Use DateTime Picker for Touch Screen

Contents

## The Issue

Touch screen requires large UI elements so that they can be easily touched. But the DateTimePicker provided by Microsoft .Net Framework is too small. Under LimnorDatabase there is a form named dlgSelectDateTime which is a large size date time picker. The form is designed for EasyGrid field editing; it is not designed for external use. But you can use it if needed. Below is a sample of using it.
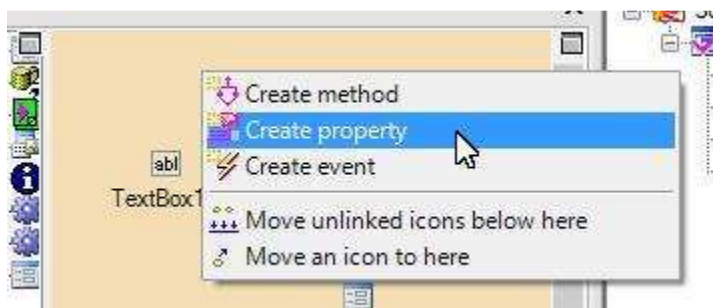
Sample UI

Suppose we use a text box to show date time. We use a button to launch a large size date time picker.
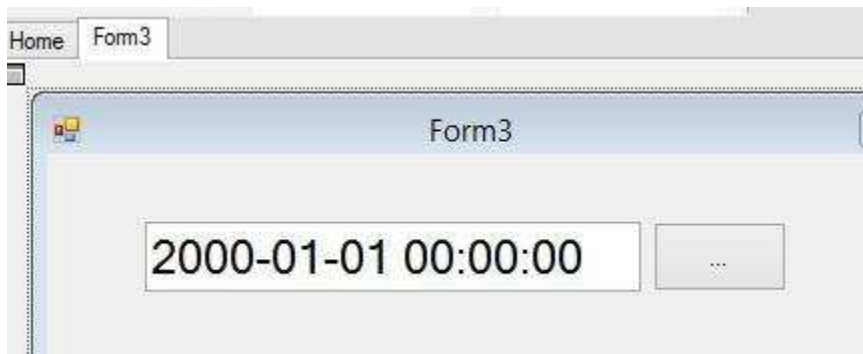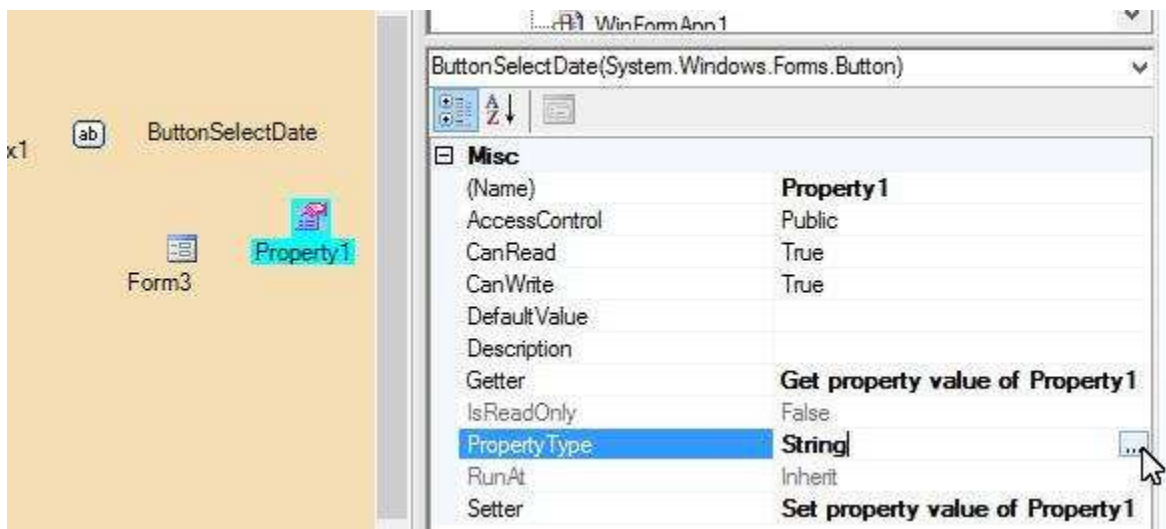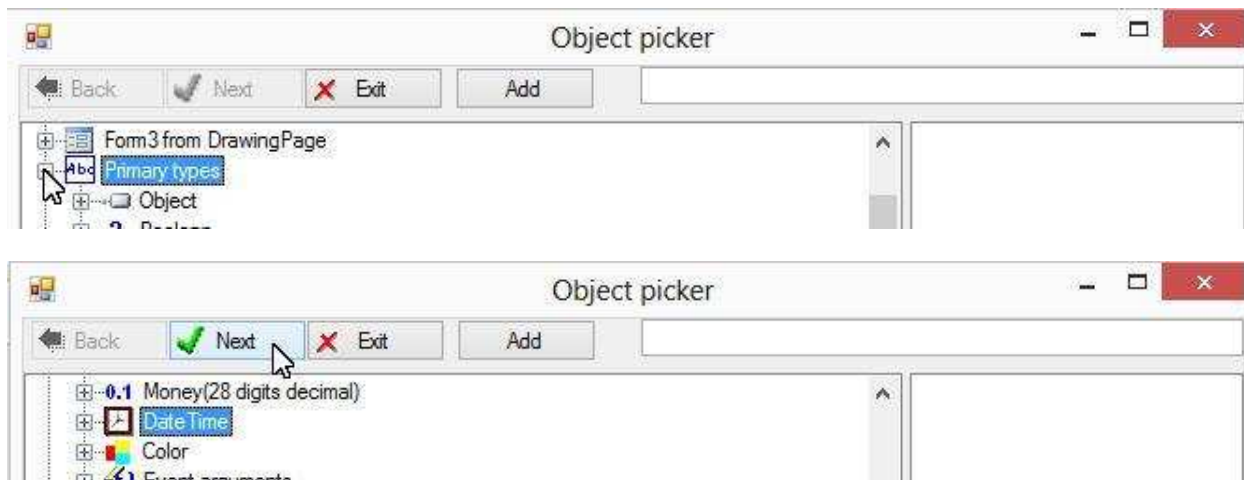

