

Studio 5000[®] Application Code Manager

Studio 5000 ACM 程序代码管理工具

PUBLIC

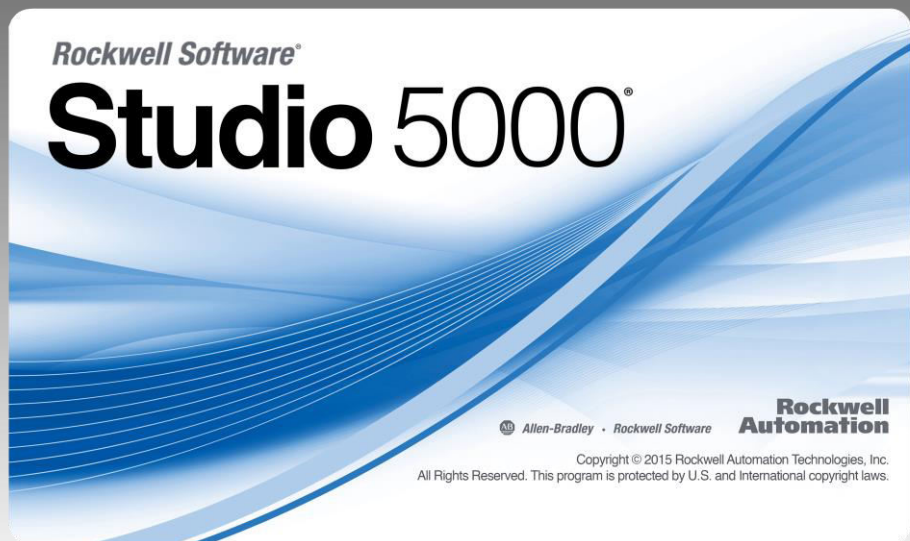
议程安排 Agenda

**Rockwell
Automation**

Studio 5000® Application Code Manager 简介

Library Management 简介

Project Execution 演示



Studio 5000®

简化您的设计之旅

Simplifying your design journey

Studio 5000® 设计环境

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应用程序代码管理器是一种能够使用可重用代码的库实现更高效的项目开发的工具。您可以使用可使用的内容创建可自定义配置参数的模块化对象，从而可以指定如何在项目中使用对象的相关信息。应用程序代码管理器创建的不仅是模块化对象的编码，而且还创建了相关的可视化、历史和报警元素。



多组件的直观的设计和配置软件套件

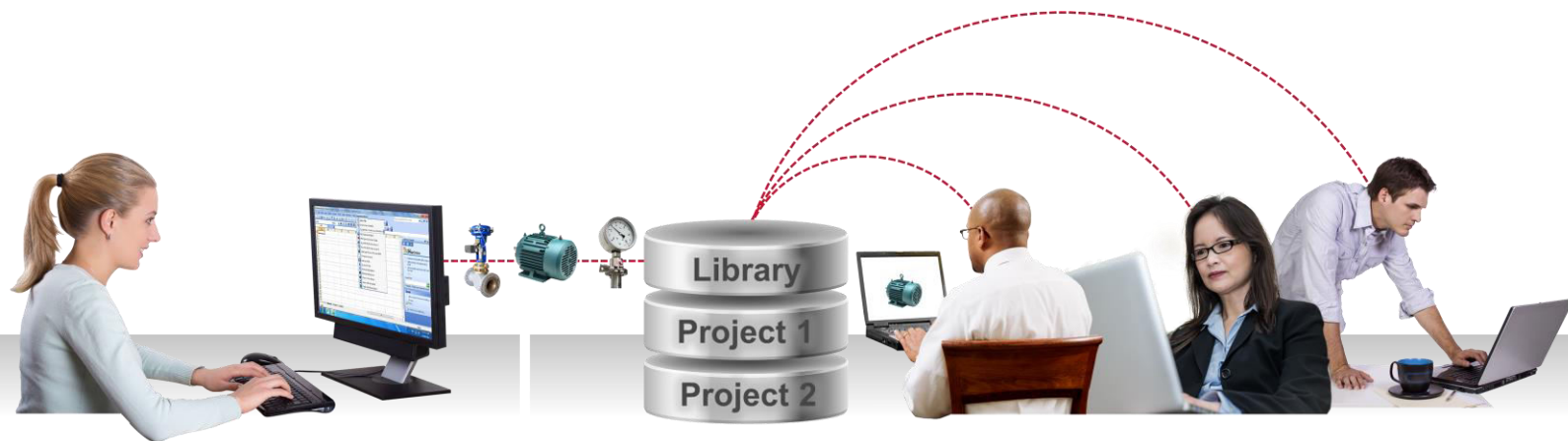
An intuitive design and configuration software suite with multiple components

Studio 5000® Application Code Manager

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- 工程设计工具 Engineering Design Tool:
 - 快速开发 Rapid application development
 - 有效利用库资源 Leverages Library Content (provided or custom)
 - 重复使用 Facilitates continuous re-use of IP / enforce standards
- 以下产品可以自动生成，有助于建立内容 Auto content generation for:
 - Studio 5000 Logix Designer®
 - FactoryTalk® View
 - FactoryTalk® Alarm and Events
 - FactoryTalk® Historian
- 配置参数-应用程序代码管理器内的模块化对象被嵌入配置参数，允许您指定模块化对象如何在项目中使用的所有相关信息和编程

Studio 5000 Application Code Manager



设计 DESIGN

- Library Designer 集成于 Logix Designer
- 灵活的库创作，构建可重复使用的内容

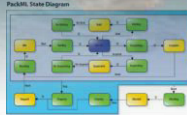
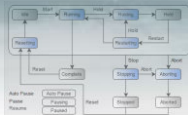
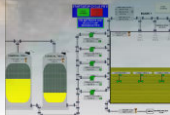
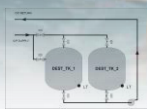
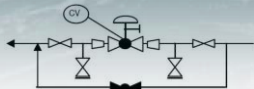
发布 PUBLISH

- 合并所有 control, visualization, historical 和 alarm 管理于同一个库对象之中
- 易于访问和版本管理的集中存储库

建设项目 BUILD

- 轻松生成标准化应用程序代码
- 批量配置项目
- 利用罗克韦尔自动化®提供的 PlantPAx®库资源

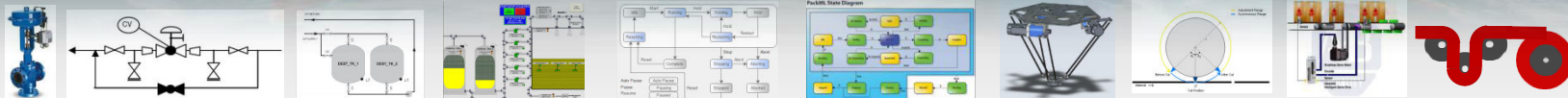
最大限度地重用和快速建设项目 *Maximize reuse and quickly build projects*



集成架构



Rockwell Automation的各种应用内容



方案
Solutions

Connected Production

Serialization

RA-Brew

RAPID

Line Balancing

优化系统
Packages

Opti-TMC (Turbo Machinery)

Opti-SIS (Process Safety)

Opti-Lift (Artificial Lift)

Opti-Pump

库
Libraries

Industry Libraries

Serialization Library

RAPID Machine Library

Process Objects Library

Machine Builder Libraries

Accelerators

设备 Devices

Design & Publish 库

静态内容转换为动态库内容！

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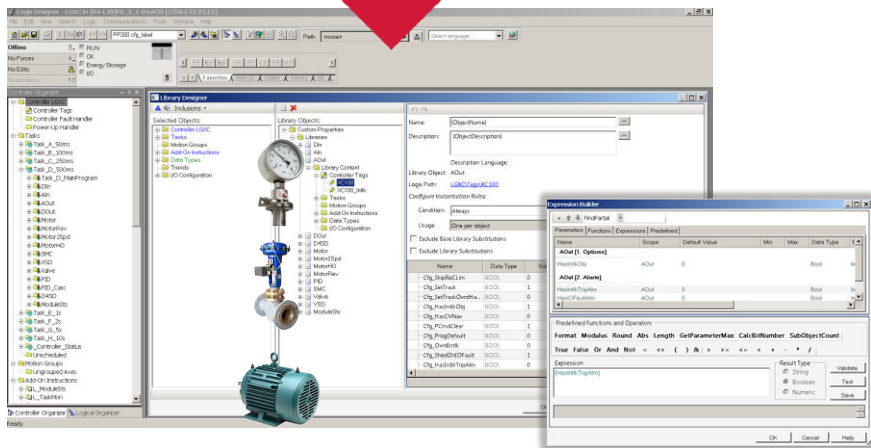
第一步：
建立库的内容

Logix
Control Code

Alarms &
Events

FactoryTalk®
View

FactoryTalk®
Historian



第二步：
将库的内容参数化



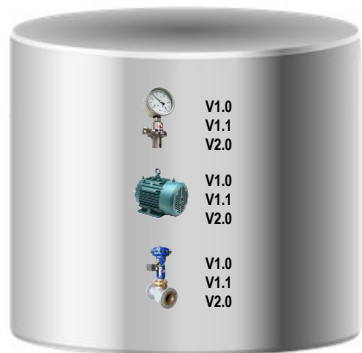
第三步：
发布 Publish

建立 Project 内容

通过配置轻松地部署项目内容，无需编程！

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1:
从库里选择对象



2:
配置参数

Analog Input Channel Object

Name: PT100
Description: Inlet pressure

Units: bar

Minimum:
Maximum: 10

Motor Control Object

Name: M101
Description: Drum motor

Motor Type

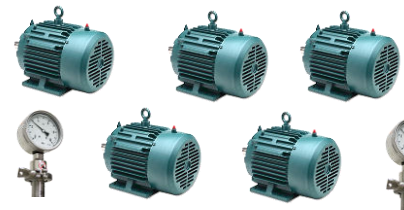
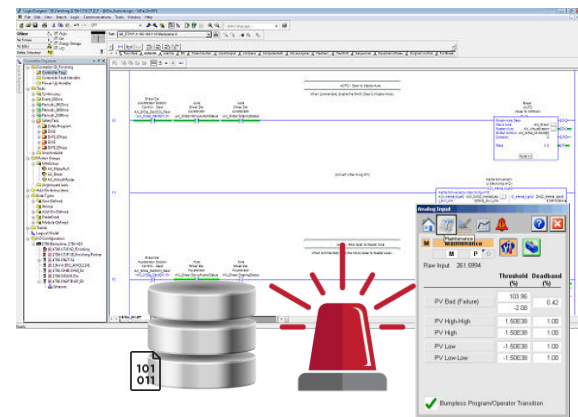
- ☐ Single
- ☒ Reversing
- ☐ Two Speed
- ☐ Hand Operated

Electronic Overload

- ☒ YES
- ☐ NO
- ☐ E1 Plus
- ☐ E3/E3 Plus
- ☒ E300



3:
生成 Generate



ACM

- Motors
- M101
- M102
- M103
- M104

SubObject(A1)	Parent	Controller	Display Name	P_Channel
\$ChannelName_\$Id	D1			
Local_03	CLX04_Feb_Lor	D1	0	
Local_03	CLX04_Feb_Lor	D1	1	
	CLX04_Feb_Lor	D1	2	
	CLX04_Feb_Lor	D1	3	
	CLX04_Feb_Lor	D1	4	





Studio 5000[®] Application Code Manager

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Allen-Bradley • Rockwell Software

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高效项目设计 Efficient Project Design

