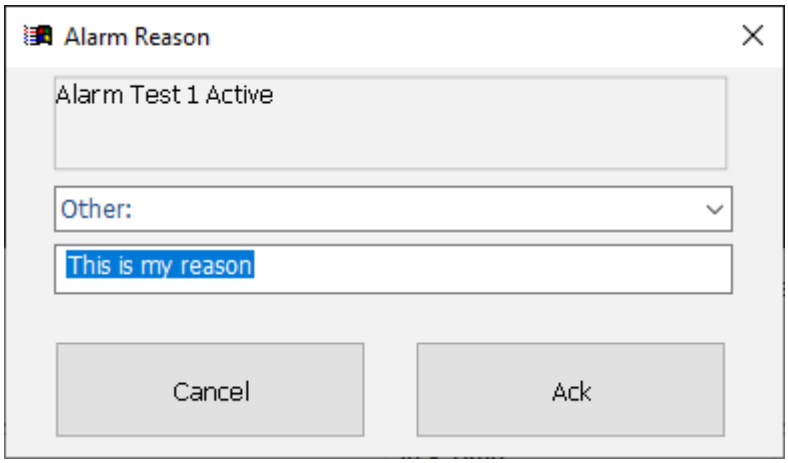
Select the Alarm in the Alarm window by select or touch. When an alarm is selected in the list the button to Ack and comment the alarm will be enabled.



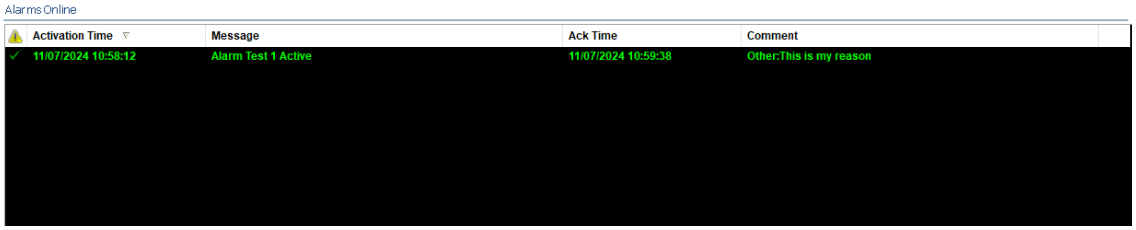
After the button is enabled you can touch the button to Ack the selected alarm, select and Alarm Reason from a drop-down list.



If you select Other: you can enter a comment.



Then click ACK, this will Acknowledge the alarm and enter the entered comment.



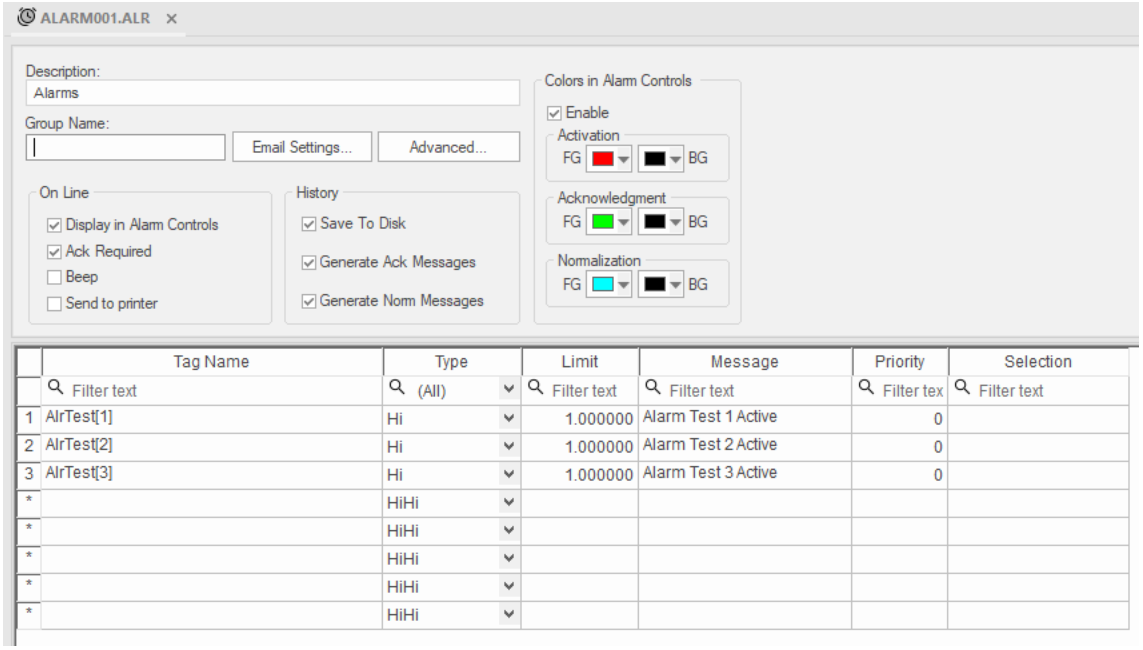
Comment will then be in the line in the ALH file.

```
Alarm Summary

005|07/11/2024|10:58:12.418|AlrTest[1]|Alarm Test 1 Active|1|1|1.000000|1|0| |2|1|          |          |          |          |Guest| | |WTUSLVSE268982L|0.000000|360|0|49:-1:0:2| ||
005|07/11/2024|10:58:12.418|AlrTest[1]|Alarm Test 1 Active|0|1|1.000000|1|0| |2|1|          |          |          |07/11/2024|10:59:38.471|Guest|Other:This is my reason| |WTUSLVSE268982L|1.000000|360|0|49:-1:0:2| ||
```

Section 2 How the Project works

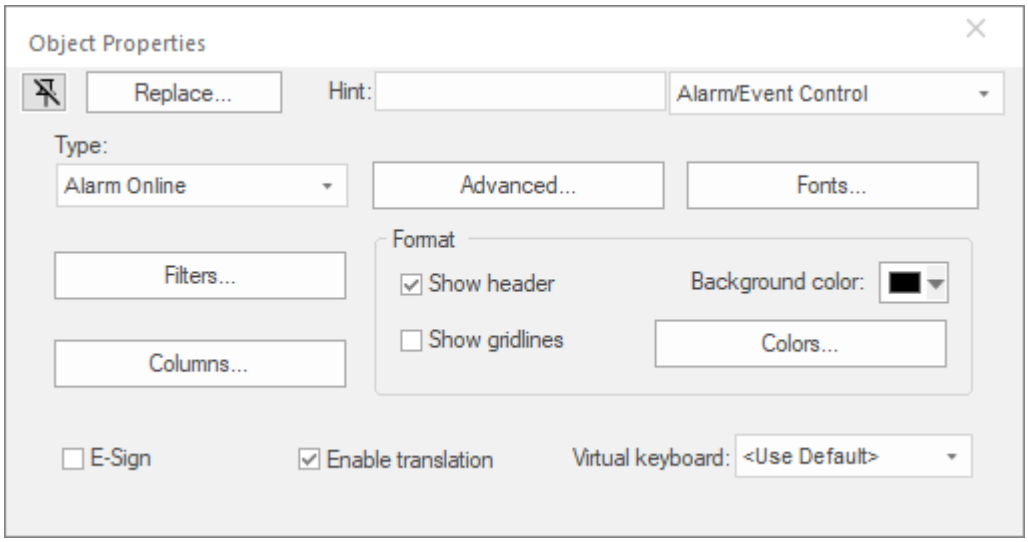
a. Tasks -> Alarms. Single Alarm Group.



