Canary Labs

Watch the video tutorial (no audio)

Summary Information

Communication Driver Name: CanaryLabs Historian

Current Version: 1.0.0.1

Implementation DLL: T.ProtocolDriver.CanaryLabs.dll

Manufacturer: CanaryLabs

System Requirements

The following requirements must be matched in order to use the CanaryLabs driver:

- Product version 9.1
- .Net Framework 7.1 or higher

For more information on how to set up the CanaryLabs Environment, see the Appendix.

Channel Configuration

Protocol Options

Protocol options are not used in this driver. The remaining channel configurations are the same as in the reference guide.

Node Configuration

Station Configuration

The station parameters are:

- ServerName: The name or IP address of the machine running the CanaryLabs Historian. (If the service is not running in the default port, the syntax should be: ?ComputerName?:?PortNumber? or ?IpAddress?:?PortNumber?)
- ClientID: Indicates the client identification that is used to make calls in the Canary service
- ConnectionType: Specifies the ConnectionType with the service

The options are:

- Anonymous: Connection using no credentials
- · UserName: Connection using a username/password that is defined in CanaryAdmin
- · Windows: Connection using Windows credentials
- UserName: The user name used for verification (Valid for the Username and Windows connection types)
- Password: The password used for verification (Valid for the Username and Windows connection types)
- Views: A list of views found in the specified ServerName. If the view is virtual, the Node will be Read-Only
- Dataset: The name of the dataset you will connect to. (Not available when the selected view is Virtual)

Use the Test Connection button to check the connection with the Server and Database.

With a Success! status message, 3 features are enabled for this Driver:

- 1. Import Tool
- 2. Unified Namespace
- 3. Asset Modeling

The Import Tool is described in this section, and the other two are detailed in the Appendix.

Import Tool

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You can automatically import the existing Canary Variables into your Project by clicking on the Import button.

This tool allows you to choose variables, from the list, that will be imported into your project; automatically creating the Tags and Communication Points.