Studio 5000® Application Code Manager – 最大化重用快速生成项目

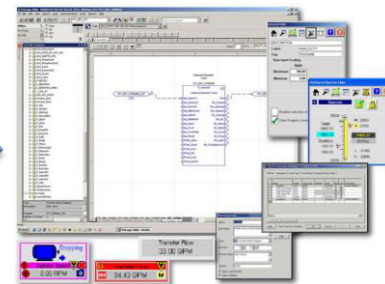
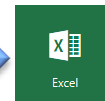
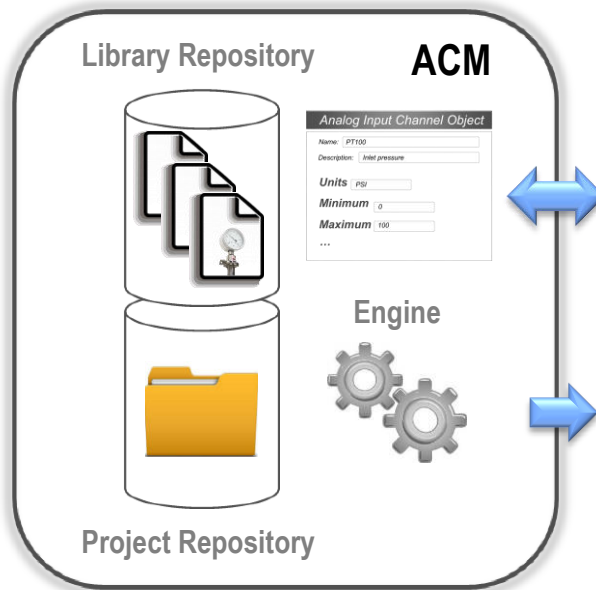
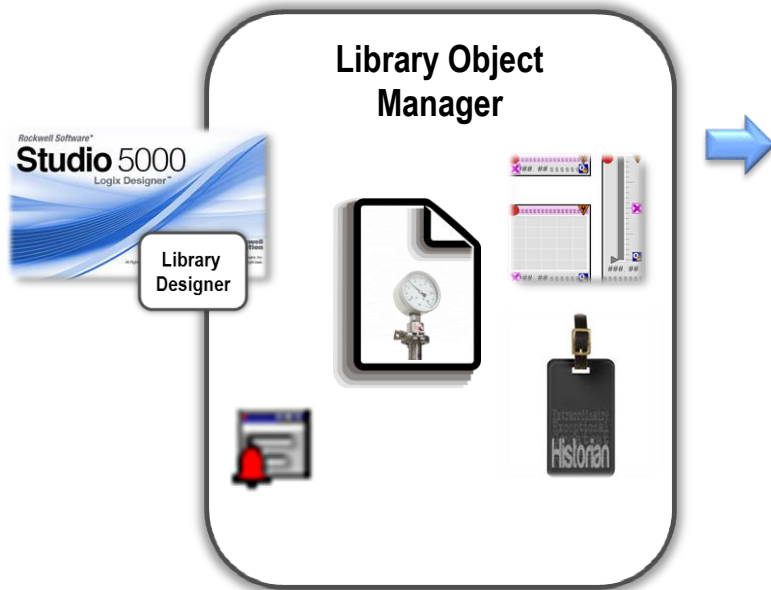
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设计 Design
Library Management



生成 Build
Project Execution



高效项目设计 Efficient Project Design

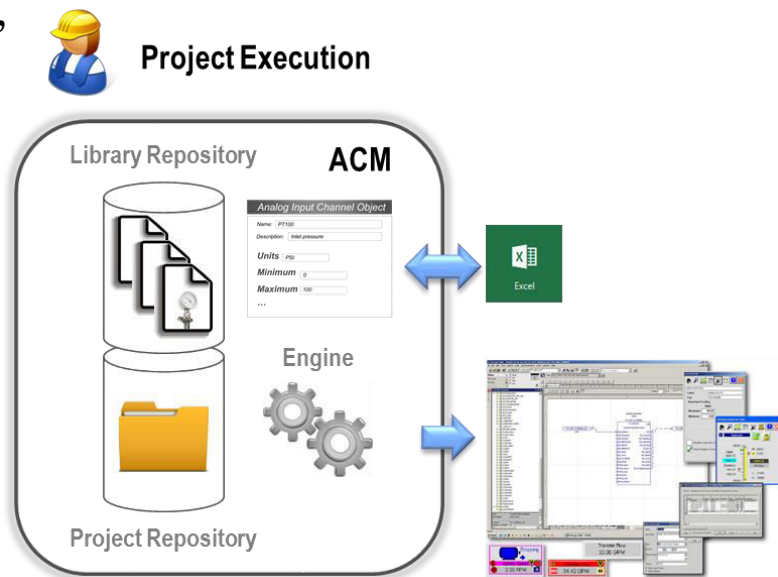
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- 通过选择库对象，并提供特定的项目配置数据，快速地配置项目内容

- PT100, 入口压力, 0-100 PSI

- 一旦配置（非编程）是完整的，容易产生项目数据

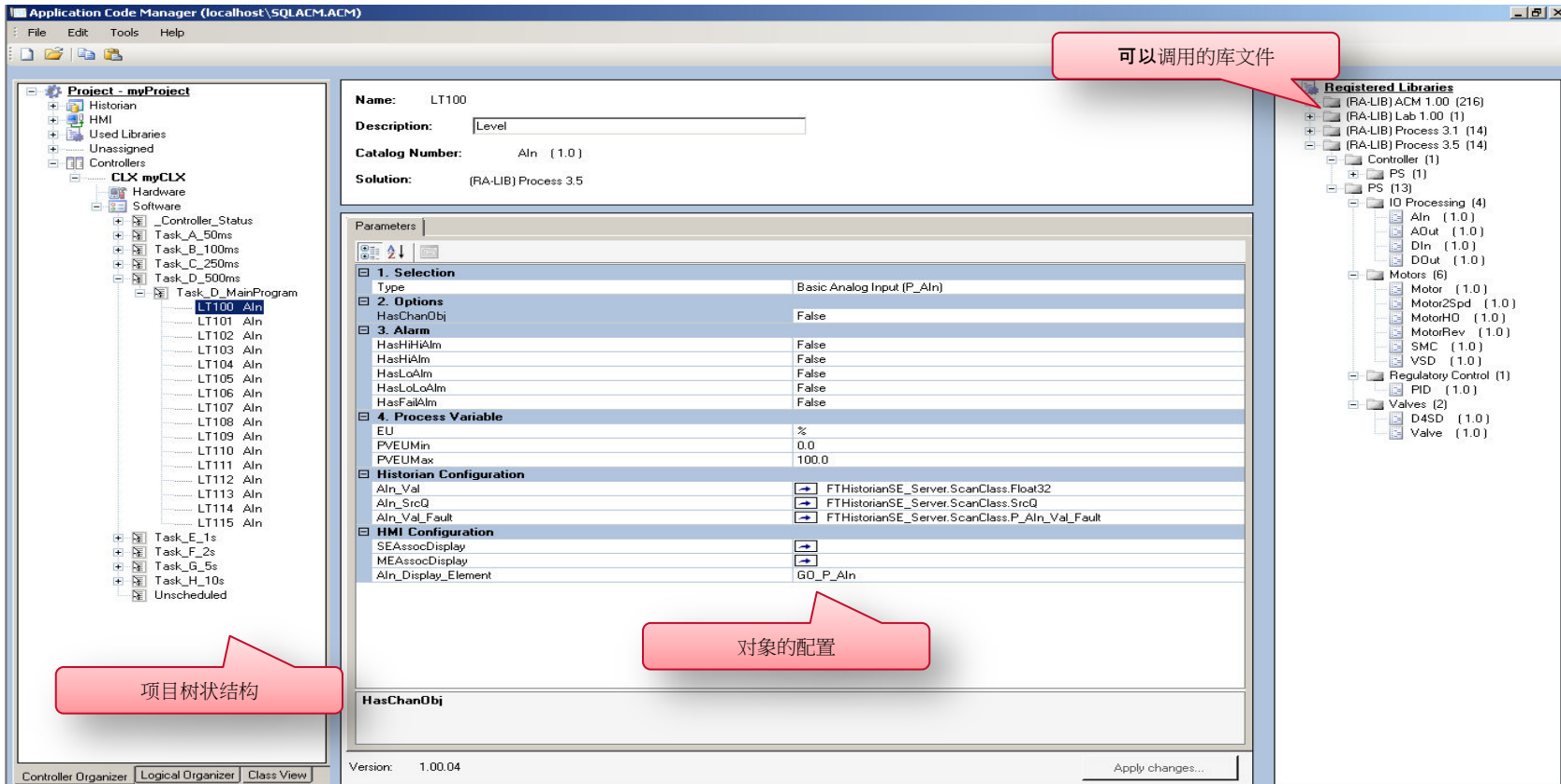
- Studio 5000 Logix Designer®
 - FactoryTalk® View
 - FactoryTalk® Alarm and Events
 - FactoryTalk® Historian



生成 Build

快速的项目预览

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处理器的配置 Controller Configuration

快速的项目预览

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Application Code Manager (localhost\SQLACM.ACM)

File Edit Tools Help

Project - myProject

- Historian
 - ScanClass
 - FTHistorianSE_Server FTHistorianSE
- HMI
 - Displays
 - FTViewSE_Server FTViewSE
 - FTViewME_Panel FTViewME
 - FTAE
 - FTAlarmEvent_Server FTAlarmEvent
- Used Libraries
- Unassigned
- Controllers
 - CLX myCLX2**
 - Hardware
 - Software
 - _Controller_Status
 - Task_A_50ms
 - Task_B_100ms
 - Task_C_250ms
 - Task_D_500ms
 - Task_E_1s
 - Task_F_2s
 - Task_G_5s
 - Task_H_10s
 - Unscheduled

CLX myCLX

Name: myCLX

Description: Process Controller

Catalog Number: CLX (1.0)

Solution: (RA-LIB) Process 3.1

Parameters

01 - Controller	
ChassisName	Local
Slot	5
Size	10
SoftwareRevision	27
ProcessorType	1756-L75
02 - HMI	
AreaPath	/Area/Data [myCLX]
03 - Historian	
HistorianPath	myPlanPAW/Area/Data/RSLink Enterprise [myCLX]
FTLInterfaceNo	1

ChassisName
This is the Chassis that this module is located in

Version: 1.00.00 RC 5

Apply changes...

Registered Libraries

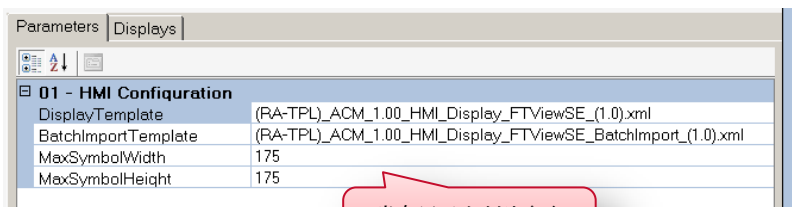
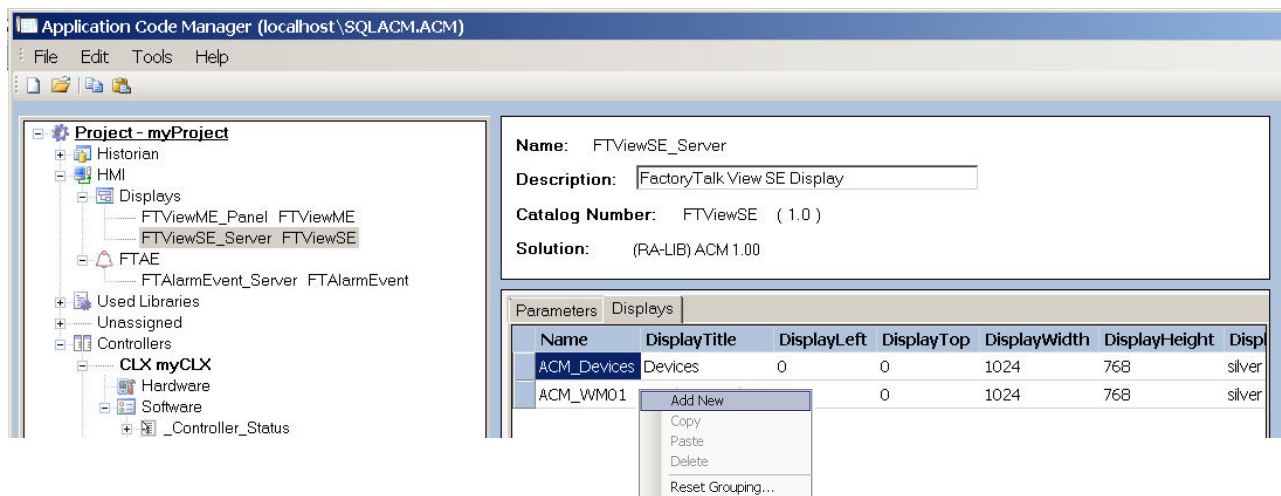
- (RA-LIB) ACM 1.00 (216)
 - Controller (1)
 - Historian (1)
 - HMI (3)
 - Module (210)
 - Project (1)
- (RA-LIB) Lab 1.00 (1)
- (RA-LIB) Process 3.1 (21)
 - Controller (1)
 - PS (1)
 - PS (20)
 - IO Processing (8)
 - Motors (7)
 - Regulatory Control
 - Valves (3)