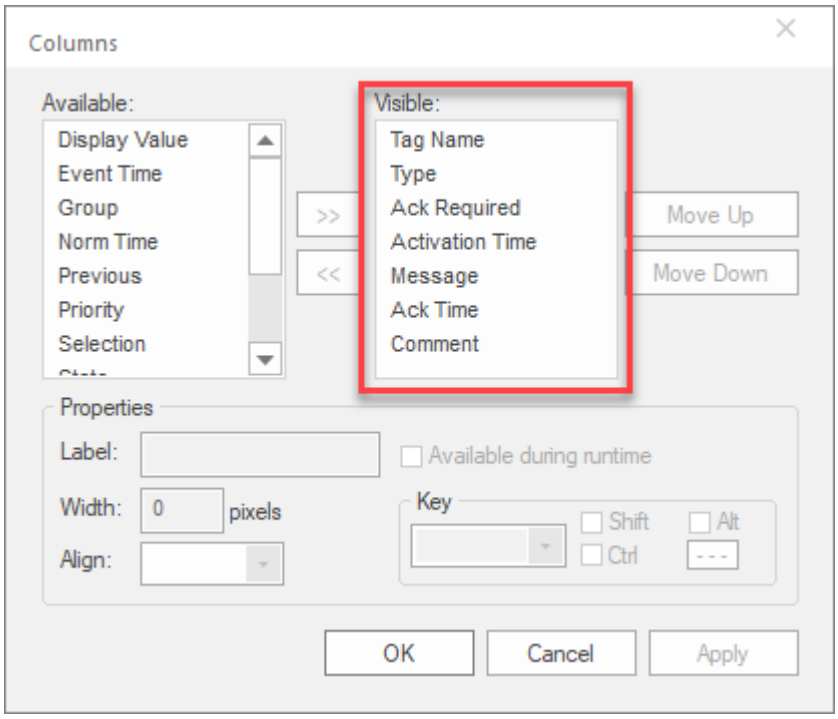
Bool Array AlrTest[]. Hi alarm on limit = 1.

Screen main, has two alarm windows, online (active alarms), and History.

Alarm Online part configuration:

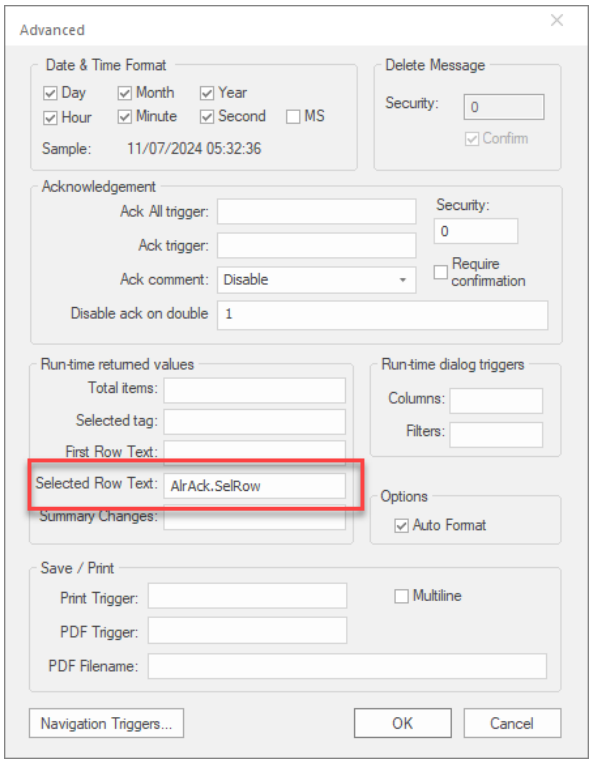


Columns field is important, this controls the order in which the alarms are written to the system, and to parse out the comment properly, this needs to be set this way.



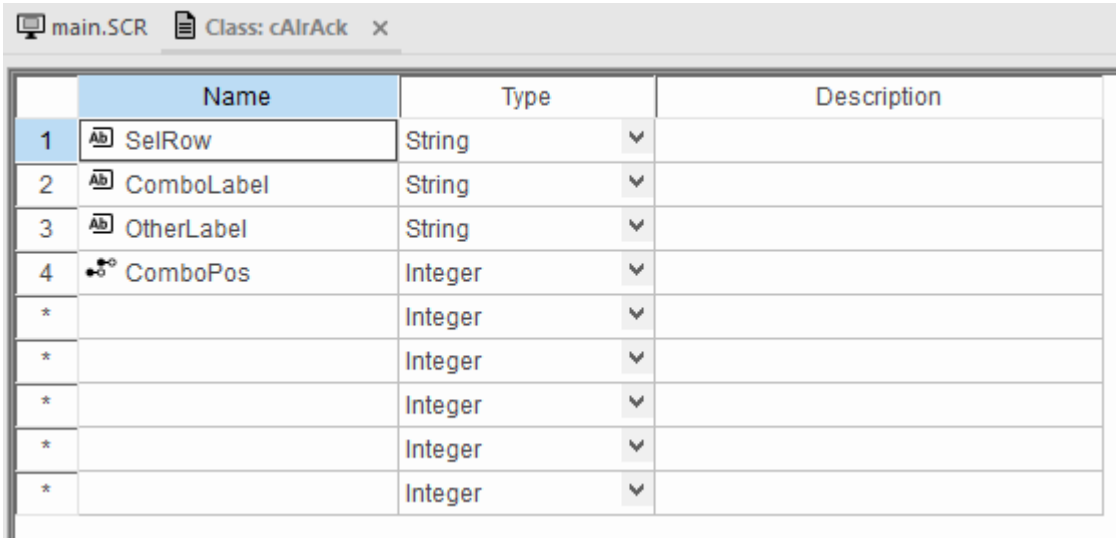
If you add items after the Comment field then you should not need to edit any other parts. If you add items before you will need to adjust the StrGetElement() command to parse the correct Column.

b. Advanced settings, run-time returned values, selected row text.

