# Licensing and Activation Reference

Activate and validate solution licenses.



## Overview

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.

The Designer configuration is open. To run that solution in production, activate a license: the free Community Edition covers solutions up to 1,000 tags and 100 communication points, and a licensed edition covers larger systems.

This technical documentation lists all licensing methods, activation procedures, and license management operations.

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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 panel 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 and 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 |

> **Evaluation and Community Edition**
>
> Solutions run in Evaluation mode (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 Community Edition — no runtime timeout for solutions up to 1000 tags and 100 communication points.

> **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.
>
> Without a license, a Designer session closes after 4 hours; open it again to continue, and your work is saved automatically. Any valid license on that computer removes this limit, including a Runtime license or the free Community Edition. After you activate a license, reopen Designer.

### Step 2: Platform Selection

| Platform | Description | Requirements |
|---|---|---|
| **Windows** | Windows-only features (Windows Auth, third-party libraries) | .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 |

### 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**

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## 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 and 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.

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## 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

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## 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` |

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## 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.

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## 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 5+ clients are required
- All editions can upgrade seamlessly — start small, scale as needed

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## 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 or register for Community Edition. See Licensing |

**Related Topics:**

- Solution Center (Reference) - Main interface
- License Server (Reference) - Network licensing
- Product Editions

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### In this section...

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