处理器
配置

FactoryTalk® View 画面

快速的项目预览

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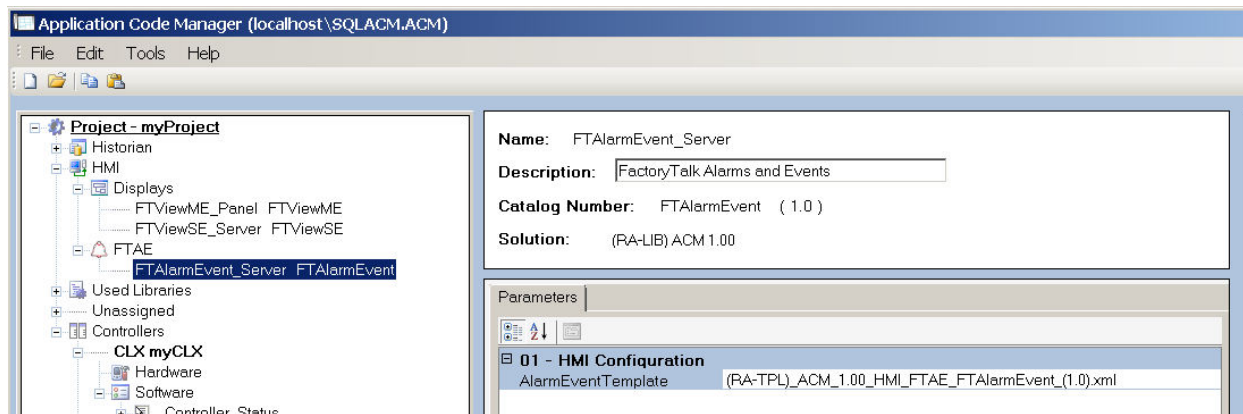


当在显示上创建多个
对象时所需尺寸

FactoryTalk® Alarms and Events

快速的项目预览

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Historian 历史数据库配置

快速的项目预览

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Application Code Manager (localhost\SQLACM.ACM)

File Edit Tools Help

Project - myProject

- Historian
 - ScanClass
 - FTHistorianSE_Server FTHistorianSE
- HMI
 - Displays
 - FTViewSE_Server FTViewSE
 - FTAE
 - FTAlarmEvent_Server FTAlarmEvent
- Used Libraries
- Unassigned
- Controllers
 - CLX myCLX
 - Hardware
 - Software
 - _Controller_Status
 - Task_A_50ms
 - Task_B_100ms

Name: FTHistorianSE_Server

Description: FactoryTalk Historian SE Scan Classes

Catalog Number: FTHistorianSE (1.0)

Solution: (RA-LIB) ACM 1.00

Name	ScanClass	Percent	ExcMax	ExcMin	CompDev	Comp
Float32	1		600	0	0.5	0.5

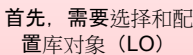
点的类型是用于historian标签导入配置

Parameters Point Type

01 - Historian Configuration

HistorianTagsTemplate (RA-TPL)_ACM_1.00_Historian_ScanClass_FTHistorianSE_(1.0).csv

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参见多选下拉菜单

输入值

参数可以链接到其他对象, 例如 I/O

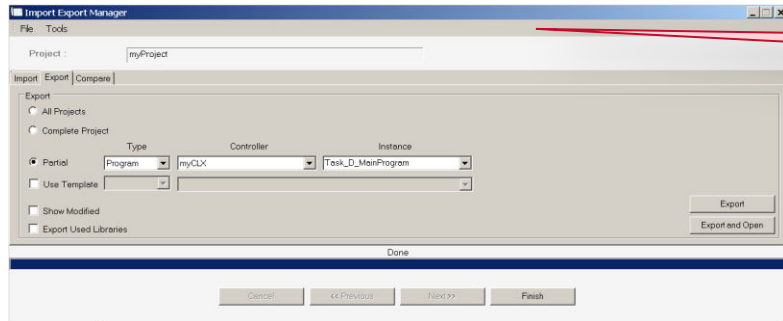
如果不适用，参数也可以隐藏

大批量的配置 Bulk Configuration

导入导出管理器 Import / Export Manager

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- 配置数据可以在应用程序代码管理器和微软的应用程序代码管理器之间交换



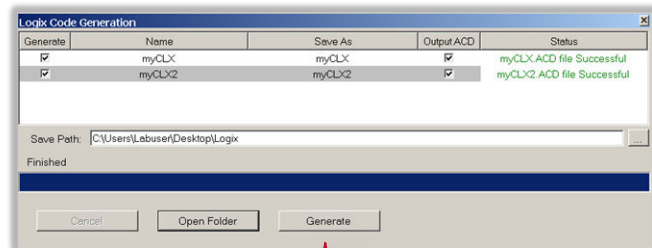
导入导出管理器

	A	B	C	D	E	F	G	H
1	:Library(AIn, (RA-LIB) Process 3.1, Major 1, Minor 5, ID F08D9FDD-FDF3-4CE6-85B5-46C7AF024FE8)							
2	:Objects							
3	Name	Controller	Program	Display Name	Description	P_HasChanObj	P_HasHiHiAlm	P_HasHiAlr
4	\$XT100			AIn	Description	0	0	0
5	TT100	myCLX	Task_D_MainProgram	AIn	Tank 100 Inlet Temperature	0	1	1
6	TT101	myCLX	Task_D_MainProgram	AIn	Tank 100 HeatX Temperature	0	1	1
7	TT200	myCLX	Task_D_MainProgram	AIn	Tank 200 Inlet Temperature	0	1	1
8	TT201	myCLX	Task_D_MainProgram	AIn	Tank 200 HeatX Temperature	0	1	1
9	TT300	myCLX	Task_D_MainProgram	AIn	Tank 300 Inlet Temperature	0	1	1
10	TT301	myCLX	Task_D_MainProgram	AIn	Tank 300 HeatX Temperature	0	1	1
11	TT401	myCLX	Task_D_MainProgram	AIn	Tank 400 Inlet Temperature	0	1	1
12	TT402	myCLX	Task_D_MainProgram	AIn	Tank 400 HeatX Temperature	0	1	1
13	TT500	myCLX	Task_D_MainProgram	AIn	Tank 500 Inlet Temperature	0	1	1
14	TT501	myCLX	Task_D_MainProgram	AIn	Tank 500 HeatX Temperature	0	1	1
15								
16								

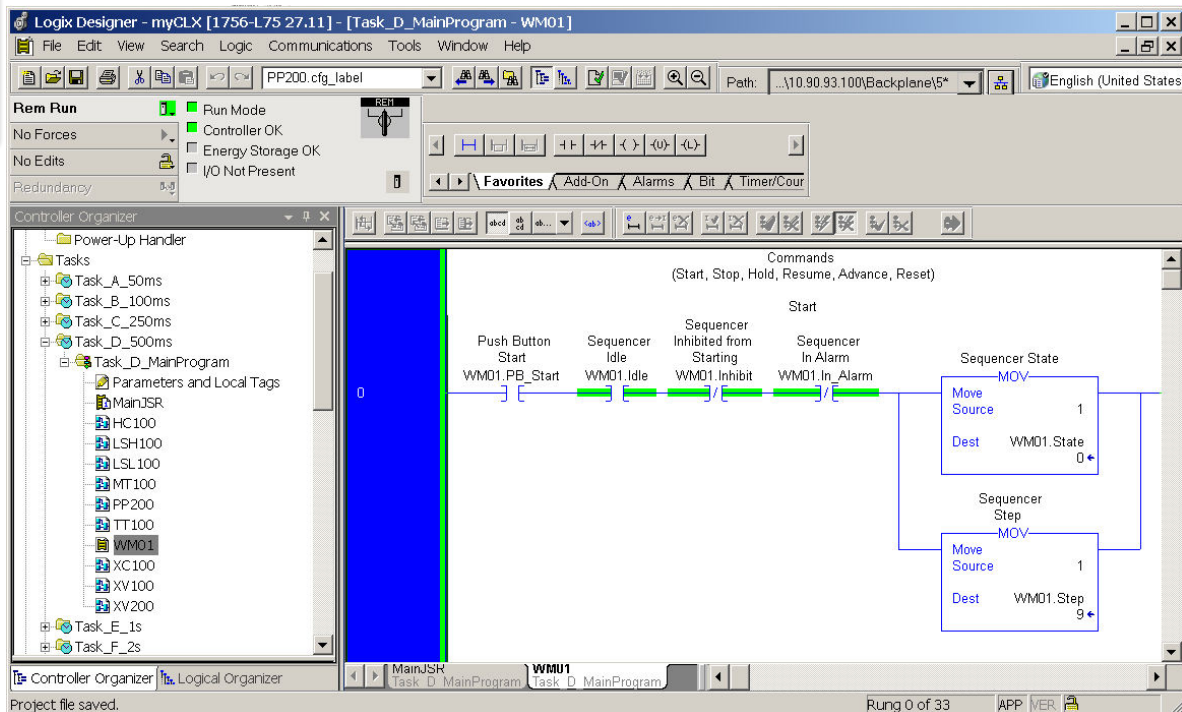
配置、生成 When Ready, Build Your Stuff

ACM一键生成内容

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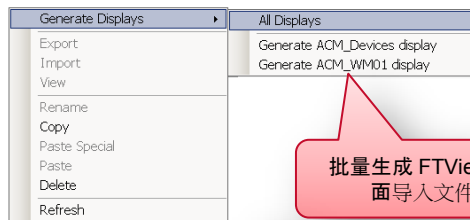
生成ACD文件



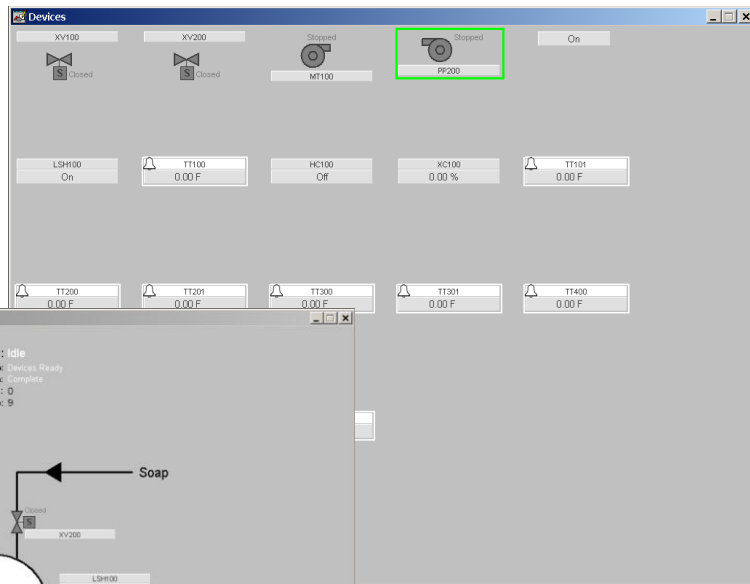
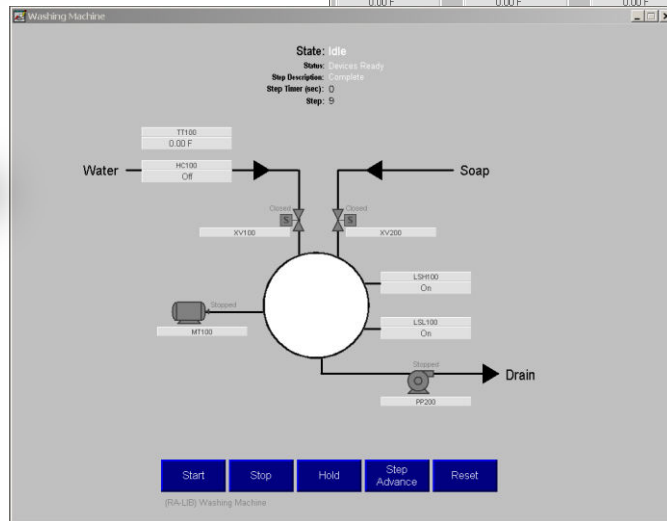
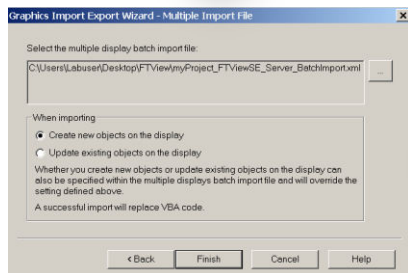
配置、生成 When Ready, Build Your Stuff

ACM一键生成内容

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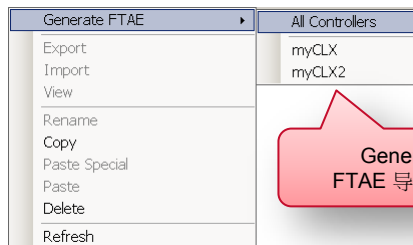
批量生成 FTVIEW 画面导入文件



