# Designer Workspace Reference

Navigate and customize the Designer UI.

**Reference** **Designer** Designer Workspace | Reference

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Designer Workspace (Reference):

Detailed technical documentation for all Designer workspace elements, panels, and navigation features.

**Related Topics:**

- Solution Explorer (Reference) - Module navigation
- Working with DataGrids - Table editing
- Keyboard Shortcuts - Quick commands


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## Workspace Layout

### Main Window Structure

| Designer UI | |
|---|---|
| `Menu Bar (File, Open, ...)` | |
| `Main Toolbar` | |
| `Navigation Bar` | |
| Solution Explorer | Design Canvas<br><br>(Active Document) |
| Output Panels: [Find Results] [Output] [Error List] | |

## Main UI areas

| Area | Purpose | Location |
|---|---|---|
| **Solution Explorer** | Module navigation | Left panel |
| **Main Workspace Area** | Active configuration | Center area |
| **Find  Results Panel** | Object settings | Right panel |
| **Output Panels** | System messages | Bottom panel |

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## Solution Explorer

### Module Organization

| Category | Modules | Purpose |
|---|---|---|
| **Foundation** | Solution, Runtime | Core settings |
| **Data Model** | Unified Namespace | Tags and assets |
| **Process** | Devices, Alarms, Historian | Real-time processing |
| **Application** | Datasets, Reports, Scripts | Data handling |
| **Interface** | Displays, Security | User interaction |
| **Tools** | Data Explorer, Track Changes | Utilities |

# Welcome Page

## Sections

| Section | Content | Location |
|---|---|---|
| **User Login** | Current user, login button | Top left |
| **Solution Info** | Name, version, license | Center top |
| **User Preferences** | Theme, auto-save, settings | Center |
| **Recent Changes** | Last modified objects | Bottom |
| **Quick Help** | Getting started links | Right side |

## Solution Information Display

| Field | Description | Example |
|---|---|---|
| **Target** | Product and framework | FactoryStudio (.NET 8) |
| **Tag Count** | Local vs external | Local: 1,234 / External: 567 |
| **Version** | Solution version | 1.2.0 |
| **Modified** | Last save | 2024-12-15 14:30 |

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# Main Toolbar

## Standard Commands

| Button | Function | Shortcut | Availability |
|---|---|---|---|
| **Undo** | Revert last action | Ctrl+Z | Until save |
| **Redo** | Restore undone action | Ctrl+Y | Until save |
| **Cut** | Cut selection | Ctrl+X | With selection |
| **Copy** | Copy selection | Ctrl+C | With selection |
| **Paste** | Insert clipboard | Ctrl+V | After copy/cut |
| **Delete** | Remove selection | Del | With selection |
| **Print** | Print current view | Ctrl+P | Always |

## Advanced Commands

| Button | Function | Use Case |
|---|---|---|
| **Export Document** | Save to Git folder | Version control |
| **Find Elements** | Cross-reference search | Find usage |

| | | |
|---|---|---|
| **Next Reference** | Navigate to next use | After search |
| **Previous Reference** | Navigate to previous | After search |
| **New Tag** | Quick tag creation | Any context |
| **Tag Properties** | Edit tag settings | Tag selected |
| **Object Selection** | Browse objects | Any context |

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## Quick Navigation Bar

| Icon | Name | Target | Shortcut |
|---|---|---|---|
| Home | Welcome page | Solution home | Alt+H |
| Tags | UNS Asset Tree | Tag management | Alt+T |
| Draw | Display editor | Graphical design | Alt+D |
| Runtime | Startup control | Execution | Alt+R |
| Back | Previous location | Navigation | Alt+Left |
| Forward | Next location | Navigation | Alt+Right |
| History | Navigation history | Recent pages | Alt+Down |

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## Solution Explorer Panel

### Explorer Modes

| Mode | Description | Use Case |
|---|---|---|
| **Accordion** | Auto-collapse sections | Focus on current |
| **Tree** | All sections visible | Overview mode |

### Filter Options

| Filter | Shows | Hides |
|---|---|---|
| **All Modules** | Everything | Nothing |
| **Basic Features** | Common modules | Advanced |
| **Unified Namespace** | Data model | Applications |
| **Process Modules** | Devices, Alarms, Historian | Others |
| **Application Modules** | Datasets, Reports, Scripts | Others |