col: CanaryLabs ode: CanaryLabs1	Help-	New				
		Sync Device Node				
Node Station: localhost;MyClient;A	nonymous;;;					
Refresh If 'New' column is blo importing.	nk and 'Import' o	column is checked then TagName will be	overwritter	n. 'Import' colu Filter	umn can be unchecked be, by address:	fore
TagName	Туре	Address	Import	New	Description	
FloatWave	Integer	II Historian.FloatWave	√	*		
				all		
IntWave	Integer	Historian.IntWave	- V	Y		
IntWave RampWave	Integer	Historian.IntWave Historian.RampWave	*	- V		
IntWave RampWave SinWave	Integer Integer Integer	Historian.IntWave Historian.RampWave Historian.SinWave	*	*		
IntWave RampWave SinWave Temperature1	Integer Integer Integer Integer	Historian.IntWave Historian.RampWave Historian.SinWave Line001.Temperature1	* * *	* * *		
IntWave RampWave SinWave Temperature1 AdminRequests_sec	Integer Integer Integer Integer Decimal	Historian.IntWave Historian.RampWave Historian.SinWave Line001.Temperature1 {Diagnostics}.AdminRequests/sec	* * * *	* * *		
IntWave RampWave SimWave Temperature 1 AdminRequests_sec Reading_HistoryMax_ms	Integer Integer Integer Decimal Decimal	Historian.IntWave Historian.RampWave Historian.SinWave Line001.Temperature1 (Diagnostics).AdminRequests/sec (Diagnostics).Reading.HistoryMax	* * * * *	* * * * * * *		
IntWave RampWave SinWave Temperature 1 AdminRequests_sec Reading_HistoryMax_ms Reading_HistoryRequests_sec	Integer Integer Integer Decimal Decimal Decimal	Historian.IntWave Historian.SampWave Linc001.Temperature1 (Diagnostics).AdminRequests/sec (Diagnostics).Reading.HistoryMax (Diagnostics).Reading.HistoryRequ	* * * * * *	* * * * *		
IntWave RampWave SinWave Temperature 1 AdminRequests_sec Reading_HistoryMax_ms Reading_LiveMax_ms	Integer Integer Integer Decimal Decimal Decimal Decimal	Historian.IntWave Historian.SampWave Historian.SimWave Line001.Temperature1 (Diagnostics).AdminRequests/sec (Diagnostics).Reading.HistoryMax (Diagnostics).Reading.HistoryRequ (Diagnostics).Reading.LiveMax-ms	* * * * * *	****		
IntWave RampWave SinWave Temperature1 AdminRequests_sec Reading_HistoryMax_ms Reading_LiveMax_ms Reading_LiveMax_ms Reading_LiveRequests_sec	Integer Integer Integer Decimal Decimal Decimal Decimal Decimal	Historian.RampWave Historian.SampWave Historian.SinWave Line001.Temperature1 {Diagnostics}.AdminRequests/sec {Diagnostics}.Reading.HistoryMax {Diagnostics}.Reading.LiveMax-ms {Diagnostics}.Reading.LiveMax-ms {Diagnostics}.Reading.LiveRequests	****	****		
IntWave RampWave SintWave Temperature1 AdminRequests_sec Reading_historyNax_ms Reading_LiveRequests_sec Reading_LiveRequests_sec Reading_LiveRequests_sec	Integer Integer Integer Decimal Decimal Decimal Decimal Decimal Decimal	Historian.RampWave Historian.SampWave Historian.SinWave Line001.Temperature1 (Diagnostics).Reading.HistoryMax (Diagnostics).Reading.LiveTwMax-ms (Diagnostics).Reading.LiveRequest (Diagnostics).Reading.LiveRequest (Diagnostics).Reading.LiveRequest	****	*****		
IntWave RampWave SinWave Imperature1 AdminRequests_sec Reading_HistoryMax_ms Reading_LiveMax_ms Reading_LiveMay_ms Reading_LiveRequests_sec Reading_LiveRequests_sec Reading_LiveTVQs_sec Reading_NumClients	Integer Integer Integer Decimal Decimal Decimal Decimal Decimal Decimal	Historian.RampWave Historian.RampWave Historian.SinWave Line001.Temperature1 (Diagnostics).Reading.HistoryMax (Diagnostics).Reading.HistoryRequ (Diagnostics).Reading.LiveMax-ms (Diagnostics).Reading.LiveMaxequests (Diagnostics).Reading.LiveTVQs/sec (Diagnostics).Reading.NumClients	******	****		
IntWave RampWave SirWave Temperature1 AdminRequests_sec Reading_HistoryMax_ms Reading_LiveMax_ms Reading_LiveRvax_ms Reading_LiveRvax_ms Reading_LiveRvax_ms Reading_NiveRvax_sec Reading_NiveRvax_sec Reading_TagHandles	Integer Integer Integer Decimal Decimal Decimal Decimal Decimal Decimal Decimal	Historian.IntWave Historian.RampWave Historian.SinWave Line001.Temperature1 {Diagnostics}.AdminRequests/sec {Diagnostics}.Reading.HistoryRequ {Diagnostics}.Reading.LiveRequests {Diagnostics}.Reading.LiveRequests {Diagnostics}.Reading.LiverTVQs/sec {Diagnostics}.Reading.NumClients {Diagnostics}.Reading.TagHandles	****	****		
IntWave RampWave SinWave Temperature 1 AdminRequests_sec Reading_HistoryMax_ms Reading_HistoryRequests_sec Reading_LiveRVax_ms Reading_LiveRvax_ms Reading_LiveRvax_ms Reading_LiveRvax_sec Reading_NewClients Reading_TVQs_sec Reading_TVQs_sec	Integer Integer Integer Decimal Decimal Decimal Decimal Decimal Decimal Decimal	Historian.IntWave Historian.RampWave Historian.SinWave Line001.Temperature1 {Diagnostics}.AdminRequests/sec {Diagnostics}.Reading.HistoryMax {Diagnostics}.Reading.LiveMax-ms {Diagnostics}.Reading.LiveRequest {Diagnostics}.Reading.LiveRequest {Diagnostics}.Reading.LiveRequest {Diagnostics}.Reading.NumClients {Diagnostics}.Reading.TagHandles {Diagnostics}.Reading.TagHandles	*****	****		

Point Configuration

Address

You can use the Browse button to see the available data in the CanaryHistorian database, or you can write a Tag address directly in the Item field.

l						_				
	TagName	No	de							Address
		CanaryLabs1								
				1	tem:					Verify
					Brows	se items				
			Search Iter	ms						×
									_	
			Search Mask:						_	Search
			ServerName	DatabaseName	TagName	Value	Quality	Timestamn	Type	Description
			LuizOtavio	Historian	FloatWave	55	192	02/04/2021 11:48:04	Int32	Description
			LuizOtavio	Historian	IntWave	71	192	02/04/2021 01:41:48	Int32	
			LuizOtavio	Historian	RampWave	6	192	02/04/2021 01:41:48	Int32	
			LuizOtavio	Historian	SinWave	07	192	02/04/2021 01:41:48	Int32	

For a simple Tag, use the syntax: ?DatabaseName?.?VariableName?. E.g.:

TagName	Address
Motor1 Temperature	Motor1.Temperature
Motor1 RPM	Motor1.RPM
Motor2 Temperature	Motor2.Temperature
Motor2 RPM	Motor2.RPM