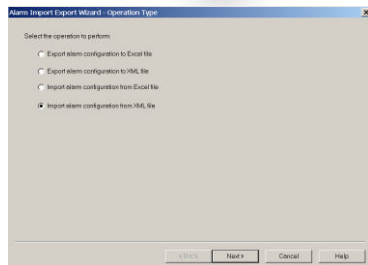
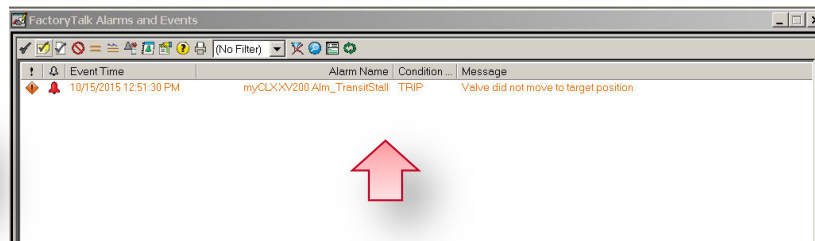
配置、生成 When Ready, Build Your Stuff

ACM一键生成内容

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Generate
FTAE 导入文件



All Alarms Messages Tag Update Rates

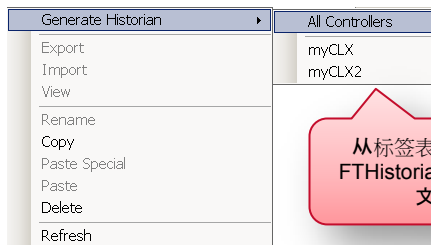
Search for Group: Type: All

Name	Type	Input Tag	Ack Re...	Alarm ...	FactoryTalk View Command
myCLX TT100 Alm_Hi	Digital	/Area/Data::[myCLX]TT100.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT100 Alm_HiHi	Digital	/Area/Data::[myCLX]TT100.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT100 Alm_Lo	Digital	/Area/Data::[myCLX]TT100.Alm_Lo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT100 Alm_LoLo	Digital	/Area/Data::[myCLX]TT100.Alm_LoLo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT101 Alm_Hi	Digital	/Area/Data::[myCLX]TT101.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT101 Alm_HiHi	Digital	/Area/Data::[myCLX]TT101.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT101 Alm_Lo	Digital	/Area/Data::[myCLX]TT101.Alm_Lo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT101 Alm_LoLo	Digital	/Area/Data::[myCLX]TT101.Alm_LoLo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT200 Alm_Hi	Digital	/Area/Data::[myCLX]TT200.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT200 Alm_HiHi	Digital	/Area/Data::[myCLX]TT200.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT200 Alm_Lo	Digital	/Area/Data::[myCLX]TT200.Alm_Lo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT200 Alm_LoLo	Digital	/Area/Data::[myCLX]TT200.Alm_LoLo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT201 Alm_Hi	Digital	/Area/Data::[myCLX]TT201.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT201 Alm_HiHi	Digital	/Area/Data::[myCLX]TT201.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT201 Alm_Lo	Digital	/Area/Data::[myCLX]TT201.Alm_Lo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT201 Alm_LoLo	Digital	/Area/Data::[myCLX]TT201.Alm_LoLo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT300 Alm_Hi	Digital	/Area/Data::[myCLX]TT300.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT300 Alm_HiHi	Digital	/Area/Data::[myCLX]TT300.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT300 Alm_Lo	Digital	/Area/Data::[myCLX]TT300.Alm_Lo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT300 Alm_LoLo	Digital	/Area/Data::[myCLX]TT300.Alm_LoLo	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT301 Alm_Hi	Digital	/Area/Data::[myCLX]TT301.Alm_Hi	true	false	Display "(RA-BAS) P_Aln-Face...
myCLX TT301 Alm_HiHi	Digital	/Area/Data::[myCLX]TT301.Alm_HiHi	true	false	Display "(RA-BAS) P_Aln-Face...

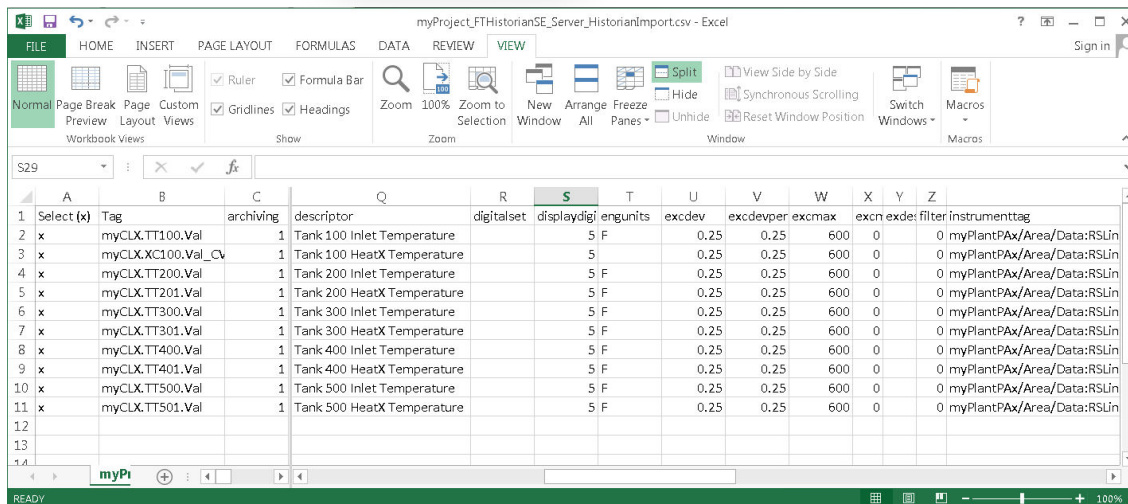
配置、生成 When Ready, Build Your Stuff

ACM一键生成内容

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从标签表中, 生成
FTHistorian快速导入
文件



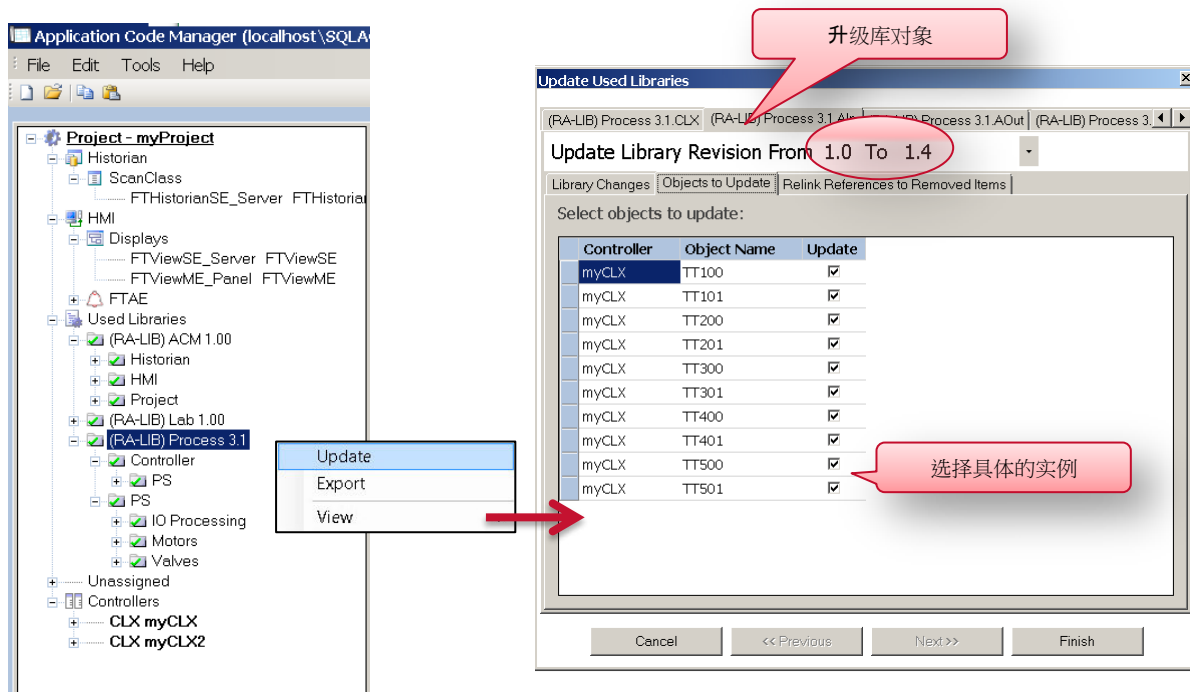
	A	B	C	Q	R	S	T	U	V	W	X	Y	Z
1	Select (x)	Tag	archiving	descriptor	digitalset	displaydigi	engunits	excdev	excdevper	excmax	excn	exde	filterinstrumenttag
2	x	myCLX.TT100.Val	1	Tank 100 Inlet Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
3	x	myCLX.XC100.Val	1	Tank 100 HeatX Temperature		S	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
4	x	myCLX.TT200.Val	1	Tank 200 Inlet Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
5	x	myCLX.TT201.Val	1	Tank 200 HeatX Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
6	x	myCLX.TT300.Val	1	Tank 300 Inlet Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
7	x	myCLX.TT301.Val	1	Tank 300 HeatX Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
8	x	myCLX.TT400.Val	1	Tank 400 Inlet Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
9	x	myCLX.TT401.Val	1	Tank 400 HeatX Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
10	x	myCLX.TT500.Val	1	Tank 500 Inlet Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
11	x	myCLX.TT501.Val	1	Tank 500 HeatX Temperature		S F	0.25	0.25	600	0	0	myPlantPax/Area/Data:RSLin	
12													
13													
14													

长期的项目中，轻松升级每一版本的对象

参见“Used Libraries”

Rockwell
Automation

- 如果一个新的对象版本可用，可以很容易地更新您的配置数据



轻松的生成项目相关报告

打破项目开发黑盒，查看详细项目开发报告

Rockwell
Automation

- 库文件使用，硬件布局，对象引用，I/O调度，项目历史等等

Module I/O Schedule for Rack Module for Local_01

Find | Next
Project: myProject

I/O Schedule

Module: Local_01
Type: 1756-IB16
Description: Digital Input 10-31.2V DC 16Pts

Rockwell Automation
Chassis: Local
Slot: 1

IO	Type	Module	Description
00	DI		
01	DI		
02	DI		
03	DI		
04	DI		
05	DI		
06	DI		
07	DI		
08	DI		
09	DI		
10	DI		
11	DI		
12	DI		

Chassis Layout for Local Local

Find | Next
Project: myProject

Chassis Layout

Chassis: Local

Slot	Module	Module Type	Information
0	myCLX - Controller Library	1756-L86E	MajorRev .25
1	Local_01 - Digital Input 10-31.2V DC 16Pts	1756-IB16	Channels: Total: 16 - Used: 0
2	Local_02 - Digital Output 10-31.2V DC 32 Pts	1756-OB32	Channels: Total: 33 - Used: 0
3	Local_03 - Analog Input 4-20 ma Single Ended 16 Pts	1756-IF16	Channels: Total: 16 - Used: 0
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

3/17/2015 12:14:15 PM 1 of 1

查看库文件内容

查看每个版本的库对象的视图配置

Rockwell
Automation

The screenshot displays the Rockwell Automation software interface for configuring a library object named 'DOut'. The 'Name' field is 'DOut' and the 'Description' is 'Digital Output'. The 'Catalog Number' is 'DOut (1.1)' and the 'Solution' is '(RA-LIB) Process 3.1'. The 'Revision History' tab is selected, showing a table of revisions. The 'Registered Libraries' pane on the right shows the object's location within the library structure. Below the main window, two smaller screenshots show the 'Programs' and 'Add-On Instructions' tabs, both with red circles highlighting their respective tabs in the main window's tab bar.