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## Design Canvas Area

### Document Types

| Type | Extension | Editor |
|---|---|---|
| **DataGrid** | Configuration tables | Grid editor |
| **Display** | .display | Draw environment |
| **Script** | .cs | Code editor |
| **Report** | .report | Report designer |
| **Query** | .sql | Query builder |

### Tab Management

| Action | Method | Result |
|---|---|---|
| **Open** | Double-click | New tab |
| **Close** | X button | Save prompt |
| **Close All** | Right-click menu | Save all prompt |
| **Float** | Drag tab | Separate window |
| **Dock** | Drag to center | Return to tabs |

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## Properties Panel

### Property Categories

| Category | Content | When Shown |
|---|---|---|
| **General** | Name, description | Always |
| **Data** | Bindings, sources | With data objects |
| **Appearance** | Visual settings | Display objects |
| **Behavior** | Actions, triggers | Interactive objects |
| **Security** | Permissions | Protected items |

### Property Editors

| Type | Editor | Example |
|---|---|---|
| **Text** | Text box | Names, descriptions |
| **Number** | Numeric spinner | Sizes, counts |
| **Boolean** | Checkbox | Enable/disable |
| **Selection** | Dropdown | Enumerations |
| **Complex** | Dialog button | Expressions, colors |

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## Output Panels

### Find Results

| Column | Description | Action |
|---|---|---|
| **Location** | Module and item | Double-click to go |
| **Property** | Where used | Shows context |
| **Value** | Current setting | Reference info |

### Output Window

| Tab | Content | Use |
|---|---|---|
| **General** | System messages | Status info |
| **Build** | Compilation results | Solution validation |
| **Debug** | Debug output | Development |

### Error List

| Type | Icon | Description |
|---|---|---|
| **Error** | ? | Must fix |
| **Warning** | ? | Should review |
| **Info** | ? | Informational |

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## User Preferences

### Theme Settings

| Theme | Mode | Switch Time |
|---|---|---|
| **Sky** | Light | Navy at night |
| **Steel** | Light | Graphite at night |
| **Light** | Light | Dark at night |
| **Pearl** | Light | Indigo at night |
| **Gold** | Light | Coffee at night |

### Auto-Save Settings

| Option | When Saves | Best For |
|---|---|---|
| **Disabled** | Manual only | Critical edits |
| **On Close** | Document close | Default |
| **Every 5 min** | Timer | Active development |
| **Every 10 min** | Timer | Normal editing |
| **Every 15 min** | Timer | Review mode |

### Display Options

| Setting | Effect | Default |
|---|---|---|
| **Show Quick Help** | Help panel visible | On |
| **Collapse Menu on Draw** | Hide explorer in Draw | Off |
| **Auto Export Changes** | Git export on save | Off |

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## Window Management

### Docking Zones

| Zone | Location | Content |
|---|---|---|
| **Left** | Solution Explorer | Navigation |
| **Center** | Document area | Active work |
| **Right** | Properties/Help | Context info |
| **Bottom** | Output panels | Results |

### Window States

| State | Description | Toggle |
|---|---|---|
| **Docked** | Fixed in zone | Drag to zone |
| **Floating** | Separate window | Drag out |
| **Auto-hide** | Slide out panel | Pin button |
| **Hidden** | Not visible | View menu |

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## Context Menus

### DataGrid Context Menu

| Command | Function | Shortcut |
|---|---|---|
| **Edit Combined Rows** | Multi-edit dialog | Select multiple |
| **Copy Selected Rows** | Copy with headers | Ctrl+C |
| **Paste Rows** | Smart paste | Ctrl+V |
| **Delete Rows** | Remove selected | Del |
| **Export to CSV** | Save to file | Right-click |

### Document Tab Context Menu

| Command | Function | When Available |
|---|---|---|
| **Save** | Save document | Modified |
| **Close** | Close tab | Always |
| **Close All But This** | Close others | Multiple tabs |
| **Float** | Undock tab | Always |
| **New Window** | Duplicate view | Always |

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## Performance Indicators

### Status Bar

| Indicator | Shows | Alert Level |
|---|---|---|
| **Memory** | RAM usage | > 2GB |
| **CPU** | Processor usage | > 80% |
| **Save Status** | Last save time | > 10 min |
| **User** | Current login | Guest |

