Displays Localization Reference

Localize displays into multiple languages.

Displays Localization (Reference) enables multi-language support for HMI applications, allowing runtime language switching with automatic translation of display strings, alarm messages, and system text.

Localization provides:

- Multiple language dictionaries
- Runtime language switching
- Automatic string import
- Online translation services
- Culture-specific formatting
- Component-level control

Enable different text elements for translation based on application requirements.

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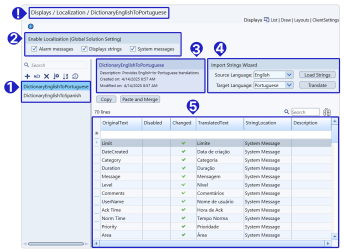

Configuration Settings

Global Localization Options

Setting	Translates	Location
Alarm Messages	Alarm text	Alarms Items Message
Display Strings	UI text	Display objects with Localize enabled
System Messages	Platform messages	System dialogs and prompts

Enable at **Displays Localization Enable Localization**

Creating Dictionaries

Setup Process

1. Navigate to **Displays Localization**
2. Click **New** to create dictionary
3. Name dictionary (e.g., "EN_PT", "EN_ES")
4. Enable required localization options
5. Click **Load Strings** to populate
6. Enter translations or use auto-translate

Import Wizard Settings

Field	Description	Example
Source Language	Original language	English
Target Language	Translation target	Portuguese

Load Strings	Import enabled strings	All checked items
Translate	Use online service	Azure/Google/Libre

Runtime Language Switching

Set Active Dictionary

csharp

```
// Method 1: Direct assignment
@Client.Localization = "EN_PT";

// Method 2: Using method
@Client.SetLocalization("EN_ES");

// Check current dictionary
string current = @Client.Localization;
```

Web Client

The web client (HTML5) does not run the ClientStartup task, in FrameworX 10.1.5 and in 10.1.6. To select the dictionary on both the Rich Client and the web client, set `@Client.Localization` in the `DisplayOpening` method of the startup display's code behind:

```
public void DisplayOpening()
{
    @Client.Localization = "EN_PT";
}
```

In FrameworX 10.1.6, the selected dictionary then applies on both clients to display text, `Client.Locale` lookups and the runtime's own messages. Display text marked for localization also needs **Displays strings** enabled in **Displays Localization Enable Localization**.

Culture Information

csharp

```
// Set culture for formatting
@Client.CultureInfo = "pt-BR";  // Portuguese (Brazil)
@Client.CultureInfo = "en-US";  // English (US)
@Client.CultureInfo = "de-DE";  // German (Germany)
```

Configure default at **Solution Settings Culture Info**

Localization Table Properties

Property	Description	Type
ID	Unique identifier	Auto
OriginalText	Source string	String
TranslatedText	Target translation	String
Disabled	Skip translation	Boolean
DateCreated	Creation timestamp	DateTime
DateModified	Last edit time	DateTime
Description	Translation notes	String

Component Localization

Automatic Translation

When **Display Strings** enabled:

- All display text auto-translates
- No code required
- Uses active dictionary

Manual Translation

For selective translation:

csharp

```
// Translate specific string
string translated = @Client.Locale("Original Text");

// In display binding
<TextBlock Text="{Client.Locale('Hello World')}" />
```

Custom Components

Components requiring special handling:

ComboBox Items:

csharp

```
public void LocalizeComboBox(ComboBox combo)
{
    foreach(var item in combo.Items)
    {
        item.Text = @Client.Locale(item.Text);
    }
}
```

DataTable Headers:

csharp

```
public void LocalizeTable(DataTable table)
{
    foreach(DataColumn col in table.Columns)
    {
        col.Caption = @Client.Locale(col.Caption);
    }
}
```

Best Practices

1. **Plan Languages Early** - Define requirements upfront
2. **Use Consistent Keys** - Standardize original text
3. **Keep Text Separate** - Avoid hardcoded strings
4. **Test All Languages** - Verify layout with longest text
5. **Consider Culture** - Format dates/numbers appropriately
6. **Document Context** - Add descriptions for translators
7. **Update Regularly** - Maintain dictionary synchronization

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Language Switching Example

Implementation Steps

1. **Enable Localization**

```
? Display Strings
? Alarm Messages
? System Messages
```

1. **Create Dictionary**
    - Name: "EN_PT"
    - Load strings from displays
    - Translate "Button" "Botão"
2. **Runtime Switch**

csharp

```
// In DisplayOpening of the startup display (Rich Client and web client)
@Client.Localization = "EN_PT";
```

The ClientStartup task also selects the dictionary on the Rich Client, but the web client (HTML5) does not run it. See Web Client below.

1. **Result**
    - Original: "Button"
    - Display: "Botão"

Culture-Specific Formatting

Date/Time

csharp

```
// US Format: 3/15/2024
@Client.CultureInfo = "en-US";

// European: 15/03/2024
@Client.CultureInfo = "fr-FR";

// ISO Format: 2024-03-15
@Client.CultureInfo = "invariant";
```

Numbers

csharp

```
// US: 1,234.56
@Client.CultureInfo = "en-US";

// European: 1.234,56
@Client.CultureInfo = "de-DE";
```

Translation Services

Supported Providers

- **Azure Translator** - Microsoft service
- **Google Translate** - Google API
- **LibreTranslate** - Open source

Configuration

1. Set API credentials
2. Select source/target languages
3. Click **Translate** button
4. Review and adjust results

Troubleshooting

Text not translating:

- Verify dictionary active
- Check localization enabled
- Confirm string in dictionary
- Review component settings

Wrong formatting:

- Check CultureInfo setting
- Verify OS regional settings
- Test with different cultures

Missing strings:

- Click **Load Strings** again
- Check all sources enabled
- Review new/modified displays
- Update dictionary

Layout issues:

- Test with longest translations
- Allow controls to auto-size
- Consider text direction (RTL)
- Verify font support

Performance Considerations

Dictionary Loading

- Load at startup
- Cache in memory
- Minimize switches
- Preload all needed

String Lookup

- Use consistent keys
- Avoid runtime concatenation
- Cache frequently used
- Batch translations

Advanced Features

Dynamic Dictionary Loading

csharp

```csharp
// Load dictionary from database
DataTable dict = @Dataset.Query.Translations.SelectCommand();
@Client.LoadDictionary(dict);
```

Fallback Languages

csharp

```csharp
// Try primary, then fallback
string text = @Client.Locale("Key") ??
              @Client.Locale("Key", "EN") ??
              "Default Text";
```

In this section...