Revision History

Revision	ModifiedBy	ModifiedDate	MajorRev	MinorRev	Description
1.0	WIN7-VM\Labuser	Tue Oct 06 11:52:44 2015	1	0	Initial
1.1	WIN7-VM\Labuser	Tue Oct 06 11:54:12 2015	1	1	Added ViewSE

Registered Libraries

- (RA-LIB) ACM 1.00 (216)
- (RA-LIB) Lab 1.00 (1)
- DesignPattern (1)
- Speciality (1)
- (RA-LIB) Process 3.1 (21)
 - Controller (1)
 - PS (20)
 - IO Processing (8)
 - Aln (1.0)
 - Aln (1.4)
 - AOut (1.0)
 - AOut (1.2)
 - Dln (1.0)
 - Dln (1.1)
 - DOut (1.0)
 - DOut (1.1)

Programs

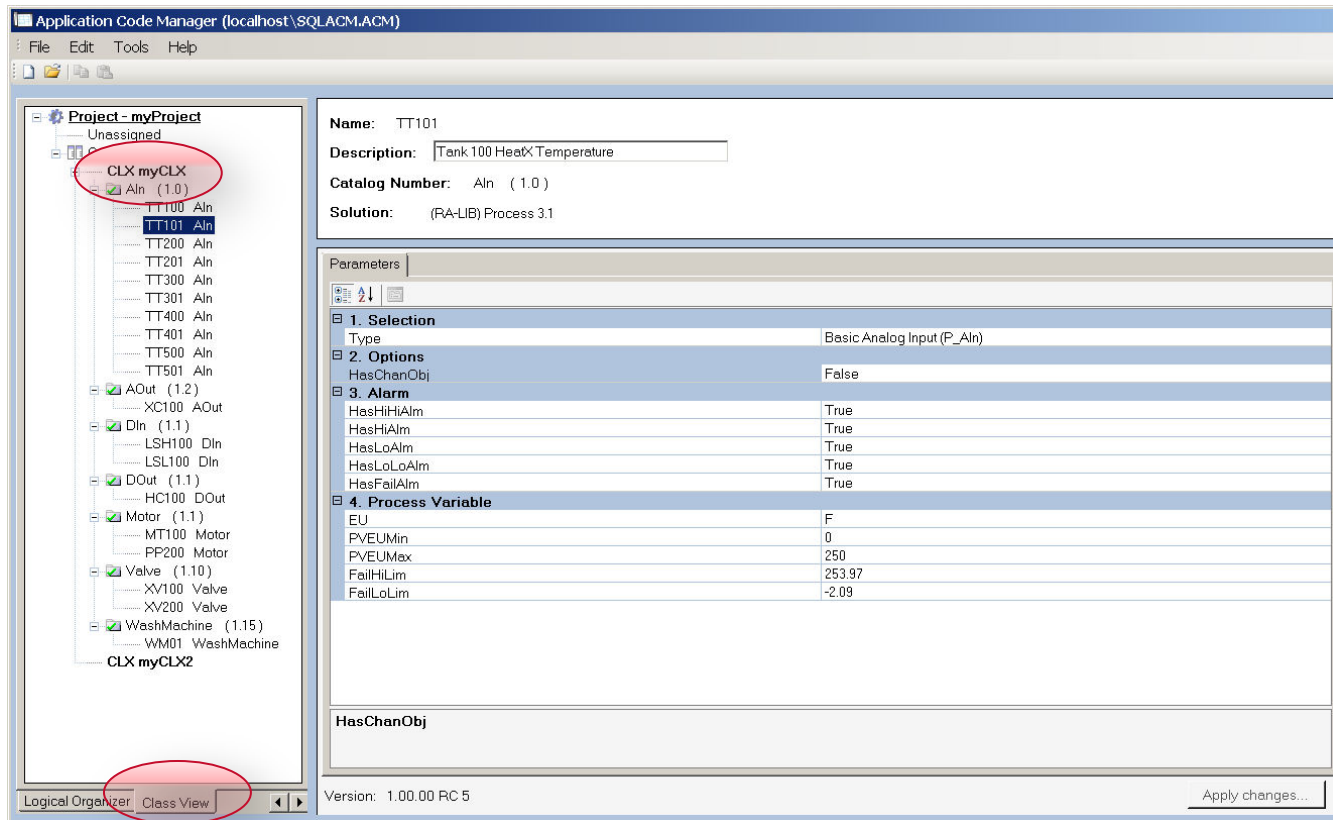
Program	Name	MainRoutineName	ExecutingTaskName	UseAsFolder
1	(ProgramName)	MainJSR	(TaskName)	false
	Tag	Name	DataType	
1	(ObjectName)_Inp_OffDbk		BOOL	
2	(ObjectName)_Inp_OffDbk_ChonFault		BOOL	
3	(ObjectName)_Inp_OffDbk_ModFault		BOOL	
4	(ObjectName)_Inp_OnFault		BOOL	
5	(ObjectName)_Inp_OnFault_ChonFault		BOOL	
6	(ObjectName)_Inp_OnFault_ModFault		BOOL	
7	(ObjectName)_IOFault_Bor		FBD_BOOLEAN_OR	
8	(ObjectName)_Out		BOOL	
9	(ObjectName)_Out_ChonFault		BOOL	
10	(ObjectName)_Out_ModFault		BOOL	
	Routine	Name	Type	
1	MainJSR		RLL	
2	(ObjectName)		FBD	

Add-On Instructions

Name	Revision	Extended Text
P_Alarm	3.1	02 Release
P_Mode	3.1	01 Release
P_DOut	3.1	03 Release
P_Intlk	3.1	01 Release
P_Perm	3.1	01 Release

类的视图

有逻辑视图，也有类视图，可以按照引用记录查看库对象

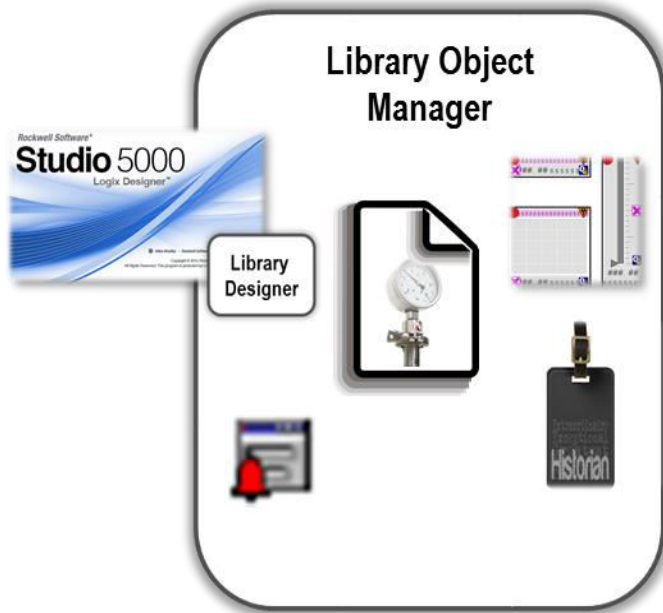


库的管理 Library Management

- 可以直接在Logix Designer 和 FactoryTalk® View Studio中创建库的内容
- 直接在Logix Designer中调用Library Designer, 使库内容参数化以便重复使用 (parametrize the content making it reusable)
- 整合 Logix, FactoryTalk® View SE 和 ME, FactoryTalk® Historian 还有 FactoryTalk® Alarms Events 所有内容于同一个库中
- 可以直接发布到 Application Code Manager 数据库中



Library Management



库的管理 Library Management

库设计工具 Library Designer

Rockwell
Automation

Logix Designer - LGXC in (RA-LIB)PS_3_5-02.ACD [1756-L75 28.11]

File Edit View Search Logic Communications Tools Window Help

Path: <none>

集成于Logix Designer之中, 方便使用

Controller Organizer

Library Designer

Selected Objects:

Library Objects:

AOut 库对象

自定义库的对象

Expression Builder

Name: [ObjectName]

Description: [ObjectDescription]

Description Language:

Library Object: AOut

Logix Path: LGXC\Tags\XC100

Configure Instantiation Rules:

Condition: Always

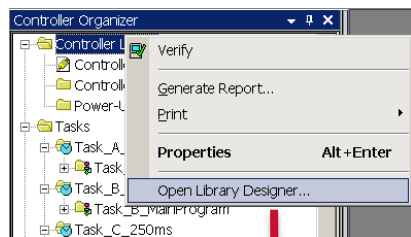
Usage: One per object

Exclude Base Library Substitutions

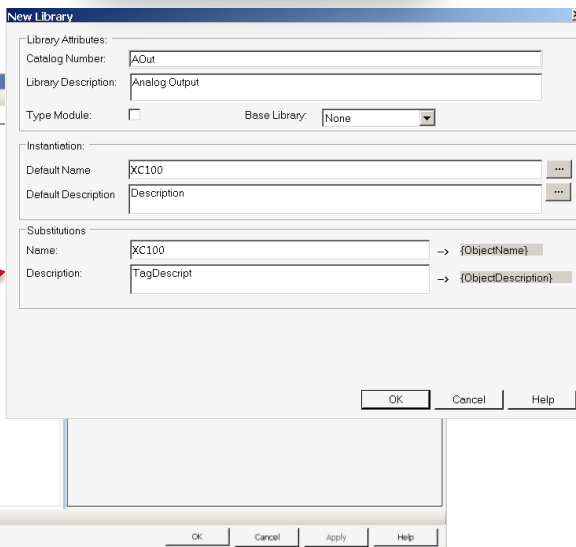
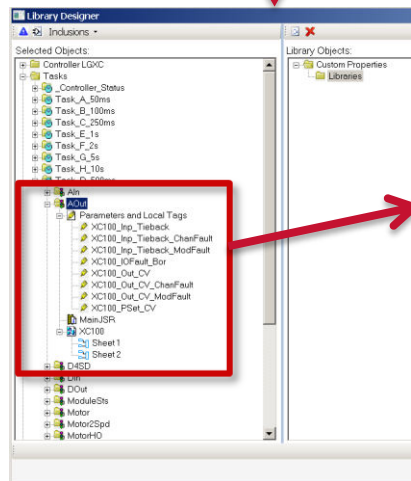
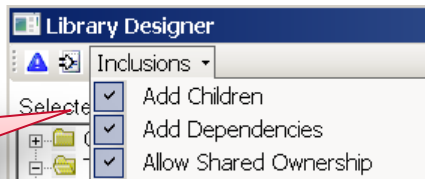
Exclude Library Substitutions

Name	Data Type	Value	
Cfg_HasIntikObj	BOOL	1	[HasIntikObj]
Cfg_HasCVNav	BOOL	0	
Cfg_PCMDClear	BOOL	1	
Cfg_ProgDefault	BOOL	0	
Cfg_OvrIntik	BOOL	0	
Cfg_ShedOnIOFault	BOOL	1	
Cfg_HasIntikTripAlm	BOOL	0	[HasIntikTripAlm]
Cfg_HasIOFaultAlm	BOOL	0	[HasIOFaultAlm]
Cfg_IntikTripResetReqd	BOOL	0	