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## See Also

**Parent Page:**

- Designer (Reference) - Main Designer documentation

**Related Pages:**

- Welcome Page Settings - Preferences detail

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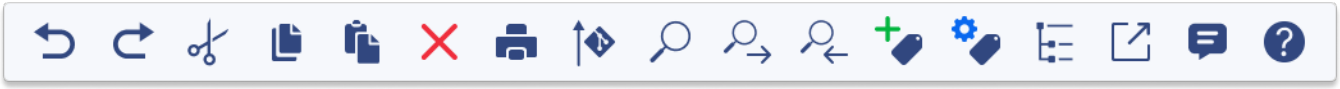
## Quick Navigation Icons

The Quick Navigation bar includes the following shortcuts:

| Shortcut | | Description |
|---|---|---|
|  | Home | Redirects users to the Solution Designer home page. |
|  | Tags | Takes the user to the Asset Tree within the Unified Namespace. It is where your assets can be viewed and managed. |
|  | Draw | Navigates users to the Draw section on Displays. It is where users can create, edit, or visualize graphical representations or designs. |
|  | Runtime | Directs the user to the Startup section of the Runtime. It is where users can initiate, run, or monitor processes or applications. |
|  | Navigation back | Allows users to go back to the previous page or section they were on. |
|  | Navigation forward | Lets users navigate forward if they've previously used the back button. |
|  | Navigation history | Presents users with a list of their recent navigation actions, allowing them to quickly jump to a specific page or section they visited earlier. |

## Top Main Toolbar

At the top of the page, you have buttons that allow users to undo or redo actions, manipulate rows or objects with cut, copy, paste, and delete functions, and interact with Git for document synchronization. There are also functionalities for searching and navigating references, handling database tags, editing tag properties, and directly accessing documentation or providing feedback.



The table provides a concise reference for the commands and their associated functionalities.

| Action | | Description |
|---|---|---|
|  | Undo | Undoes an operation/change. This button is available until you save changes. |
|  | Redo | Redoes a previously undone operation/change. This button is available until you save changes. |
|  | Cut | Cuts a selected row (DataGrid) or objects (Drawing). This command will delete any select row or object in order to paste it somewhere else. |
|  | Copy | Copies a selected row (DataGrid) or objects (Drawing). |

| | | |
|---|---|---|
|  | Paste | Pastes a row (DataGrid) or objects (Drawing) that was copied or cut previously. |
|  | Delete | Deletes selected row (DataGrid) or objects (Drawing). |
|  | Print | Prints current table (DataGrid) or display (Drawing). |
|  | Export Document | It saves the selected object to the Git folder located at the following path:<br><br>Path: C:<br>\Users\User\Documents\Framework\Solutions\Solution\SolutionData\Git\<Module>\<Configuration interface>\ |
|  | Find Elements | The Find Elements button on the toolbar accesses the object cross-reference, which lets you find where objects are used in the Project and go directly to each location. |
|  | Next Reference | Navigates to the subsequent reference or item in a given list or sequence. |
|  | Previous Reference | Navigates to the preceding reference or item in a given list or sequence. |
|  | New Tag | Allows the creation of a new tag in the real-time database. |
|  | Tag Properties | Shows the properties of the tag selected in the text box. |
|  | Object Selection | Enables the user to choose a specific item from a set of objects or elements within the interface. |
|  | Open a New Window to the Selected Document | Opens the document or file currently selected in a new window, allowing for parallel viewing or editing alongside the current content. |
|  | Feedback | Give your opinion in the feedback tab of the Tatsoft website. |
|  | Documentation | Access the documentation on the website. |

# Key Features

## IntelliSense

Automatic completion and validation for:

- Tag names
- Object references
- Script code
- Expression syntax

## Refactoring

Automatic reference updates when renaming:

- Tags
- Display names
- Script classes
- Any named object

### Multi-User Support

| Feature | Description | License Required |
|---|---|---|
| **Concurrent Edit** | Multiple users, same solution | Engineering users > 1 |
| **Auto-merge** | Automatic conflict resolution | Included |
| **Change Tracking** | Who changed what | Included |

