Time Custom Node

Introduction

Custom Nodes are a new feature of Square 9's GlobalCapture and GlobalAction and are available from version 2.3.x. Custom Nodes are a replacement for Call Assembly nodes and extend the functionality of GlobalCapture and GlobalAction but in way that is more familiar to workflow designers than the Call Assembly nodes.

Dates and times can be one of the more frustrating aspects of designing automated processes. Although they have structure, that structure is built from many formats. To further complicate matters a format for one region can result in a different result to one from another region, for example take the date format: 01/02/2021.

- In the UK this represents the 1st of February 2020.
- In the US this represents the 2nd of January 2020.

This can lead to mistakes for a process designed to handle multi-region documents.

The Time Custom Node does not make that particular problem go away, as it is largely impossible to resolve automatically, but it does make it much easier and clearer to read dates in your workflows. It achieves this by employing up to three different parsing methods:

1. Intelligent - Utilises Microsoft.Recognizers.Text to provides robust recognition and resolution of dates and times, expressed in multiple languages. Full support for Chinese, English, French, Spanish, Portuguese, German, Italian, Turkish, and Hindi. Partial support for Dutch, Japanese, Korean, and Swedish. Microsoft.Recognizers.Text powers pre-built entities in both LUIS: Language Understanding Intelligent Service and Microsoft Bot Framework.
2. Exact - Utilises the .Net ParseExact method which allows you to provide the formats of the date/time being read.
3. Default – Utilises the .Net TryParse method which lacks the preciseness of ParseExact but can still resolve many common date and time formats.

Pre-Requisites

The following items are required:

- GlobalCapture (version 2.3.0.0 or newer).
- Time Custom Node - 56a83364-6b65-4a24-96d1-405d9a865b64.s9n.
- A license file.

Installation

To install the Node:

1. Log into GlobalCapture with an account that can administer GlobalCapture.
2. Navigate to Mange >> Nodes.
3. Click the Menu button in the bottom right corner of the interface and choose Upload S9N File (the middle option).

4. Browse for the node package - `56a83364-6b65-4a24-96d1-405d9a865b64.s9n` and click open to install.

Default Node Configuration

To configure the default properties for the Node, click on the three-dot menu and select edit and the node's properties will be displayed.

There are two types of default configuration available:

1. If you click on Modal Preview and enter any values, these properties will then be pre-populated when the node is added to a workflow.
2. If you click on Config you are presented with a JSON view of the node's configuration. This contains the properties that can be on the node's config panel as well as properties you only need to set once per install, for example, the path to the license file.
Any properties configured here will override the properties set on the node's config panel, configuring all nodes on all workflows to use this value. To remove an override, edit the property's value and set it to `null`.
If you need assistance on how to edit a JSON file please contact support.

Once you have completed configuring any properties, click on save.

Licensing

The node requires a license to function. If it is added to a workflow without a license being present, then no processes will be created. Please contact sales to enquire about pricing and obtaining a license.

Once you have obtained a license file, save it somewhere safe, it also needs to be saved in a location that the login user for the GlobalCapture service(s) has access to. Next you need to configure the node's default config to point to this file by editing the value for the `licenseFilePath` property.

Note: As you can see in the sample value provided, any back slashes need to be escaped for the JSON to be valid, for example: `"C:\\Node License File\\app.license"`

Once you have completed configuring the license file path, click on save.

Workflow Configuration

The node is used like any of the built-in nodes in the workflow designer, drag it from the node toolbox onto the designer's canvas, configure the properties and link it up as is appropriate for your workflow.

Configure the Node
Field Mapping

➢ Source Process Field
Select the process field to read and parse the date/time from.

➢ Target Process Field
Select a process file to write the parsed date/time to. This can either be a character field or a date field.

➢ **Target Format**

Enter a format to write to the Target Process Field. This only applies when writing to a character field.

➢ **Target Culture**

Enter a culture to write to the Target Process Field. This only applies when writing to a character field. If this is left empty the system's default culture is used.

Intelligent Parsing

➢ **Use Intelligent Parsing**

Enables Intelligent parsing.

➢ **Culture**

Select the culture of the date/time being read.

Exact Parsing

➢ **Use Exact Parsing**

Enables Exact parsing.

➢ **Formats**

Enter one or more formats, each of these will attempt to parse the date/time being read until one succeeds.

➢ **Cultures**

Enter one or more cultures, each of these will attempt to parse the date/time being read until one succeeds. If this is left empty the system's default culture is used.

Formats and Cultures

Formats should be entered using the .Net DateTime placeholders.

More information on this can be found here:

- Standard - https://docs.microsoft.com/en-us/dotnet/standard/base-types/standard-date-and-time-format-strings
- Custom - https://docs.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings

Cultures should be entered using the .Net CultureInfo Code.

More information on this can be found here in the CultureInfo Code column - https://lonewolfonline.net/list-net-culture-country-codes/

Contacts

Sales and licensing enquiries to: sales@selectec.com

Support enquiries to: support@selectec.com

Acknowledgements

Selectec Custom Nodes are made possible by open-source software. The following open-source software is distributed and is provided under other licences.

- Custom Workflow Nodes
  https://github.com/Square9Softworks/custom-workflow-nodes
- Nett
  https://github.com/paiden/Nett
- BouncyCastle
  http://www.bouncycastle.org/csharp/
- Meziantou.Framework.Win32.CredentialManager
  https://github.com/meziantou/Meziantou.Framework
- Newtonsoft.Json
  https://www.newtonsoft.com/json
- Microsoft.Recognizers.Text
  Microsoft.Recognizers.Text.DataTypes.TimexExpression
  Microsoft.Recognizers.Text.DateTime
  Microsoft.Recognizers.Text.Number
  Microsoft.Recognizers.Text.NumberWithUnit
  https://github.com/Microsoft/Recognizers-Text

Thank you to the developers of these softwares.