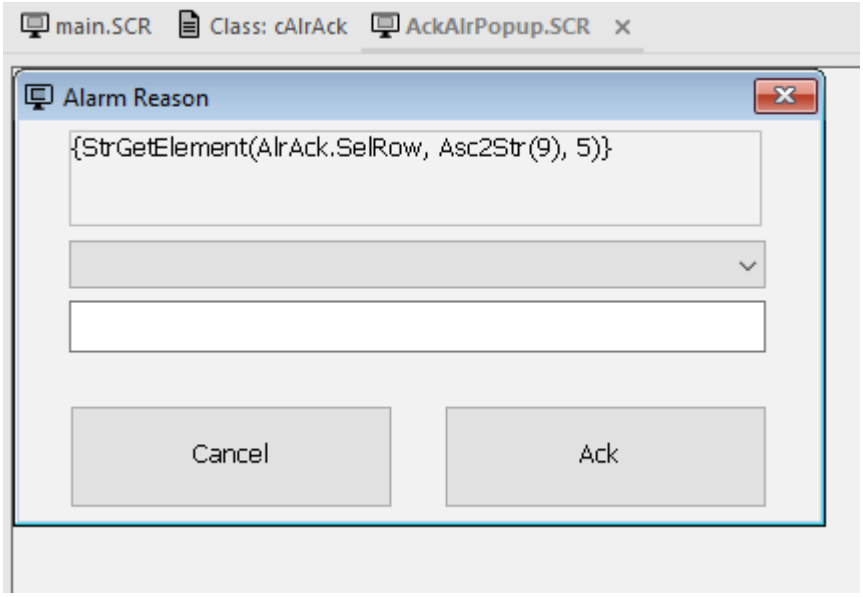


AlrAck.SelRow is part of a class cAlrAck

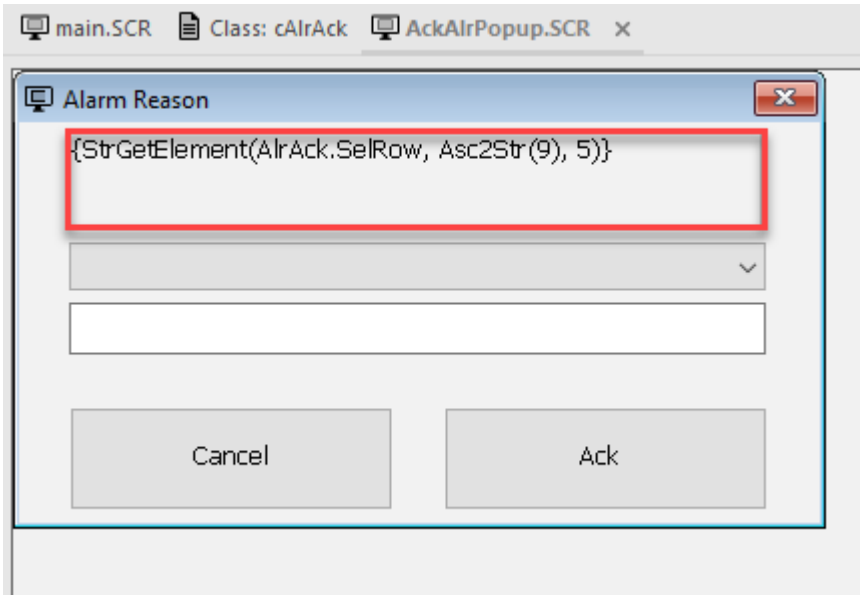
SelRow will hold the entire text fields from the alarm message in a tab delimited format.



c. Screens -> AckAlrPopup



Rectangle Object Caption:



{StrGetElement(AlrAck.SelRow, Asc2Str(9), 5)}

StrGetElement() built in command.

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Appendix: Built-in Language > String functions >

StrGetElement

Gets a specific element from a string source that contains a series of elements separated by a delimiter character.

Function	Group	Execution	String Exp.	Windows	HMI Runtime	Thin Clients	Mobile Access
StrGetElement	String	Synchronous	Yes	Supported	Supported	Supported	Supported

Syntax

```
StrGetElement(strSource, strDelimiter, numElementNumber)
```

strSource
The source string.

strDelimiter
Char used as delimiter between the elements in **strSource**.

numElementNumber
Number of the element which will be returned by the function. The first element has the number 1. The second element has the number 2, and so forth.

Returned value

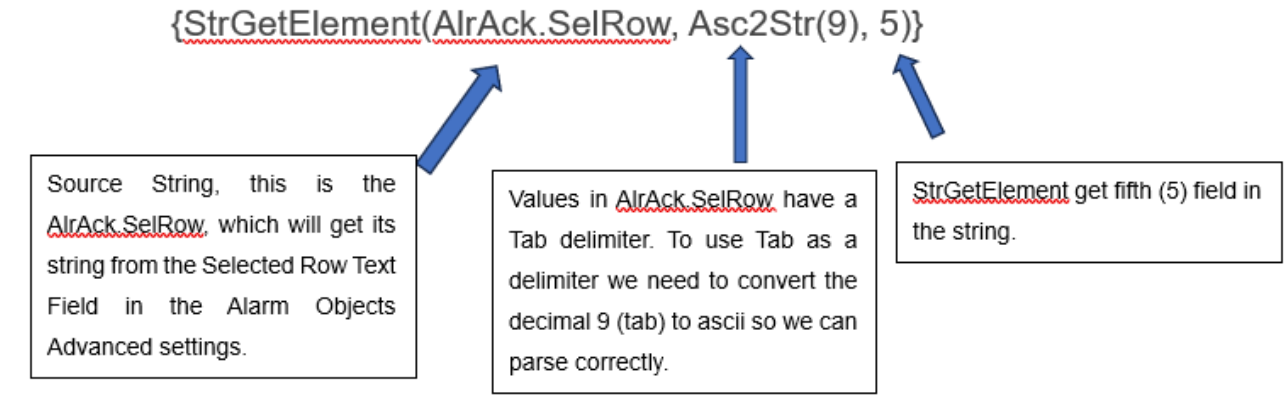
Returns the element (string value) retrieved from **strSource**.

Examples

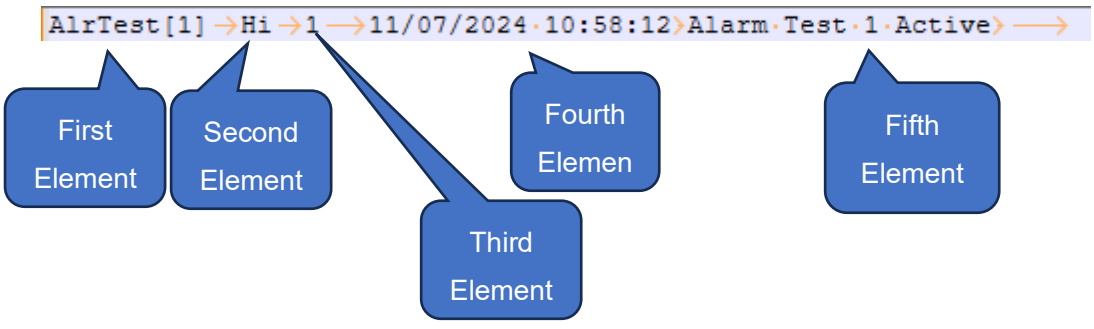
Tag Name	Expression
Tag	`StrGetElement("a|b|c", "|", 2)` // returned value = "b"
Tag	`StrGetElement("a,b,c", ",", 3)` // returned value = "c"