### Auto-Save Options

| Mode | Frequency | Use Case |
|---|---|---|
| **On Close** | Document close | Default |
| **Every 5 min** | Automatic | Active development |
| **Every 10 min** | Automatic | Standard editing |
| **Every 15 min** | Automatic | Review mode |
| **Manual** | User triggered | Critical changes |

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## Quick Navigation

| Icon | Target | Description |
|---|---|---|
| **Home** | Welcome page | Solution home page |
| **Tags** | Unified Namespace | Asset tree management |
| **Draw** | Display editor | Graphical design |
| **Runtime** | Execution control | Process monitoring |

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## Main Toolbar

| Action | Function | Shortcut |
|---|---|---|
| **Undo/Redo** | Revert/restore changes | Ctrl+Z/Y |
| **Cut/Copy/Paste** | Standard editing | Ctrl+X/C/V |
| **Delete** | Remove selected | Delete |
| **Find Elements** | Cross-reference search | Ctrl+F |
| **New Tag** | Create tag | Ctrl+T |
| **Export Document** | Save to Git folder | - |

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## Solution Configuration

### Configuration Storage

| Content | Storage Method | Encryption |
|---|---|---|
| **Tags** | Embedded SQL | AES-256 |
| **Displays** | Embedded SQL | AES-256 |

| | | |
|---|---|---|
| **Scripts** | Embedded SQL | AES-256 |
| **Images** | Binary storage | AES-256 |

### Export Formats

| Format | Extension | Purpose |
|---|---|---|
| **CSV** | .csv | Spreadsheet editing |
| **JSON** | .json | Version control |
| **XML** | .xml | External tools |

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## Temporary Folders

Solution-specific temporary data stored in `SolutionName-Designer` folder:

| Folder | Usage |
|---|---|
| **Git** | Configuration exports when auto-export enabled |
| **NetCompiler** | Intermediate compiler files and debug info |
| **Settings** | User preferences and grid states |
| **TagsUsage** | Debug mode tag usage reports |
| **TraceLogs** | Solution-specific logs when enabled |

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## Basic Workflows

### Data Definitions

1. Define tags in Unified Namespace
2. Create data templates
3. Build asset tree
4. Connect tag providers

### Process Configuration

1. Setup device connections
2. Configure alarms
3. Enable historian
4. Map communication points

### Application Development

1. Create datasets
2. Build reports
3. Write scripts
4. Design displays

### Deployment

1. Configure security
2. Test in development mode
3. Validate functionality
4. Deploy to production

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## Typical Procedures

| Action | Location | Description |
|---|---|---|
| **Create Tags** | Unified Namespace  Tags | Define or paste from spreadsheet |

| | | |
|---|---|---|
| **Import Tags** | Solution  Import Tags | Import from external sources |
| **Connect Providers** | Unified Namespace  TagProviders | Dynamic data sources |
| **Create Templates** | Unified Namespace  Data Templates | Asset modeling |
| **Design Displays** | Displays  Draw | Create HMI screens |
| **Configure Devices** | Devices | Setup communications |
| **Define Alarms** | Alarms | Configure alarm conditions |
| **Setup Historian** | Historian | Time-series data |
| **Configure Security** | Security | User access control |

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# Performance

## Resource Usage

| Component | Typical RAM | CPU Impact |
|---|---|---|
| **Base IDE** | 200-500 MB | Low |
| **Large solution** | 500-2000 MB | Medium |
| **Draw environment** | +200 MB | Medium |
| **Code editor** | +100 MB | Low |

## Optimization Tips

- Close unused document tabs
- Use filtering in Solution Explorer
- Disable auto-save for large solutions
- Regular solution compacting

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# Troubleshooting

## Common Issues

| Problem | Cause | Solution |
|---|---|---|
| Slow loading | Large solution | Compact database |
| Can't edit | Read-only mode | Check permissions |
| Changes lost | No auto-save | Enable auto-save |
| IntelliSense missing | Cache issue | Restart Designer |

## Log Files

| Log Type | Location | Content |
|---|---|---|
| **Designer** | Logs\Designer\ | IDE errors |
| **Configuration** | Logs\Config\ | Save errors |
| **User Actions** | Logs\Audit\ | Change log |

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**In this section...**

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