Creating Solutions Reference

Start new solutions with the Solution Creator.

Creating Solutions (Reference) : Technical documentation for creating and configuring new FrameworX solutions.

A Solution is a complete application built in FrameworX, stored as a single .dbsln file containing all configuration data including tags, alarms, devices, displays, scripts, and other modules. Creating a new solution generates this file with initial metadata, which you then configure using Designer.

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Creating a New Solution

To create a solution, click **New...** in Solution Center to launch the New Solution Wizard.

Step 1: Product Features

Select the product series and edition for your solution. All series share the same development environment and core technologies — the difference is scale, scope, and visualization capabilities.

Product Series

Product Series	Description	Use Case
Enterprise	Full platform, unlimited or scaled by I/O	Plant-wide SCADA, MES, enterprise integration
MachineHMI	Visualization and control, scaled by I/O	Machine HMI, production cell control, OEM embedded
EdgeConnect	Edge autonomy with unlimited I/O, two editions	IIoT data gateway, edge HMI, remote sites

EdgeConnect Editions

When you select EdgeConnect, choose between two editions:

Edition	Description	Key Difference
Gateway	Headless IIoT edge — data collection, protocol conversion, store-and-forward	No display clients, no historian, no alarms
View	Edge HMI — everything in Gateway plus local operator interface	2 display clients, 35-day historian & alarms

Both editions include unlimited I/O, 110+ connectors, MQTT broker and client, OPC UA, scripting (.NET and Python 3), SQL datasets, and reports.

Distributed Systems

For advanced distributed architectures, two specialized server components are available alongside any product series:

Component	Description	Use Case
DataHub Station	Field-level I/O acquisition, alarms, historian, 110+ connectors	Remote I/O extension, standalone process nodes
Displays Portal	Unlimited display clients, independent user management	Distributed visualization, multi-site operator interfaces

Community Edition

Solutions run in Evaluation (4-hour runtime timeout) until an appropriate license is activated.

This allows full configuration and testing before purchasing. See Licensing and Activation for details.

Register (Solution Center / License Page) to enable the free **Community Edition**: no runtime timeout for solutions up to 1000 tags and 100 communication points.

Community Edition can be used in production within these limits, with community support. For larger systems, or for Tatsoft technical support and software maintenance, upgrade to a licensed edition (MachineHMI 150 upward or EdgeConnect).

> ⚠ **Configuration tools are free**
>
> You can design, configure, and test solutions in any product series without a license. Production deployment requires either the free Community Edition, within its limits, or a license matching your selected product series and edition.

Step 2: Platform Selection

Platform	Description	Requirements
Windows	Windows-only features (Windows Auth, third-party libraries)	.NET Framework 4.8. Scripts compile to .NET Framework 4.8.
Multi-Platform	Cross-platform (Linux, Docker)	Cross-platform .NET Desktop Runtime on development and runtime machines: .NET 8 for FrameworX 10.1.4 and earlier, .NET 10 for FrameworX 10.1.5 and later Scripts compile to that .NET version in the Designer, so the runtime is required on the Designer machine even when the solution runs on Linux. See Script Compilation Target.

Step 3: Name and Template

1. Enter solution name
2. Review save location (default: `Documents\FrameworX\Solutions`)
3. Select template (optional — defaults to HeaderLayout)
4. Click **Create New Solution**

Product Series Capabilities

The following table summarizes the capabilities available in each product series and edition.

Capability	Enterprise	MachineHMI	EdgeConnect Gateway	EdgeConnect View
Local Tags	Unlimited	Unlimited	Unlimited	Unlimited
I/O Scaling	Unlimited or 1,500 / 5,000 / 15,000	150 / 500 / 1,500 / 4,500	Unlimited	Unlimited
Display Clients	Unlimited	5 users	—	2 users
Alarms & Historian	Full (unlimited retention)	Full (unlimited retention)	—	35-day retention
Scripts (C#, VB.NET, Python 3)	✅	✅	✅	✅
SQL Datasets and Reports	✅	✅	✅	✅
MQTT Broker and Client, OPC UA	✅	✅	✅	✅
110+ Device Connectors	✅	✅	✅	✅

Note: I/O scaling refers to external communication points bound to tags. Local tags (internal variables, calculated values) are always unlimited in all editions.