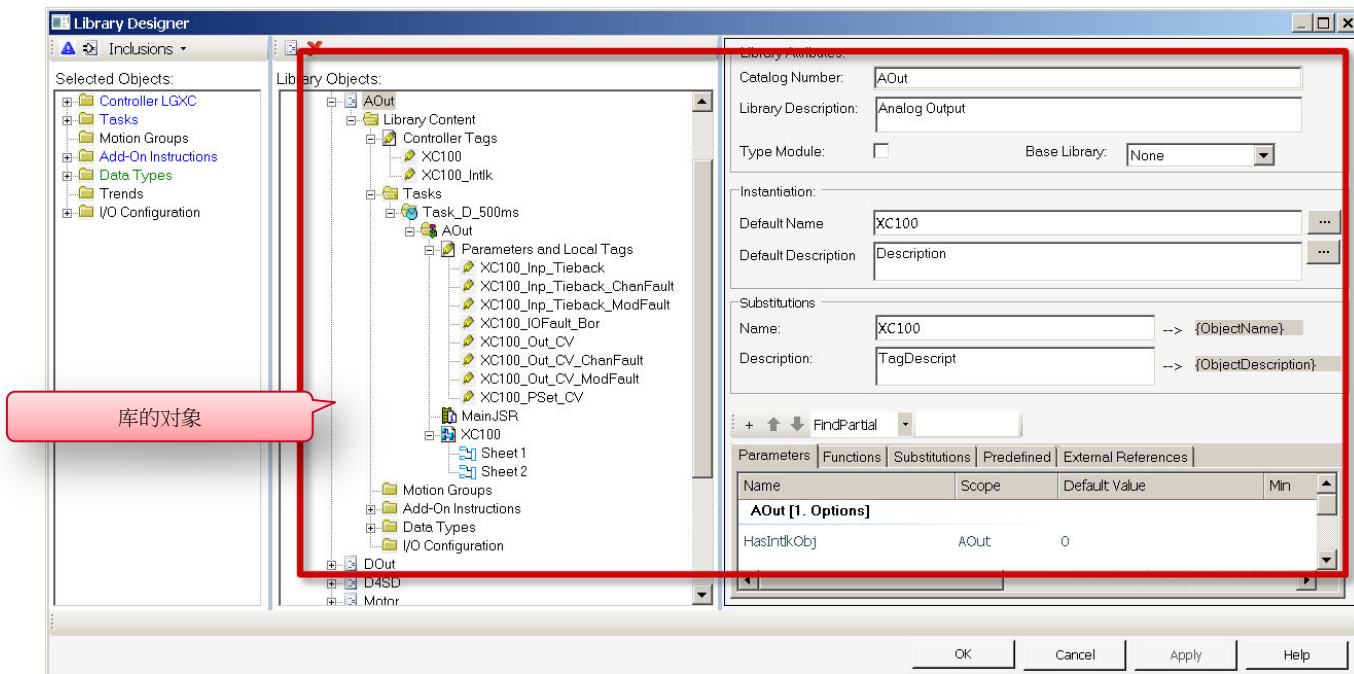
在Studio 5000 Logix Designer® 中创建库对象



管理依赖于以下:
AOI, UDT以及处理器标签
Controller Tags



库对象的组成



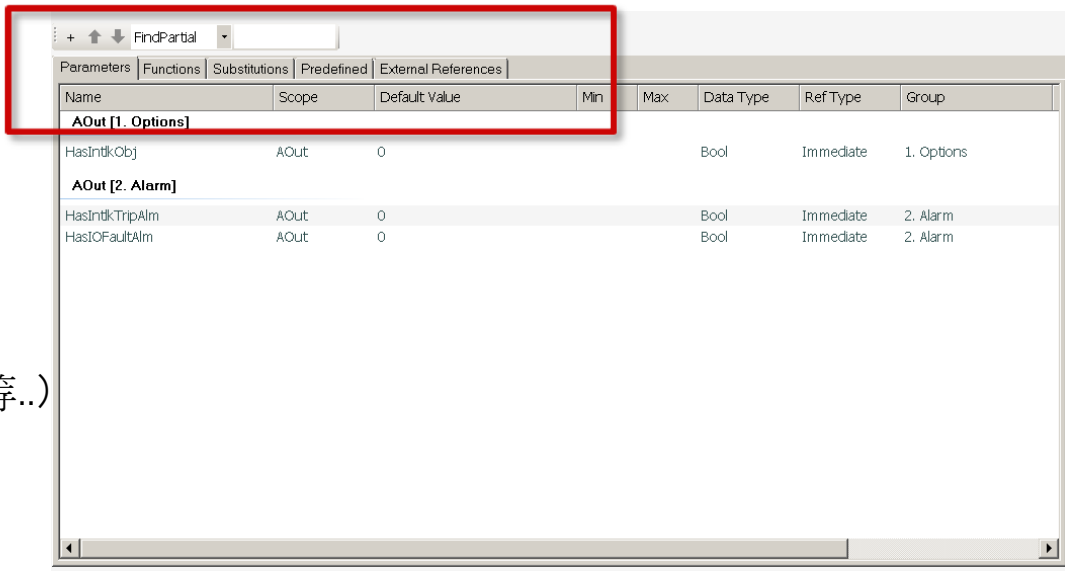
“修饰”库的对象

库的对象需要通过以下方式“修饰”

- 参数tab Parameters
- 函数tab Functions
- 替换tab Substitutions
- 预定义tab Predefined (substitutions)
- 外部援引 External Reference

分别控制了以下内容，后面分别介绍...

- 替换（实例名称、描述、实例的位置，等..）
- 标签值
- 条件包含（常规、梯级、标签等）
- 对象到其他对象的引用
- 联锁/许可



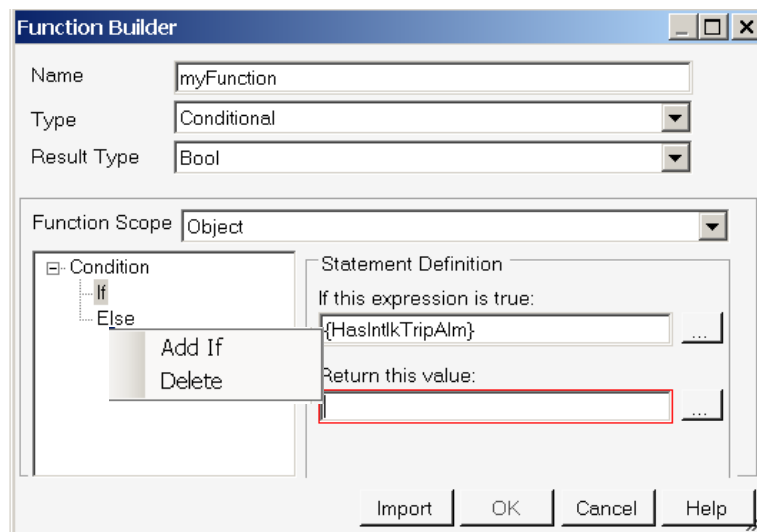
Name	Scope	Default Value	Min	Max	Data Type	Ref Type	Group
AOut [1. Options]							
HasIntlkObj	AOut	0			Bool	Immediate	1. Options
AOut [2. Alarm]							
HasIntlkTripAlm	AOut	0			Bool	Immediate	2. Alarm
HasIOFaultAlm	AOut	0			Bool	Immediate	2. Alarm

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函数tab Functions

- 允许库根据“if”语句设置参数
- 可以实现嵌套“if”语句
- 输出的结果可以是: BOOL, Numeric 或者 String



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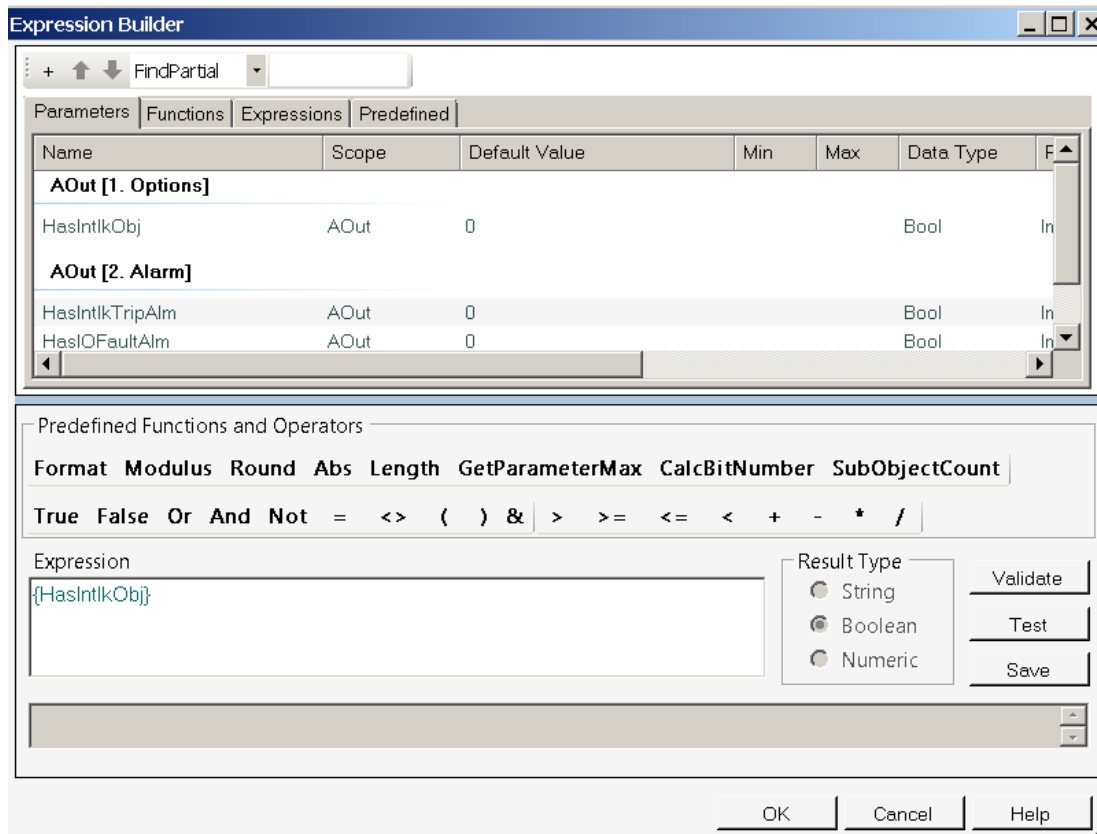
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预定义tab Predefined

Parameters	Functions	Substitutions	Predefined	External References
Name	Scope	Data Type		
Global				
ControllerDescription	Global	string		
ControllerName	Global	string		
ParentName	Global	string		
ProjectDescription	Global	string		
ProjectName	Global	string		
Local				
ObjectDescription	Local	string		
ObjectName	Local	string		
ProgramName	Local	string		
SubObjectDescription	Local	string		
SubObjectName	Local	string		
TaskName	Local	string		
Modules				
ParentChassisName	Modules	string		
ParentChassisSize	Modules	Int		

表达式编辑器

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Decoration Example

Tag Substitution

Library Objects:

- Custom Properties
 - Libraries
 - DIn
 - Aln
 - AOut
 - Library Content
 - Controller Tags
 - XC100**
 - XC100_Intlk
 - Tasks
 - Task_D_500ms
 - AOut
 - Parameters and Local Tags
 - MainJSR
 - XC100
 - Sheet 1
 - Sheet 2
- Motion Groups
- Add-On Instructions
- Data Types
- I/O Configuration

- DOut
- D4SD
- Motor
- Motor2Spd
- MotorHO
- MotorRev
- PID
- SMC
- ...

Substitutions

Name: {ObjectName}

Description: {ObjectDescription}

Description Language:

Library Object: AOut

Logix Path: [LGXC\Tags\XC100](#)

Configure Instantiation Rules:

Condition: Always

Usage: One per object

☐ Exclude Base Library Substitutions

☐ Exclude Library Substitutions

| Name | Data Type | Value | Val |
|---------------|-----------|-------|-----|
| XC100 | P_AOut | | |
| EnableIn | BOOL | 1 | |
| EnableOut | BOOL | 1 | |
| Inp_Tieback | REAL | 0.0 | |
| Inp_IntlkOK | BOOL | 1 | |
| Inp_NBIntlkOK | BOOL | 1 | |
| Inp_IOFault | BOOL | 0 | |
| Inp_Sim | BOOL | 0 | |

Example

修改标签值 Tag Values

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Library Objects:

- Custom Properties
- Libraries
 - Project
 - Controller
 - Motor
 - AnalogInput
 - Library Content
 - Controller Tags
 - A1001
- Tasks
- Motion Groups
- Add-On Instructions
- Data Types
- I/O Configuration
- DigitalOutput
- Valve

Name: [ObjectName] ...

Description: [ObjectDescription] ...

Description Language:

Library Object: AnalogInput

Logix Path: ProcessObjects\Tags\A1001

Configure Instantiation Rules:

Condition: Always ...

Usage: One per object

☐ Exclude Base Library Substitutions

☐ Exclude Library Substitutions

| Name | Data Type | Value |
|------------------|-----------|-------|
| Cfg_HiSeverity | INT | 251 |
| Cfg_LoSeverity | INT | 251 |
| Cfg_LoLoSeverity | INT | 501 |
| Cfg_FailSeverity | INT | 751 |
| Cfg_InpRawMin | REAL | 0.0 |
| Cfg_InpRawMax | REAL | 100.0 |
| Cfg_PVEUMin | REAL | 0.0 |
| Cfg_PVEUMax | REAL | 100.0 |
| Cfg_FiltTC | REAL | 0.0 |
| Cfg_HiHiDB | REAL | 1.0 |
| Cfg_HiHiOnDly | DINT | 0 |
| Cfg_HiHiOffDly | DINT | 0 |
| Cfg_HiHiGateDly | DINT | 0 |
| Cfg_HiDB | REAL | 1.0 |