Parent topic: String functions

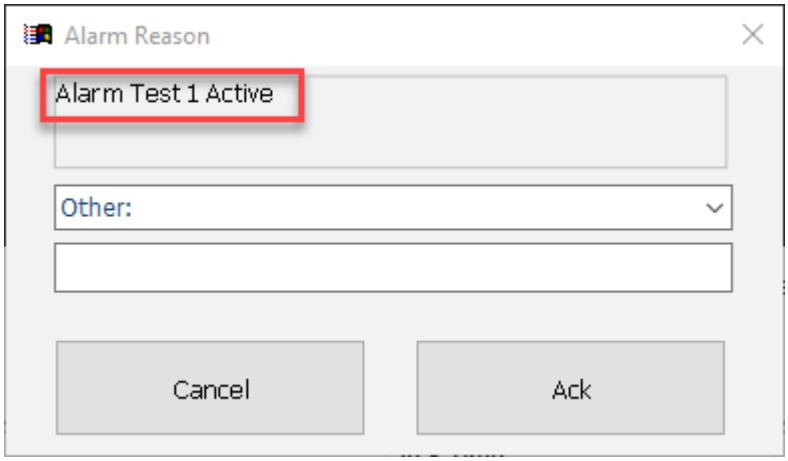
Placing { } around statement allows us to embed built-in language commands in the proper fields.



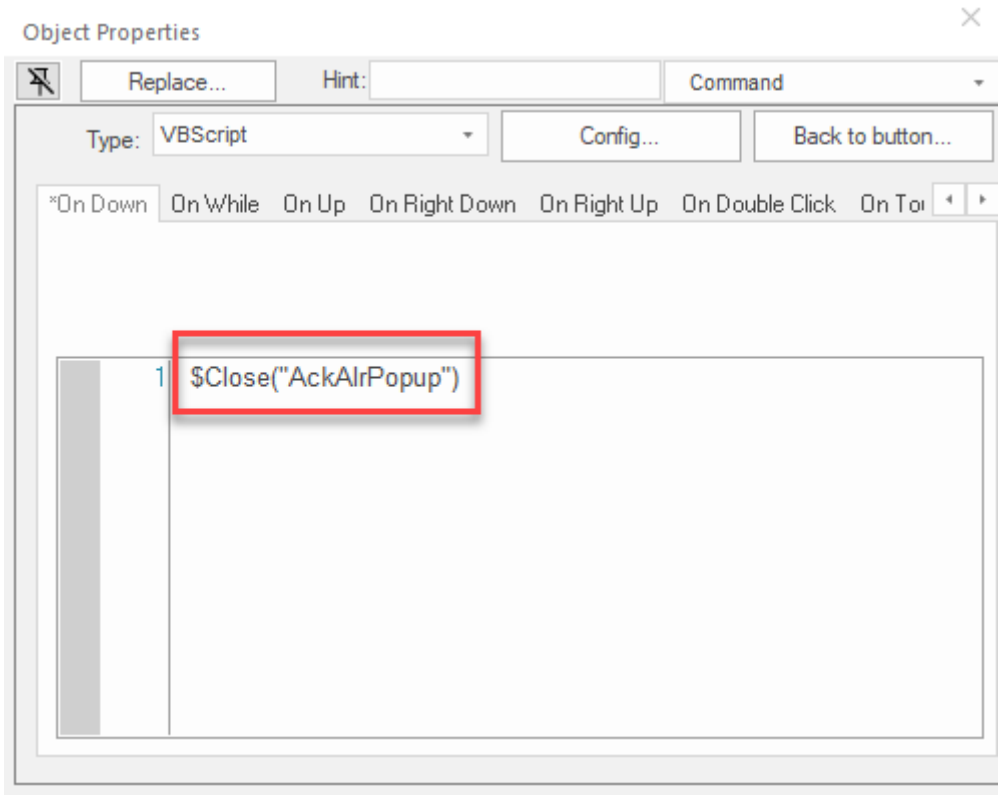
String extracted from this command:



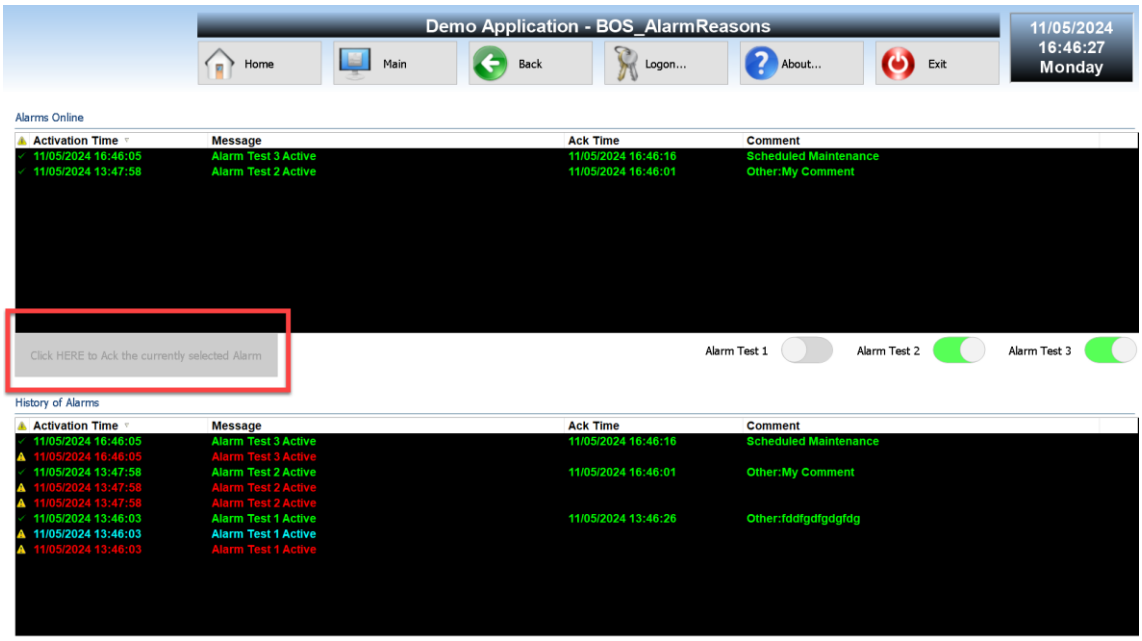
Result is that when you select an alarm in the alarm window its parsed into the caption.



Clicking the Cancel button closes the Screen.