Or, you can create a Template (ex. Motor1 and Motor2), and input it into the Points list. Its members (ex. Temperature and RPM) will be mapped automatically. E.g.:

Engineering Environment						
TagName	Address					
Motor1	Motor1					
Motor2 Motor2						
Runtime						
	Address					
TagName	Address					
TagName Motor1.Temperature	Address Motor1.Temperature1					
TagName Motor1.Temperature Motor1.RPM	Address Motor1.Temperature1 Motor1.RPM					
TagNameMotor1.TemperatureMotor1.RPMMotor2.Temperature	Address Motor1.Temperature1 Motor1.RPM Motor2.Temperature1					

Array elements are also automatically expanded in runtime.

Use the Verify button to check if a name is valid and get the current value and quality.

	Channels Nodes Points	AccessTypes								
	Drag a column header here to group									
	TagName	Node	Addro	ess						
*										
ø		CanaryLabs1	Historian.FloatWave							
			Item: Historian.FloatWave	rify						

TagProvider

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This Communication Protocol supports the TagProvider feature, which is a tool that allows you to access your Communication Device Data Model without creating project Tags.

For more information, please refer to the TagProvider document.

How to Configure

To configure the CanaryLabs protocol as a TagProvider, navigate to Edit > Tags > Providers, and create a new provider for the CanaryLabs protocol.

Configure the items under the PrimaryStation column the same way that was described in the Node Configuration.

	Assets Objects Templates Providers Historian HistorianTables								
	Create new TagProvider								
Γ	Drag a column heade	er here to group		_		_	_		
	Name	Provider	PrimaryStation	BackupStation	Access	ReadTime	WriteTime	D	
ø	CanaryLabs	CanaryLabs			ReadWr	00:00:00.500	00:00:00.500	CanaryLabs Historian - CanaryLabs Connector - Custom	
			Server Name: Client Id: ConnectionType:	localhost CanaryLabs Anonymous	_				
			UserName: Password: View: Dataset:						
			Test Connection						

Troubleshooting

The status of the driver execution can be observed through the diagnostic tools, which are:

- Trace window
- Property Watch

Module Information

A status value of 0 (zero) means the communication was successful. Negative values indicate an internal driver error, and positive values are the protocol's error codes.

Appendix

CanaryLabs Configuration Procedure

Once you have the CanaryLabs Historian software and the Canary Admin application installed, you will need to configure some permissions for the connection to work.

Admin Configuration

Open the Admin Tab.



Under Endpoints, select every checkbox, but do not change the port numbers.

🤹 Canary Adm	ninistrator					
Home Ac	lmin ×					
Endpoints	ENDPOINTS					
	🖌 Net.Pipe - /	Anonymou	is (Loca	l Only)		
Access	🖌 Net.TCP - V	Vindows	Port:	55273		
Settings	🖌 Net.TCP - L	lsername	Port:	55273		
	CERTIFICATE (Usernam	ie)		INFO	
	Store Name:	Му			•	
	Find Type:	FindBySu	ibjectN	ame	•	
	Subject Name:	DESKTOR	40790	DAF.		

Under Access, add the users that will be allowed to access the CanaryAdmin programs.

- Anonymous
 System
 Administrator
 Interactive

- Everyone?Your User?.

🔰 Canary Adm	inistrator			LOCALHOST	•	?	-		×
Home Ad	lmin ×								
Endpoints	ALLOW	ADD REMOVE	DENY			ADD.	•	REM	OVE
Access Settings	Administradores Todos LOGON ANÔNIMO Luiz Otavio INTERATIVO SISTEMA								

Under Settings, make sure the checkbox for the Persist Last Connection is selected.



Receiver Configuration

Open the Receiver Tab.



Under Endpoints, select every checkbox, but do not change the port numbers.

🤰 Canary Adm	ninistrator					
Home Re	ceiver ×					
Endpoints	ENDPOINTS					
	🖌 Net.Pipe - A	Anonymous (l	Local C			
	🗸 Net.TCP - U	lsername	Port:	55256		
	🖌 Net.TCP - A	nonymous	Port:	55255		
	CERTIFICATE (Username)			INFO	
	Store Name:	Му			-	
	Find Type:	FindBySubje	ectNam	ne	-	
	Subject Name:	DESKTOP-40	orron	8		

Sender Configuration

Open the Sender Tab.



Under **Configuration > Endpoints,** select every checkbox, but do not change the port numbers.