Edit Parameter

01 General

Name: InpRawMax

Parameter Help

Scope: AnalogInput

Data Type: Real

02 Reference

Reference Type: Immediate

03 Data

Default Value: 100.0

Min: -9999999999

Max: 9999999999

Engineering Units

Invalid

Append

04 UserInterface

Group: PV Config

Control Type: TextBox

Filter

Visible: True

Disabled

ReadOnly: False

Name

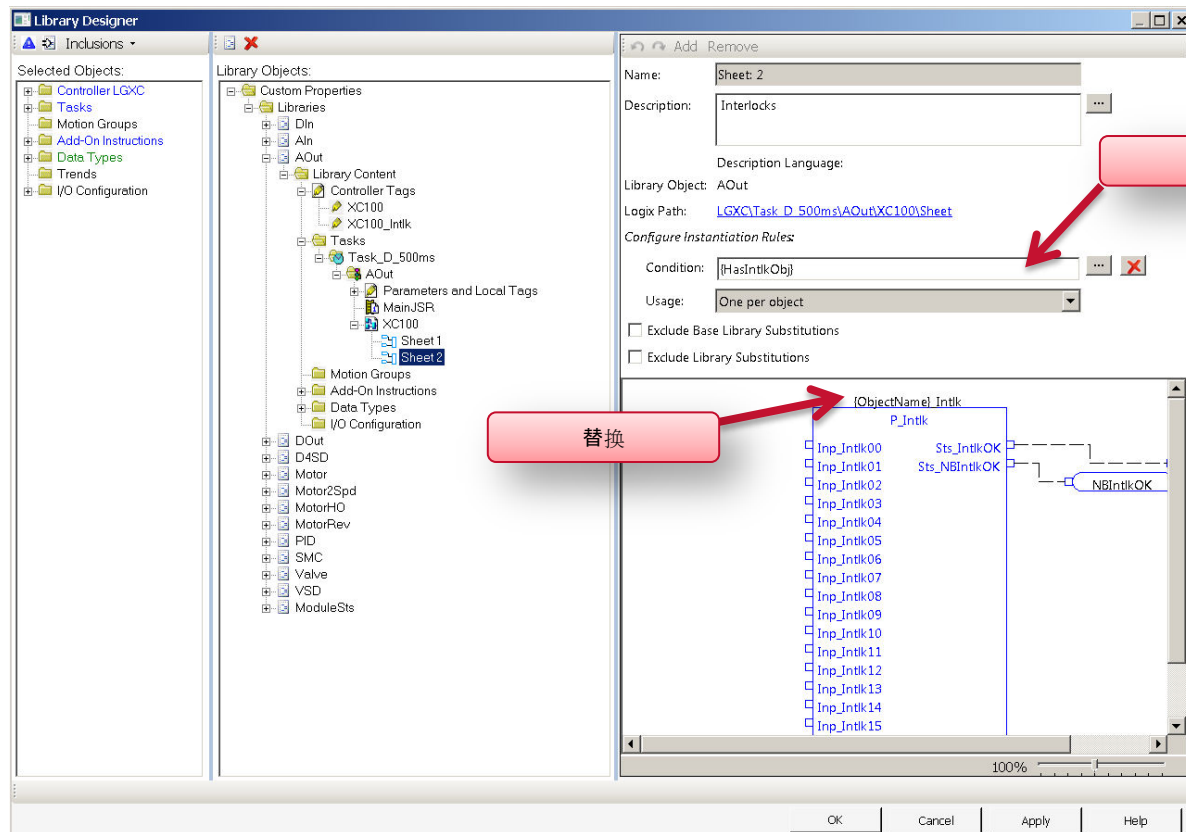
Enter the parameter name - must be unique within its scope

OK Cancel Help

Example

替换tab Substitutions

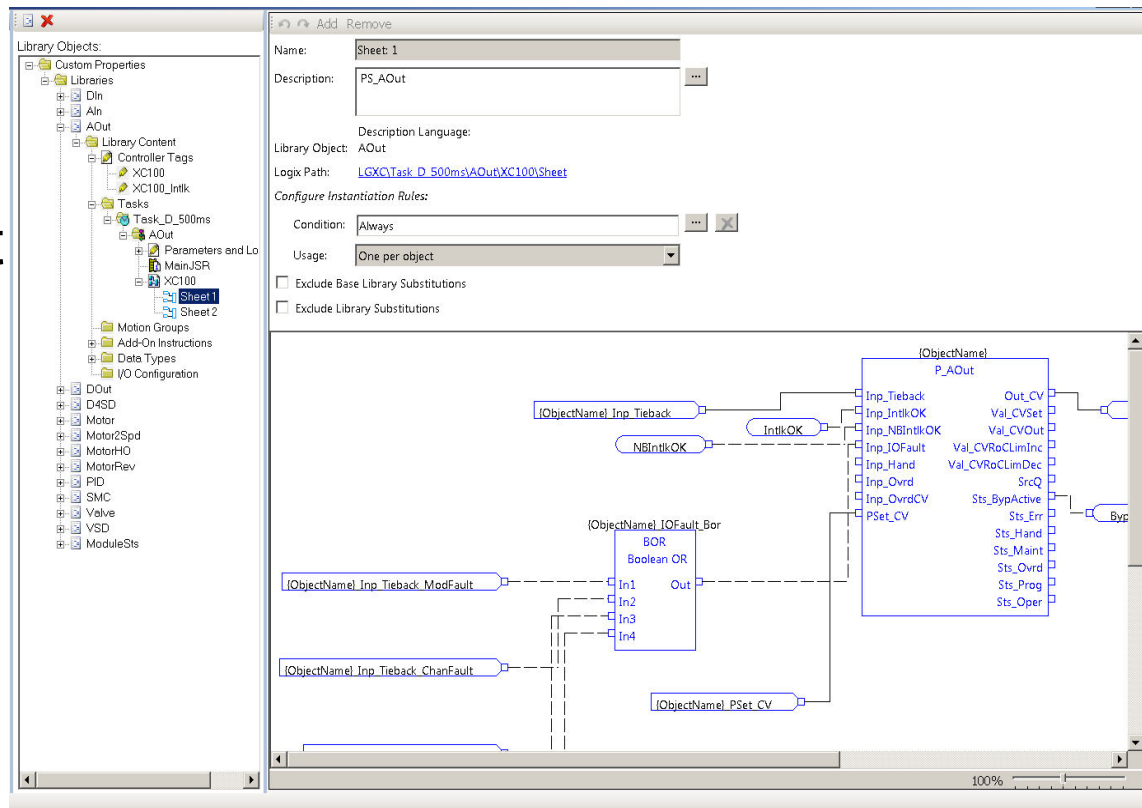
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通过各种方式“修饰”库的内容

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- 梯形图 Ladder
- 功能块 Function Block
- 结构文本 Structured Text
- 顺序功能图 Sequential Function Chart

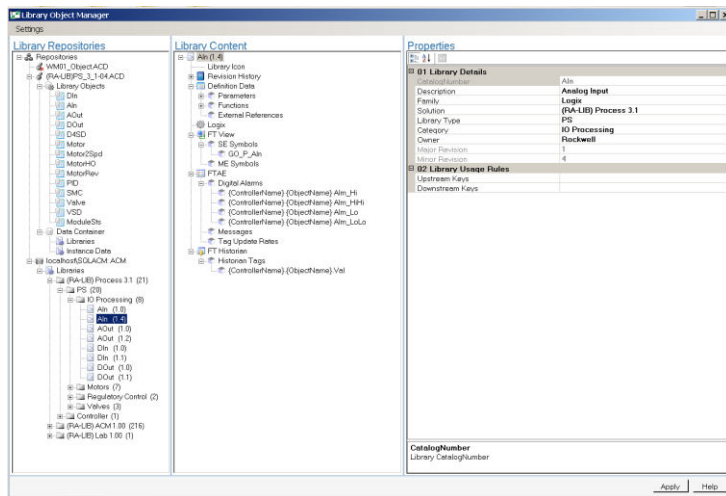


库的管理 Library Management

通过使用库对象管理器实现库内容的管理

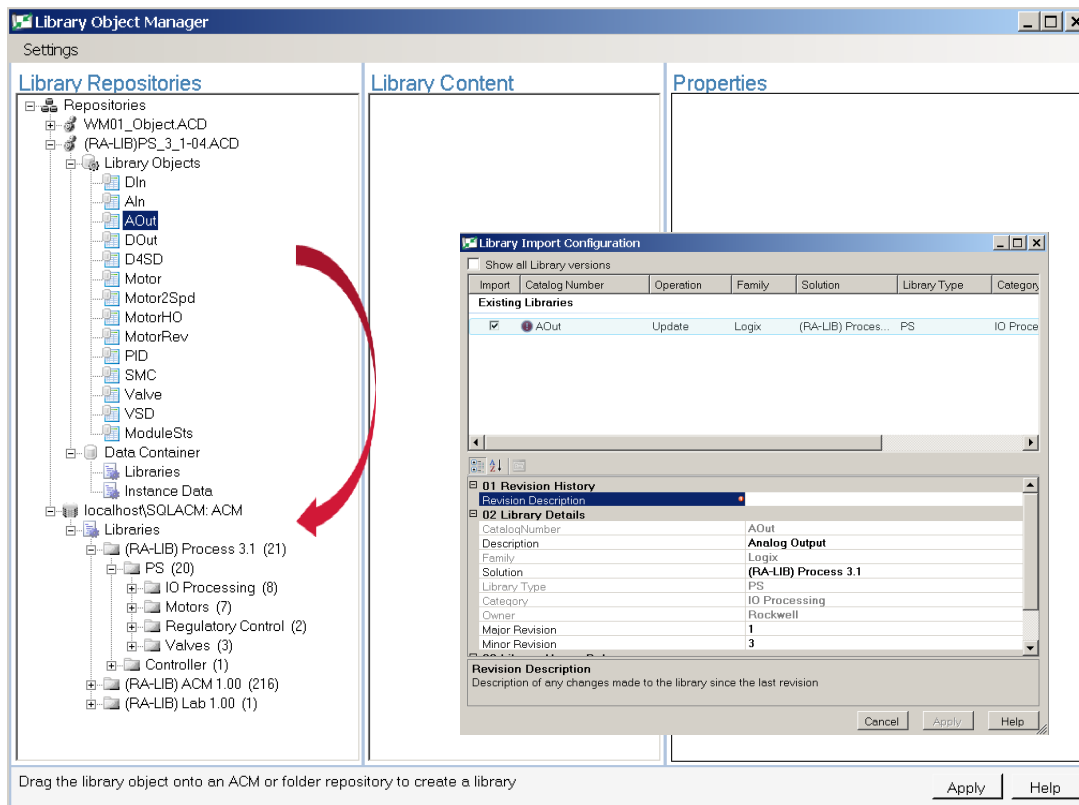
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- 把所有 Logix, FactoryTalk® View SE 和 ME, FactoryTalk® Historian 以及 FactoryTalk® Alarms & Events 内容整合到一个库对象之中
- 直接以库对象文件的形式发布到 Application Code Manager 的数据库
- 所有嵌入式库对象都提供版本管理选项



PLC中的内容发布到Application Code Manager中

在Library Object Manager中配置logix的内容



FactoryTalk® View SE 和 ME

在Library Object Manager中配置View SE和ME

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The screenshot displays the Library Object Manager interface with three main panes: Library Repositories, Library Content, and Properties.

- Library Repositories:** Shows a tree structure of libraries. The path **Libraries > (RA-LIB) Process 3.1 (21) > PS (20) > IO Processing (8) > Ain (1.0) > Ain (1.4)** is highlighted. A red circle is drawn around the **SE Symbols** and **ME Symbols** folders.
- Library Content:** Shows the contents of the selected library. The **SE Symbols** folder is selected, and a context menu is open with options: **Add**, **Delete**, **Expand All**, and **Collapse**. A red arrow points from this menu to the **Symbol Builder** dialog box.
- Properties:** Shows the properties of the selected symbol.

The **Symbol Builder** dialog box is open, showing the **Select Display Export File:** **C:\Users\Labuser\Documents\RA-LIB_P_Aln Graphics Library.xml**. The **Select Root Node/s of Symbol:** list contains the following items:

| Name | Type |
|-------------------------------|-------|
| GO_P_Aln | group |
| GO_P_AlnX | group |
| GO_P_AlnTrend | group |
| GO_P_AlnAdvTrend | group |
| GO_P_AlnIndicator | group |
| GO_P_AlnIndicatorWCCapture | group |
| GO_P_AlnAdvIndicator | group |
| GO_P_AlnAdvIndicatorWCCapture | group |

The **Apply Substitutions** section is checked, showing **Name Prefix**, **Left Position**, **Top Position**, **Line Position**, and **Arc Position**.

A red callout box points to the **SE Symbols** folder in the Library Content pane, containing the text: **ACM管理独特的名称和对象的位置** (ACM manages unique names and object positions).

The **Global Object Parameter Values** dialog box is also open, showing a table of parameters:

| Name | Value | Tag | Description |
|-------|------------------------|-----|--|
| #1000 | (AnalogIn) (Character) | ... | Object Tag (P_Aln, P_AlnAdv, P_AlnIndicator, or P_AlnAdvTrend) |
| #1001 | (AnalogIn) | ... | Path (include program scope if tag is a program scope) |
| #1002 | (AnalogIn) | ... | Additional display parameter (e.g., P1000 or P1001) (optional) |
| #1003 | (AnalogIn) | ... | Additional display parameter (e.g., P1000) (optional) |
| #1004 | (AnalogIn) | ... | Additional display parameter (e.g., P1000) (optional) |

A red callout box points to the **Global Object Parameter Values** dialog box, containing the text: **ACM**.

FactoryTalk® View SE和ME

在Library Object Manager中配置View SE和ME

Rockwell
Automation

The screenshot displays the Library Object Manager interface with three main panes: Library Repositories, Library Content, and Properties.