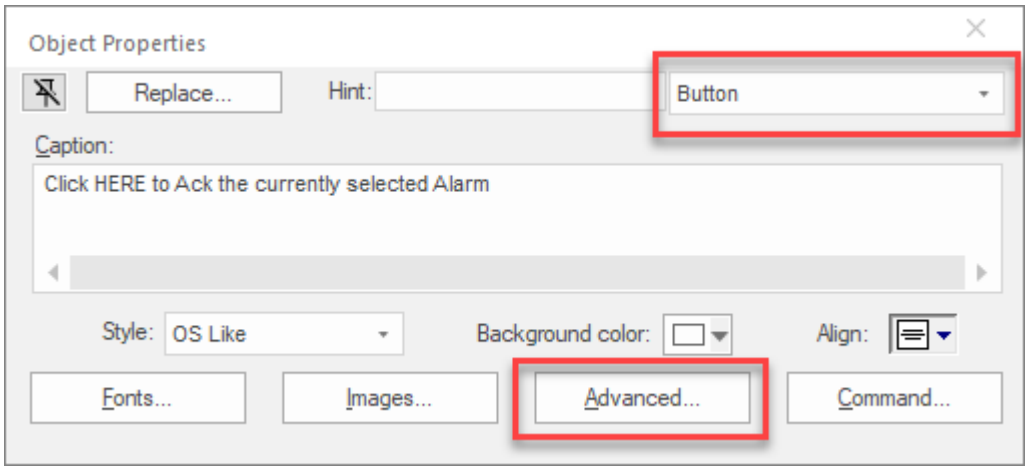


d. About the runtime behavior where the Ack button is grayed out.

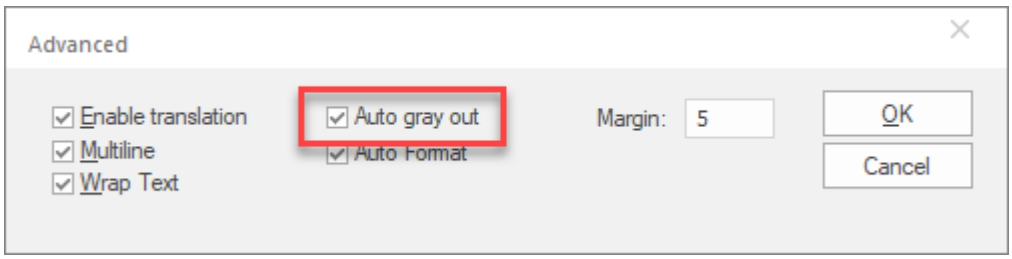


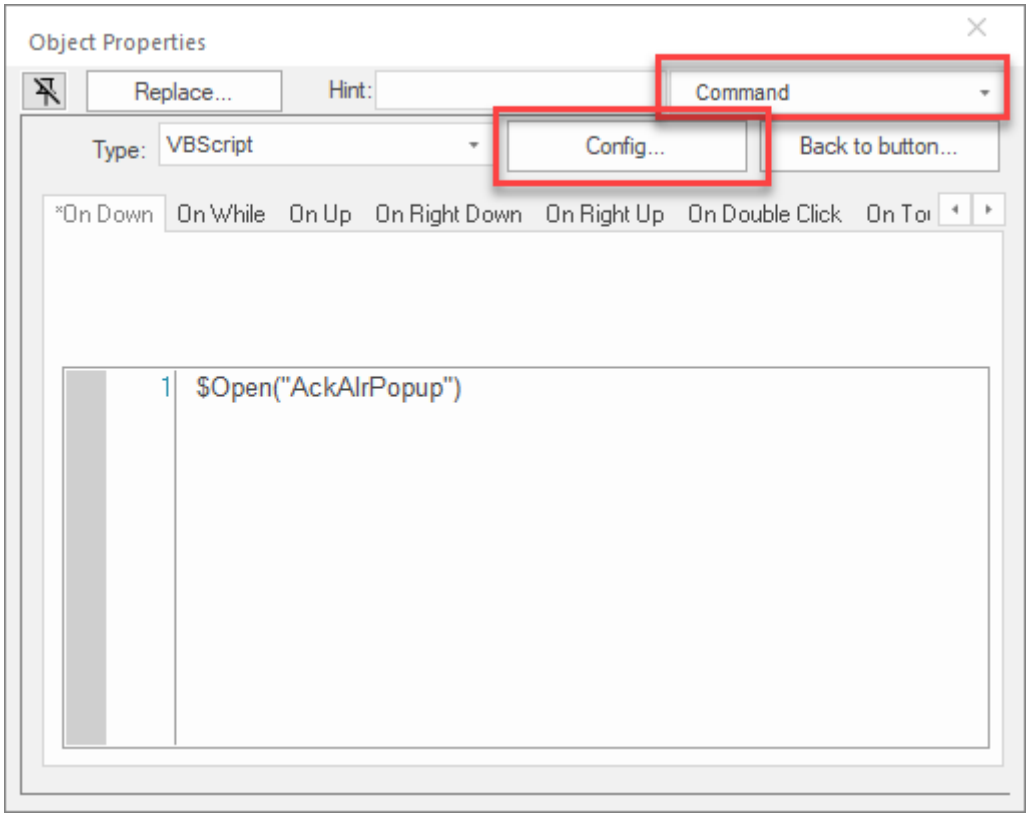
This uses a combination of two settings.