👔 Canary Administrator									
Home Sender ×									
Credentials ENDPOINTS									
Credentials	Vet.Pipe -	NetPipe - Anonymous (Local Only)							
Endpoints	🖌 Https - Use	rname (SOAP)	Ports	55252					
Access	🖌 Http - Ano	Port	55251						
	🖌 Https - Use	rname (Web API)	Ports	55254					
	🖌 Http - Ano	nymous (Web API)	Port	55253					
	CERTIFICATE ((Username)		INFO					
	Store Name:	My		-					
	Find Type:	ne	-						
	Subject Name:								

Under Configuration > Access, add all the users that will be allowed to write in the Canary Historian. E.g.:

- Anonymous
 System
 Administrator
 Interactive
 Everyone
 ? Your User?.

🤰 Canary Admin	istrator				LOCALHOST	•	?	-		×
Home Sen	der ×									
Credentials	ALLOW	ADD REMO	/E	DENY			AD	D	REM	OVE
Endpoints	Administradores									
LINDOULS	Todos									
Access	LOGON ANÔNIMO									

Views Configuration

Open the Views Tab.

Administrator					LOCALHOST 🔻 ? 📃 🗖 🗙
Home					
		Connected	to Localhost		
	Services Historian: Running	Messages (Last 24 Hours)	Licenses	Admin	
	Receiver: Running Sereder: Running Logger: Running Views: Running Events: Running Calculation: Running Axiom: Running License: Stopped	Warn: 0 Error: 0 Fatal: 0	Canary Historian: 5,000 Tags (106/331) Axiom: 2 Users (310/331) Excel Add-In: 1 Users (306/331) ODBC Connector: Licensed (310/331)	Remote Enabled: Toue Users Allowed: 6 Users Denied: 0 Service Version: 20.1.0.20080 Client Version: 20.1.0.20080	
	Historian	Receiver	Sender	Logger	
	DataSett: 3 Licensed Taps: 27 Handles (R/W): 0 / 34 Updates/Sec: 14,9 Version: 20.1.0.20080	Sessions: 0 Tags: 0 Updates: 0 Updates:/Sec: 0 Grace: 0 Version: 20.1.0.20080	Sessions: 0 Tage: 0 Buffer: 0 Store/Sec: 0 Smd/Sec: 0 Errora: 0 Version: 20.1.0.20080	Sessions: 0 Tags: 0 Logging: 0 Version: 20.1.0.20080	
	OPC Collector	Views	Events	Calculation	
	Sessions: 0 Groups: 0 Tags: 0 Logging: 0 Venion: 20.1.0.20080	Clients: 0 Views: 1 Security: Enabled Version: 20.1.0.20080	Monitoring: 0 Checks in Last Mirc 0 In Progress: 0 Last 24 Houns: 0 Total: 0 Version: 2010/2080	Calculations active: 0 Writing to tags: 0 Calculated this hour: 0 Calculated today: 0 Version: 20.1.0.20080	
	Axiom	CygNet Collector	CSV Collector	SQL Collector	
	Clients: 0 Browner: True Graphics: True Version: 20.1.0.20080	Divisions: 0 of 0 Tags: 0 TYQs: 0 Venion: 20.1.0.20080	Directories 0 Queued: 0 Processed: 0 Togs: 0 TVQ: 0 Version: 2010.20080	Connections: 0 Togix 0 TVQa: 0 Vension: 20.1.0.20080	
	MQTT Collector			2017	
- H	Groups: 0 Connections: 0 Tags: 0 TVQ/snc: 0 Version: 20.1.0.20080	canary			

Under Configuration > Endpoints, select every checkbox, but do not change the port numbers.



Under Configuration > Access, add all the users that will be allowed to write in Canary Historian. E.g.:

- Anonymous
 System
 Administrator
 Interactive
 Everyone
 ? Your User?.

🤰 Canary Adm	inistrator			LOCALHOST 🝷	? –	
Home Vie	ews ×					
Endpoints	ALLOW	ADD REM	OVE DENY		ADD	REMOVE
Access Historians	Todos LOGON ANÔNIMO Luiz Otavio INTERATIVO SISTEMA					
	ALLOW (Secure Endpoint)	Der	DENY (Secure Endpoint)	ALLOW	REMOVE	REFRESH

Under Security > Permissions, add the users for the Root path with the *ReadWrite* AccessType.

🌲 Canary Administ	trator		LOCALHO	ST 🔻	? _	= ×
Home View	s ×					
Permissions Overview Settings	BROWSE	EXPLICIT PERMISSIONS		DD		
	▲ Views					
	▶ LuizOtavio	USER	PATH		ACCESS	
		Luiz Otavio	ROOT	ReadWrite		
		INTERATIVO	ROOT	F	ReadWrite	
		Todos	ROOT	F	ReadWrite	
		LOGON ANÔNIMO	ROOT	F	ReadWrite	

Under **Security > Settings**, make sure the *Security Enabled c*heckbox is selected.