- Library Repositories:** Shows a tree structure of libraries. The path **(RA-LIB) PS_3-1-04 ACD** is selected.
- Library Content:** Shows the contents of the selected library. The **GO_P_Aln** object is highlighted under the **SE Symbols** category.
- Properties:** Shows the configuration for the **GO_P_Aln** object.
 - Symbol Name:** **GO_P_Aln**
 - Include Condition:** **Always**
 - Source Text:** Contains a large block of XML code defining the object's appearance and behavior, including animations and colors.
 - Apply Substitutions:** A section with **Find:** and **Replace:** fields and an **Apply Substitution** button.

ACM 表达式

FactoryTalk® Alarms & Events

在Library Object Manager中配置FTAE

Rockwell
Automation

Library Object Manager

Library Content

Properties

ACM条件:

Include Condition: `[HasHiAlarm] = True`

Input Tag: `[AreaPath]{ObjectName} Alm_Hi`

Condition: `Input < 0`

Severity: `251`

Minimum duration: `0` Seconds

Message: `Process Variable High Alarm: Val=715 %Tag1 NOFILL DP:17; Val_HiLim=715 %Tag2 NOFILL DP:17`

Associated Tags:

- g1: `[AreaPath]{ObjectName} Val`
- g2: `[AreaPath]{ObjectName} Val_HiLim`
- g3: `[AreaPath]{ObjectName} Val_HiLim`
- Tag4: `[AreaPath]{ObjectName} Val_HiLim`

Alarm Class: `[AreaPath]{ObjectName} Alm_Hi`

FactoryTalk View: `Display "RA-BAS" P_Alm-Faceplate" N(AreaPath){ObjectName}`

Digital | Status Tags | Control Tags

Disable Tag: `[AreaPath]{ObjectName} Hi.Com_AE.10`

Enable Tag: `[AreaPath]{ObjectName} Hi.Com_AE.11`

Suppress Tag: `[AreaPath]{ObjectName} Hi.Com_AE.7`

Unsuppress Tag: `[AreaPath]{ObjectName} Hi.Com_AE.8`

Acknowledge Tags

All Levels: `[AreaPath]{ObjectName} Hi.Com_AE.1`

Shelve Tags

All Levels: `[AreaPath]{ObjectName} Hi.Com_AE.4`

Shelve Duration: `[AreaPath]{ObjectName} Hi.Ctg_MaxShelfT`

Unshelve All Tag: `[AreaPath]{ObjectName} Hi.Com_AE.5`

Digital | Status Tags | Control Tags

Disabled Tag: `[AreaPath]{ObjectName} Hi.Com_AE.9`

Suppressed Tag: `[AreaPath]{ObjectName} Hi.Com_AE.6`

In Alarm Tag: `[AreaPath]{ObjectName} Hi.Com_AE.1`

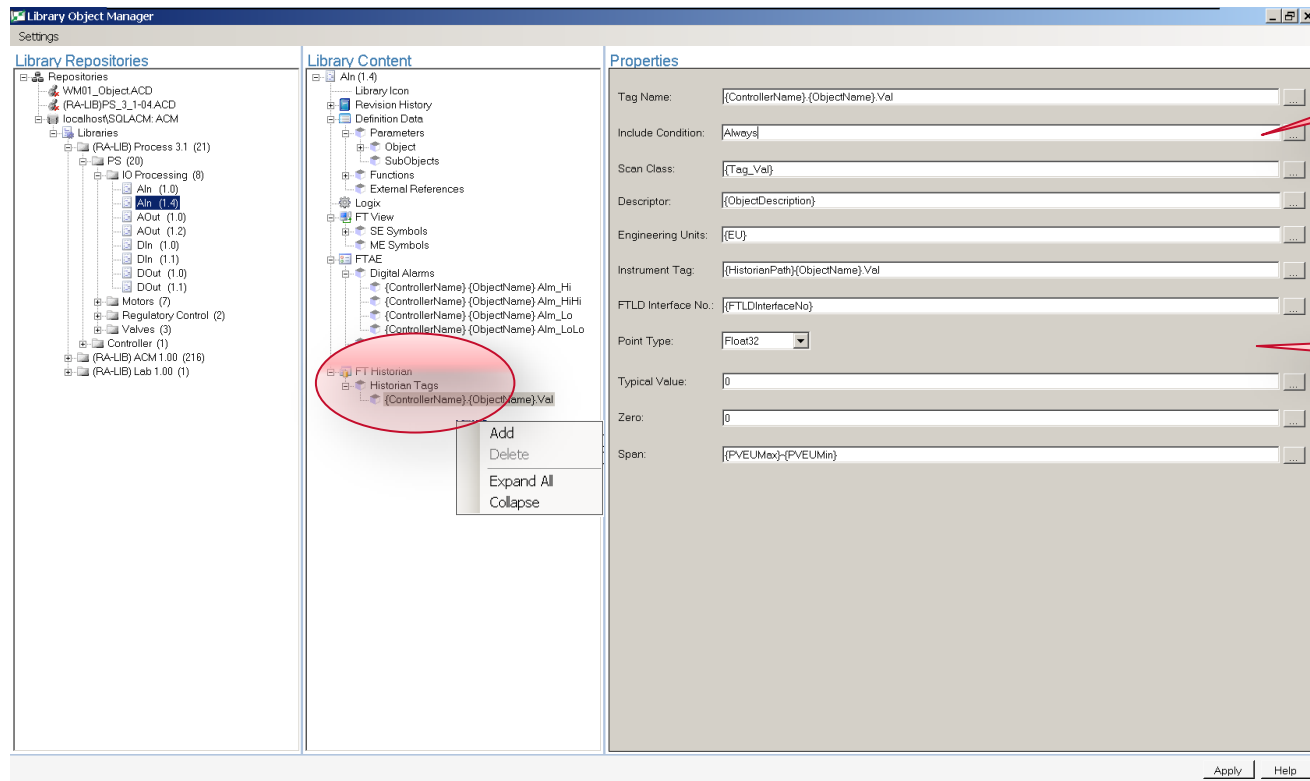
Acknowledged Tag: `[AreaPath]{ObjectName} Hi.Com_AE.1`

Shelved Tag: `[AreaPath]{ObjectName} Hi.Com_AE.3`

FactoryTalk® Historian

在Library Object Manager中配置历史数据库服务器

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ACM 条件

点的类型

LISTEN.
THINK.
SOLVE.®

ACM的选型简介



PUBLIC



Allen-Bradley • Rockwell Software

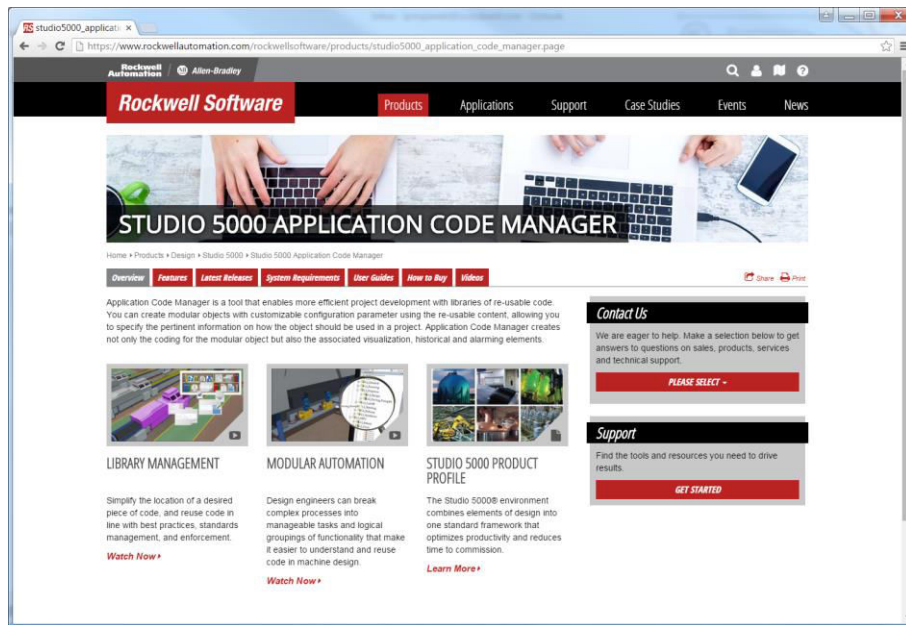
Rockwell
Automation

Studio 5000® Application Code Manager 是一款软件服务而不仅仅是产品，订阅期1年

- **建立项目:**
 - 9326C-ACM001ENT, 1 User (Concurrent), includes 8x5 Technical Support
 - 9326C-ACM001ENTM, 1 User (Concurrent), includes 8x5 Technical Support and Media
 - 9326C-ACM001ENTA1, 1 User (Concurrent), includes 24x7 Technical Support uplift
 - 9326C-ACM001ENTMA1, 1 User (Concurrent), includes 24x7 Technical Support uplift and Media

- **建立库内容:**
 - 9326C-LIBD001ENT, 1 User (Concurrent), includes 8x5 Technical Support
 - 9326C-LIBD001ENTM, 1 User (Concurrent), includes 8x5 Technical Support and Media
 - 9326C-LIBD001ENTA1, 1 User (Concurrent), includes 24x7 Technical Support uplift
 - 9326C-LIBD001ENTMA1, 1 User (Concurrent), includes 24x7 Technical Support uplift and Media

- 系统集成商
 - 2 个独立工程库
 - 25 个不同的工程
 - 10 个工程师任意时间工作于ACM数据库
 - 型号与数量.
 - 2套, 9326C-LIBD001ENT
 - 10套, 9326C-ACM001ENT



Videos

ACM First Steps - Part 1 Installing

ACM First Steps - Part 2 Connecting and Registering Library Content

ACM Library Management - Part 1 Initial Creation of a Logix Library Object

ACM Library Management - Part 3 Publishing a Logix Library Object

ACM Library Management - Part 4 Adding FTViewSE graphics to a Library Object

ACM Library Management - Part 5 Adding FTHistorian SE tag configuration to a Library Object

ACM Project Execution - Part 1 Creating a Logix project from library content

ACM Project Execution - Part 2 Creating FTViewSE Content from library content

https://www.rockwellautomation.com/rockwellsoftware/products/studio5000_application_code_manager.page#overview

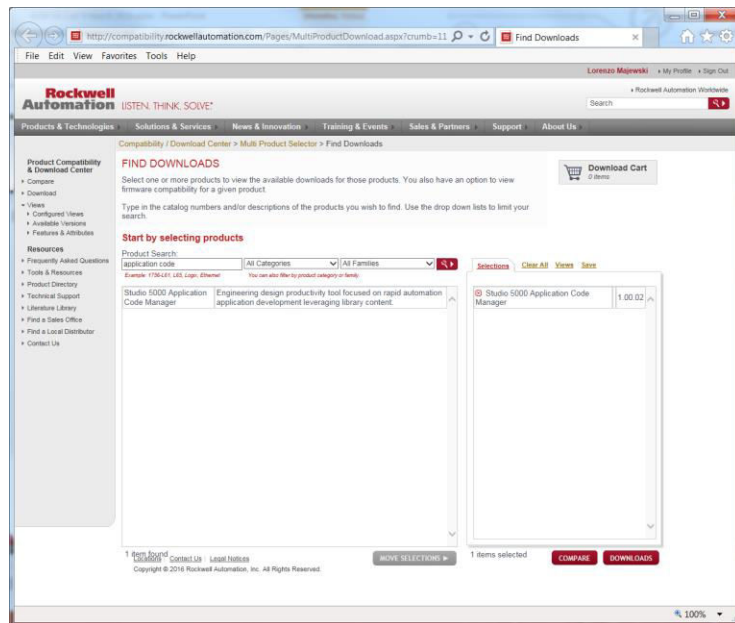
Studio 5000® Application Code Manager

七天试用，喜欢再买

**Rockwell
Automation**

你可以下载Studio 5000®ACM应用代码管理并使用七天。如果喜欢的话，只需购买和激活产品即可享受为期一年的订阅和8x5技术支持。

<http://www.rockwellautomation.com/global/support/pcdc.page?>



下载路径

- <http://compatibility.rockwellautomation.com/Pages/MultiProductDownload.aspx?crumb=112>

Rockwell Automation

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Support

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Compatibility / Download Center > Multi Product Selector > Find Downloads

DOWNLOADS

Available downloads for the selected products. Click on the

SELECTIONS

COMPARE

show selections

Process Library 3.50.02

Rockwell Automation Library of Process Objects, Sample Projects, Application Templates, Tools & Utilities

Available Downloads

Product Selected: **Process Library**

Product Version: **3.50.02**

Release Notes

Custom Release Note

RA Library for Studio 5000 Application Code Manager Update v3.50.xx

RA Library for Studio 5000 Architect Update v3.50.02

RA Library of Endress+Hauser Integration Objects v3.50.02

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