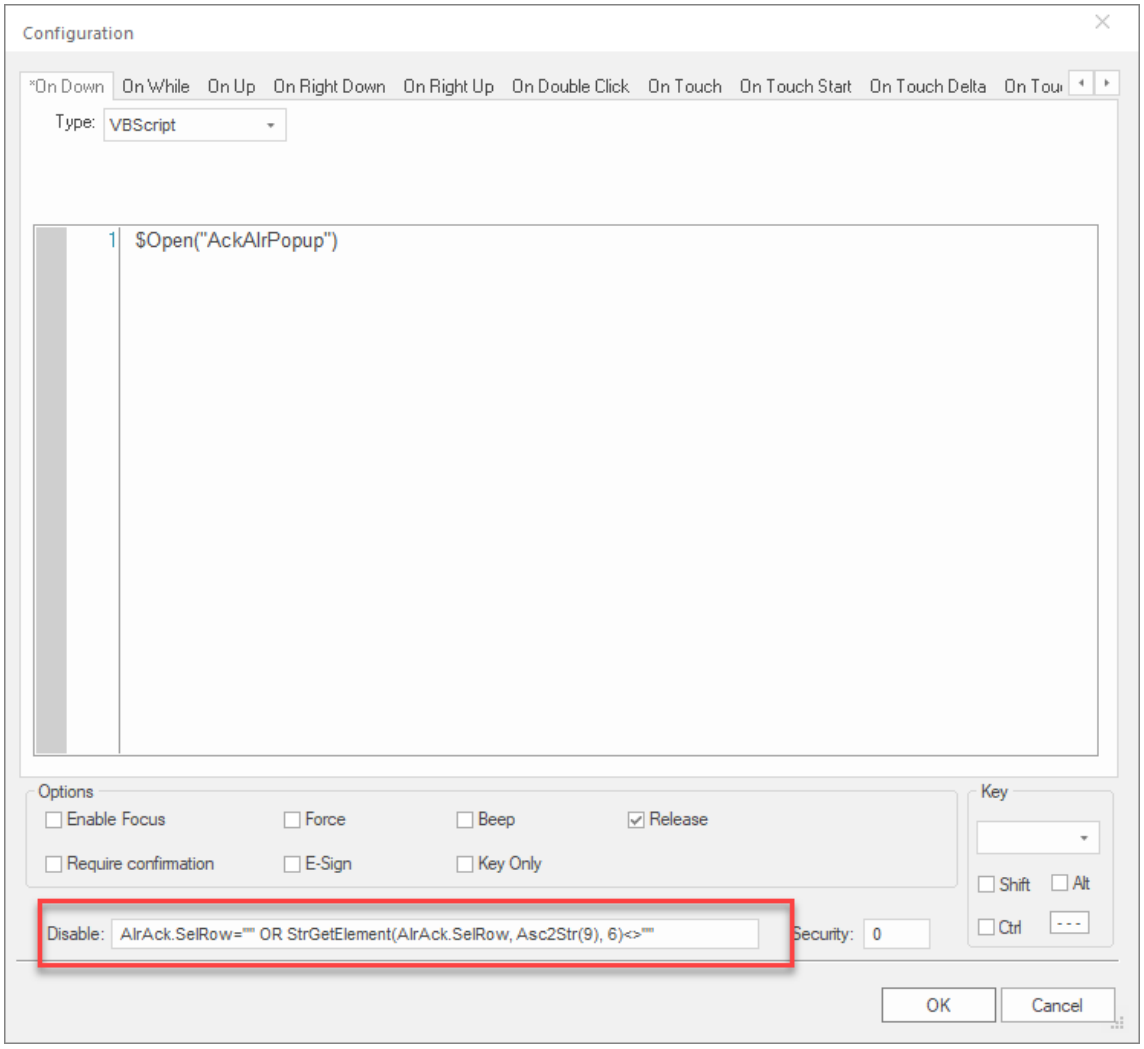
1. In the Button Part -> Advanced



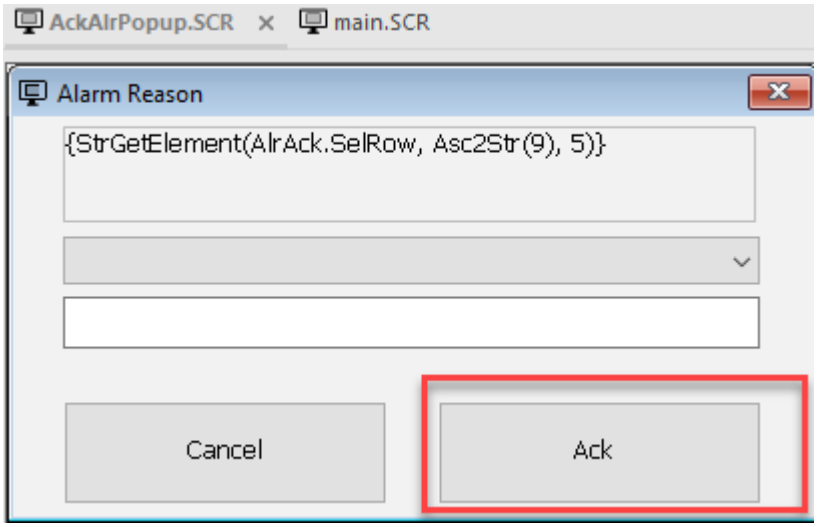
a. Auto Gray Out, when command disable condition met.

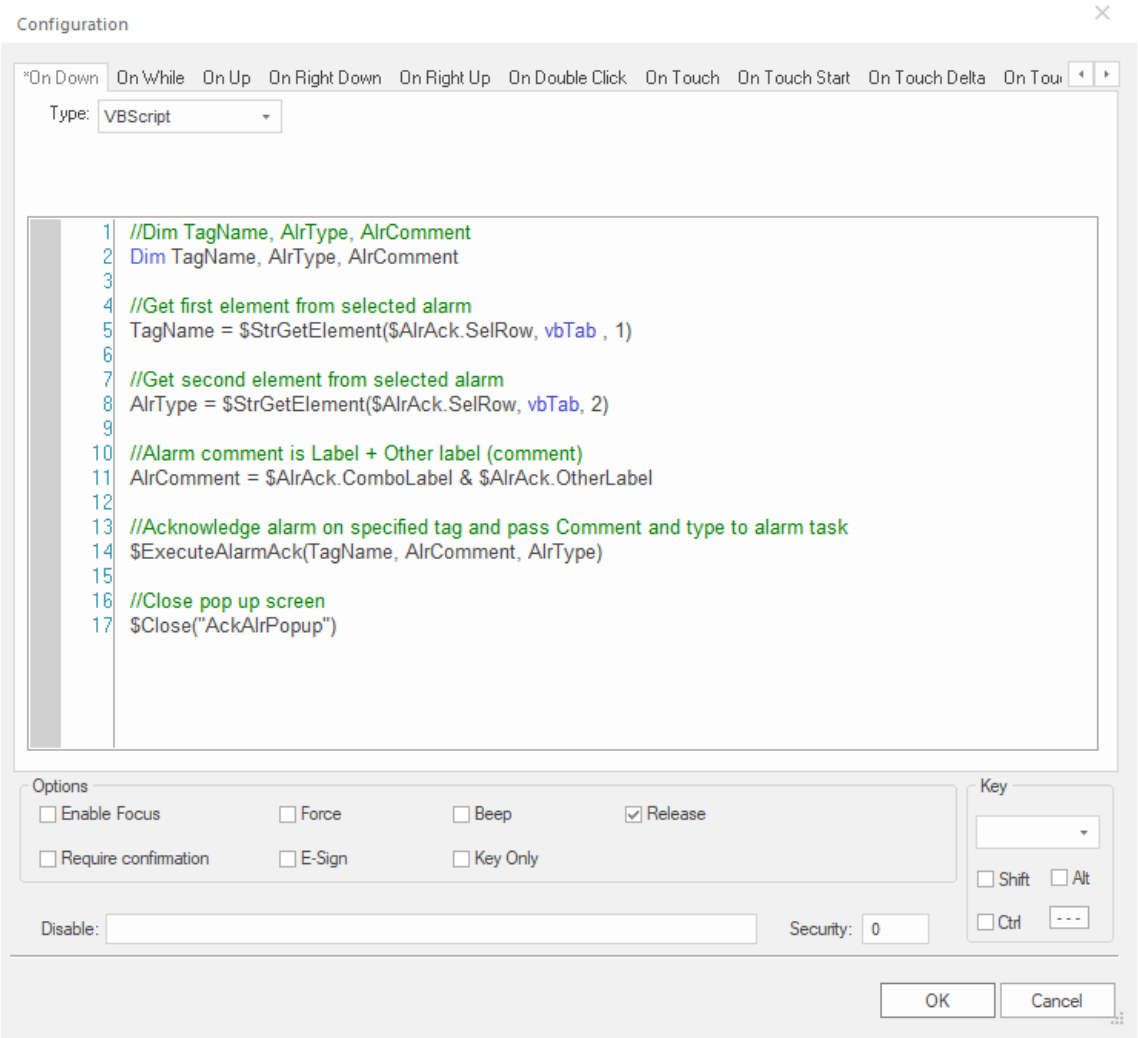



Object Properties
Replace...
Hint:
Command
Type:
VBScript
Config...
Back to button...
*On Down
On While
On Up
On Right Down
On Right Up
On Double Click
1
$Open("AckAlrPopup")



e. AckAlrPopup Screen Ack button code.