Solution Templates

Templates provide preconfigured components and settings for faster development.

Built-in Templates

Template	Description	Best For
HeaderLayout	Standard header navigation	Desktop applications
TabLayout	Tabbed interface	Multi-screen applications
MobileLayout	Responsive design	Mobile/tablet applications
Blank	No pre-configuration	Custom designs

EdgeConnect View

When creating an EdgeConnect View solution, consider starting with HeaderLayout or TabLayout — these templates include display navigation that works well with the 2-client limitation. For EdgeConnect Gateway solutions (no displays), use the Blank template.

Adding Custom Templates

Templates are standard .dbsln files stored in:

```
Documents\FrameworX\Templates\
```

To add templates:

1. Copy .dbsln file to Templates folder
2. File appears in wizard on next use
3. Modify existing templates by editing files in folder

Creating Templates

1. Build solution with desired configuration
2. Save .dbsln to Templates folder
3. Optionally include:
    - Pre-configured tags and templates
    - Standard displays
    - Common scripts
    - Device configurations

Solution Configuration

After creation, solutions contain:

Component	Location	Purpose	Availability
Solution Settings	Solution Settings	Product model, platform, metadata	All editions
Unified Namespace	UNS module	Tag definitions and structure	All editions
Devices	Devices module	Communication protocols	All editions
Scripts	Scripts module	Business logic	All editions
Alarms	Alarms module	Alarm management and notification	Enterprise, MachineHMI, EdgeConnect View (35-day)
Historian	Historian module	Historical data recording	Enterprise, MachineHMI, EdgeConnect View (35-day)
Displays	Displays module	User interface screens	Enterprise, MachineHMI, EdgeConnect View

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Solution Files

File Structure

File Type	Extension	Description
Solution	.dbsln	Active configuration database
Backup	.dbback	Archived solution
Published	.dbrun	Read-only production version
Legacy	.tproj	FactoryStudio 9.x format

File Locations

Type	Default Path
Solutions	`Documents\FrameworX\Solutions`

Templates	`Documents\FrameworX\Templates`
Backups	`Documents\FrameworX\Backups`

Solution Creator Tool

For bulk solution creation (e.g., deploying multiple EdgeConnect units to remote sites), use the Solution Creator utility.

Use Cases

- Mass deployment to edge devices (EdgeConnect Gateway or View)
- Creating variations from configuration files
- Automated solution generation for fleet management

See Solution Creator (Reference) for details.

Best Practices Checklist

Naming Conventions

- Use descriptive names without special characters
- Include version or site identifier
- Avoid spaces (use underscores)

Template Selection

- Start with appropriate template
- Customize rather than starting blank
- Save customized versions as new templates
- For EdgeConnect Gateway (headless), use Blank template

Platform Choice

- Choose Windows only if Windows-specific features needed
- Use Multi-Platform for future flexibility
- EdgeConnect deployments on Linux or Docker require Multi-Platform
- Consider deployment environment early

Edition Selection

- Use EdgeConnect Gateway for headless data collection and protocol conversion
- Use EdgeConnect View when local operator visibility is needed at the edge
- Use MachineHMI when full alarms, unlimited historian, or up to 5 clients are required
- All editions can upgrade seamlessly — start small, scale as needed

Aim High. Start Simple. Scale Without Limits.

Troubleshooting

Issue	Cause	Solution
Template not appearing	Not in Templates folder	Copy .dbsln to correct location
Cannot create solution	No write permissions	Check folder permissions
Platform option grayed out	Missing cross-platform .NET Desktop Runtime	Install the runtime that matches your FrameworX version: .NET 8 Desktop Runtime for 10.1.4 and earlier, .NET 10 Desktop Runtime for 10.1.5 and later
Wizard fails	Corrupted template	Remove problematic template
Displays module not visible	EdgeConnect Gateway selected (no display support)	Switch to EdgeConnect View or higher edition

Running in Evaluation mode	No license activated	Activate license matching your product series. See Licensing

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