Code.

Allocating memory in VB for temporary storage

```
//Dim TagName, AlrType, AlrComment
Dim TagName, AlrType, AlrComment

//Get first element (TagName) from selected alarm and Move to TagName
TagName = $StrGetElement($AlrAck.SelRow, vbTab , 1)

//Get second element (Alarm type, Hi HiHi, Lo, LoLo) from selected alarm and Move to AlrType
AlrType = $StrGetElement($AlrAck.SelRow, vbTab, 2)

//Alarm comment is Label + Other label (comment), combo label is from drop down, other label is entered comment
```

AlrComment = $AlrAck.ComboLabel & $AlrAck.OtherLabel

//Acknowledge alarm on specified tag and pass Comment and type to alarm task

$ExecuteAlarmAck(TagName, AlrComment, AlrType)

//Close pop-up screen

$Close("AckAlrPopup")

//Acknowledge alarm on specified tag and pass Comment and type to alarm task

$ExecuteAlarmAck(TagName, AlrComment, AlrType)

Appendix: Built-in Language > Tags Database functions >

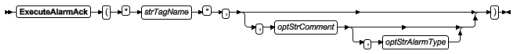
ExecuteAlarmAck

This function acknowledges an active alarm on the specified tag. The advantage of using this function is that if used from the Thin Client, the Alarm task will store the user name and station from which the alarm was acknowledged.

Function	Group	Execution	String Exp.	Windows	HMI Runtime	Thin Clients	Mobile Access
ExecuteAlarmAck	Tags Database	Synchronous	No	Supported	Not supported	Supported	Executed on Server

Syntax

```
ExecuteAlarmAck("strTagName",optStrComment,optStrAlarmType)
```



strTagName

Name of the tag on which the alarm will be acknowledged.

Note: If this parameter is enclosed in quotes, the string literal will be used. Otherwise, the value of the tag/expression will be used.

optStrComment

An optional comment to send to the Alarm task, along with the user name and station.

optStrAlarmType

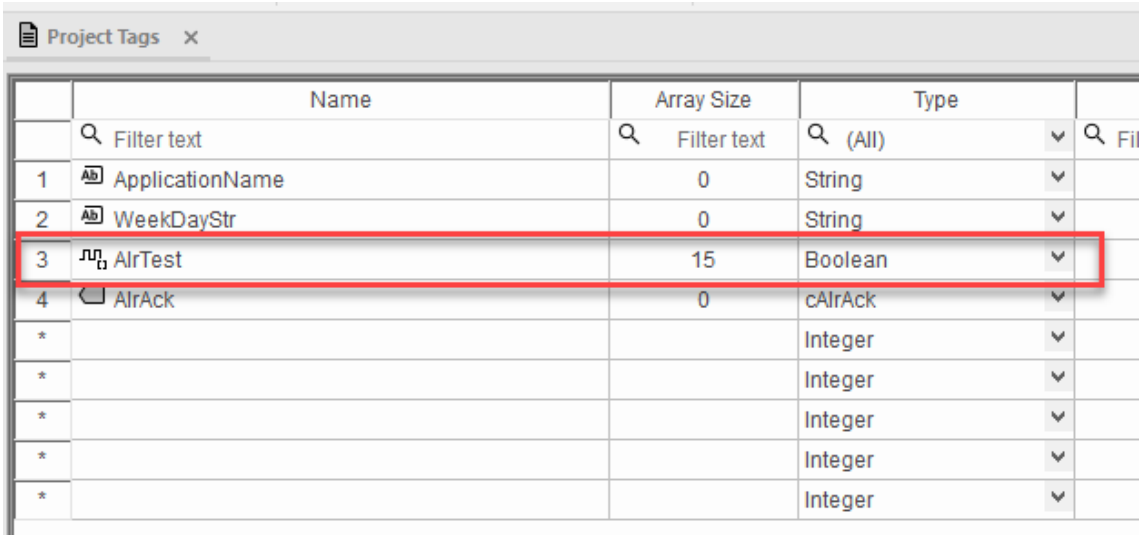
If more than one alarm is active on the specified tag, you can specify which alarm (e.g., Hi, Lo, HiHi, LoLo) to acknowledge. Otherwise, the function acknowledges the most recently activated alarm.

//Close pop-up screen

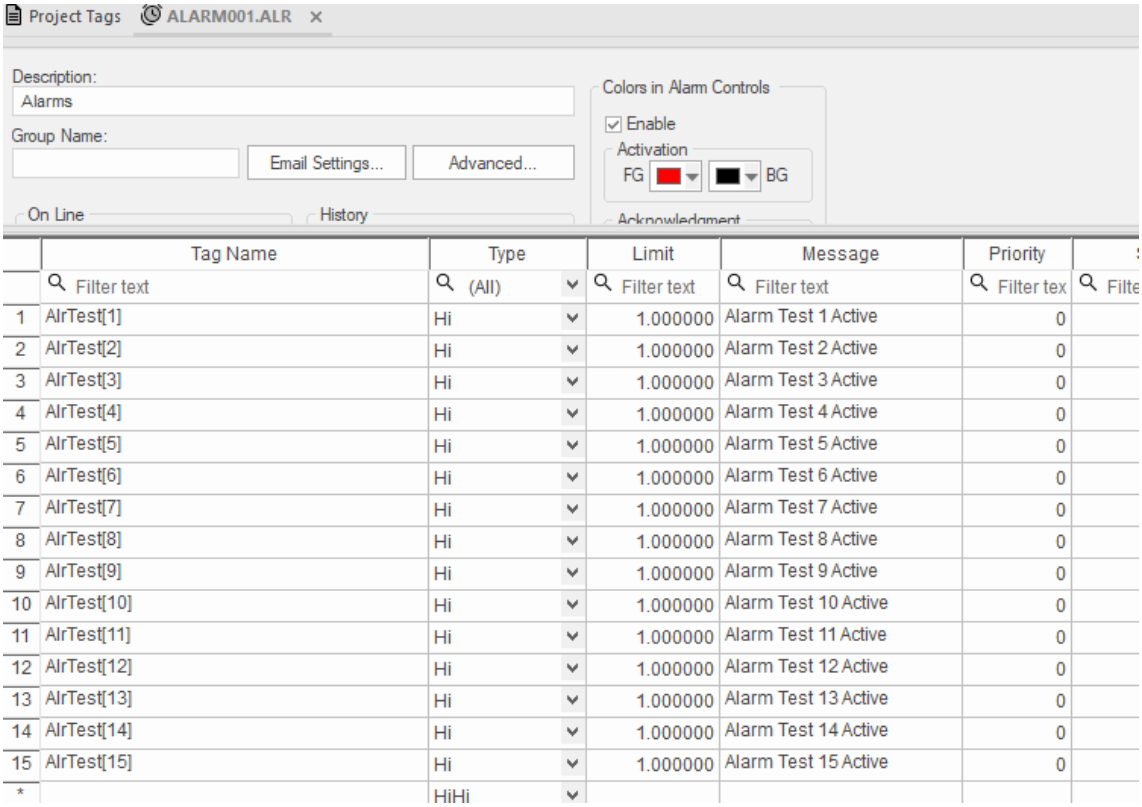
$Close("AckAlrPopup")

Section 3 Adding Alarms and Alarm Reasons

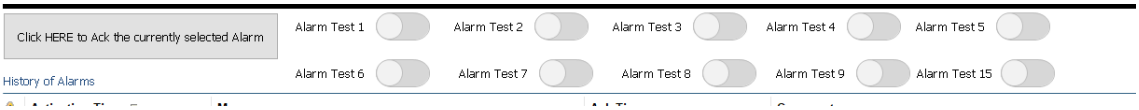
1. Increase array size for BOOL ARRAY AlrTest[] to 15



2. Tasks -> Alarms add tags and messages

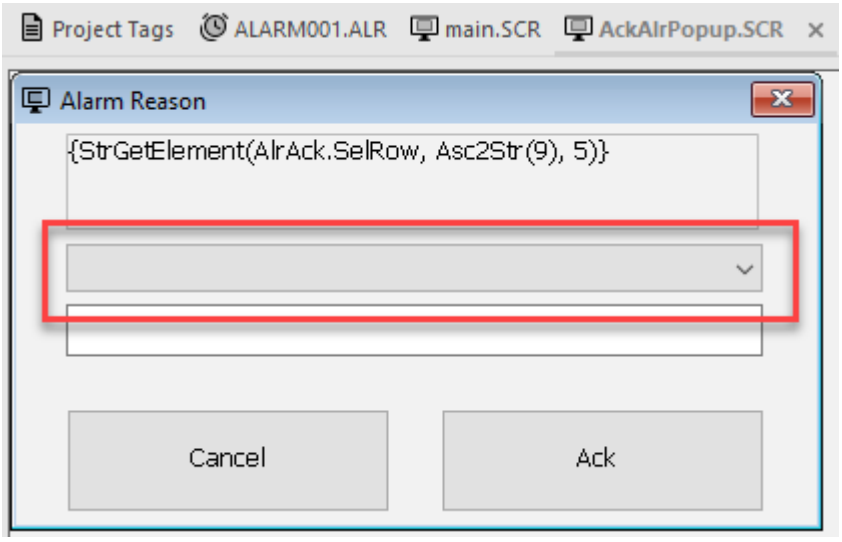


3. Add objects to Main screen to trigger alarms

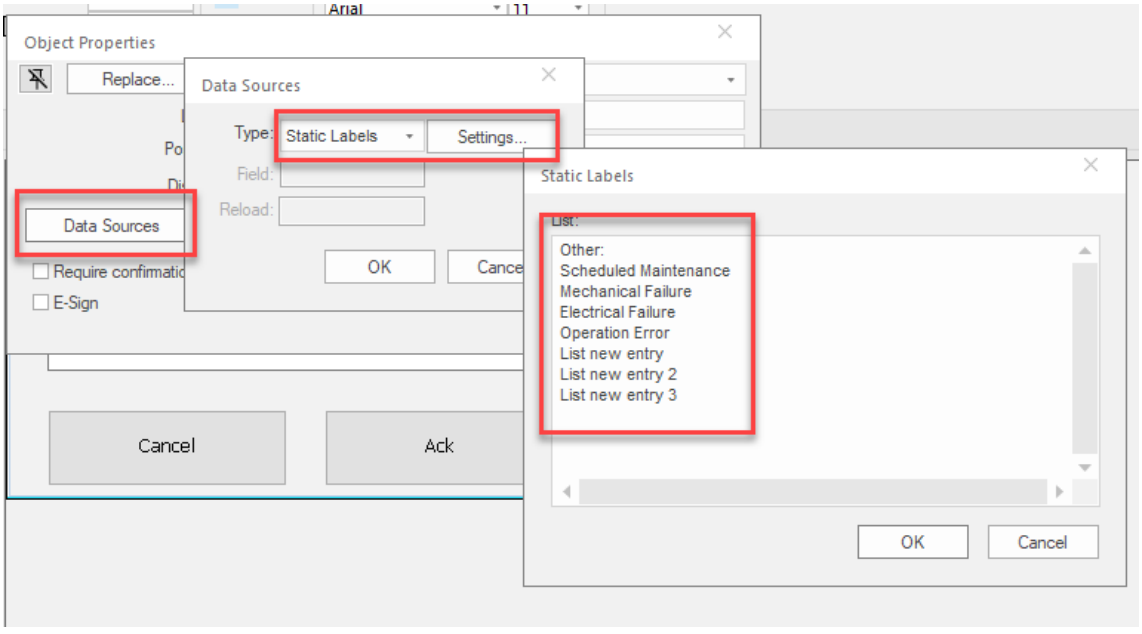


4. Add Reasons to Alarm Reasons list

   a. AckAlrPopup Screen Combo Box object

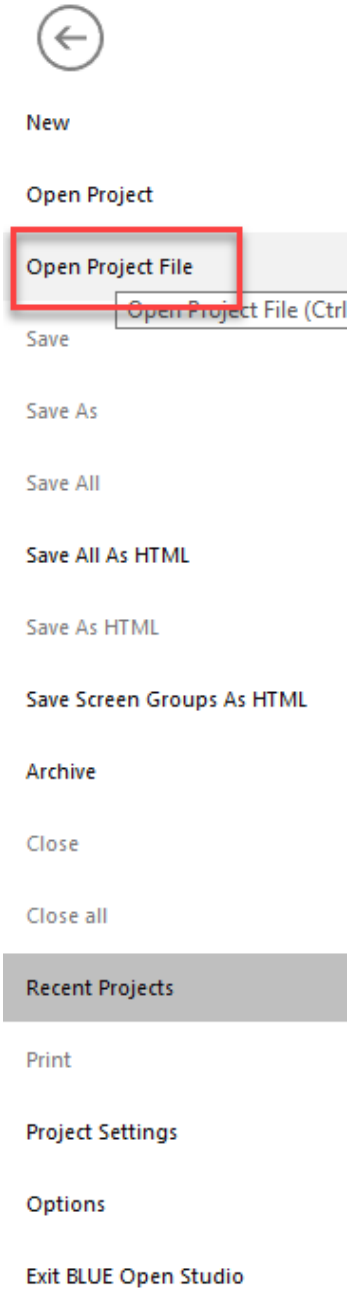


   b. Data Sources, type Static labels-> Settings, add items.



Section 5 Open sample file screens in your project

1. File Menu -> Open Project File



2. Browse to sample project Screen Folder and one file at a time Open

AckAlrPopu.scr, this holds the Caption code, the code for the ACK button and the Reasons ComboBox, second Open the main.scr screen, the main part you want here is the Online Alarm Window, with the proper column setup.