Create DateTime property

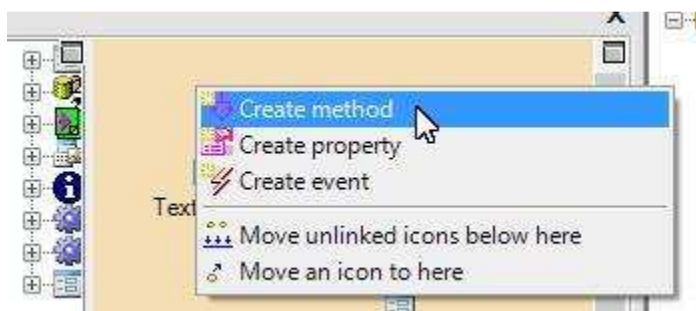We create a DateTime property to hold a date time value:

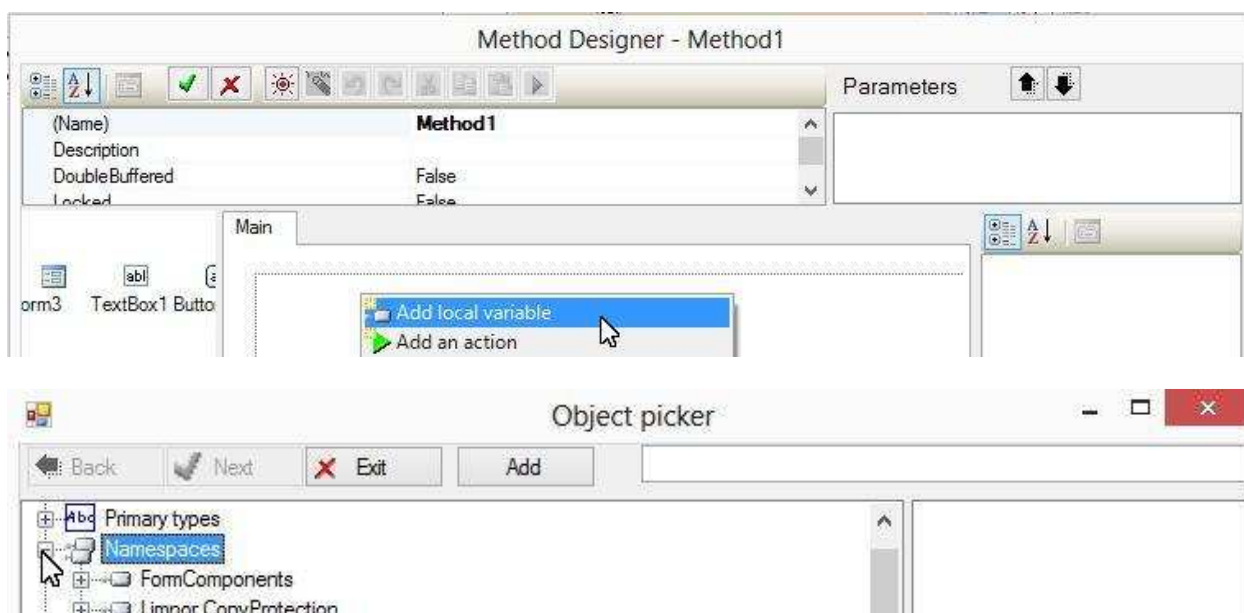Change the property type to DateTime:
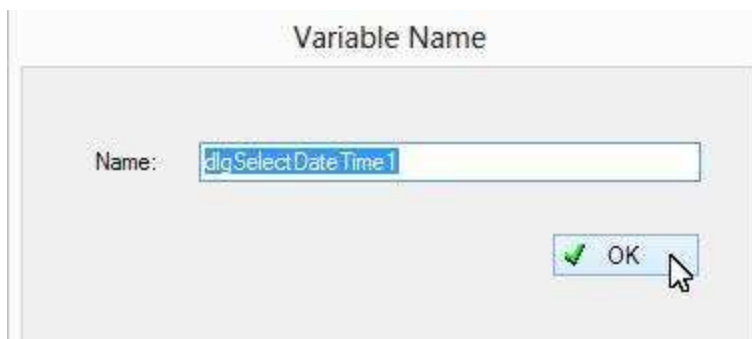
Create method

We need to create a method in order to use form dlgSelectDateTime.

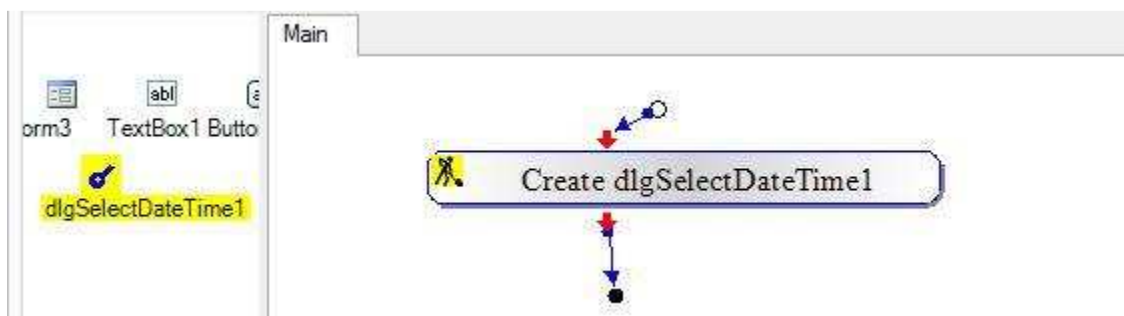

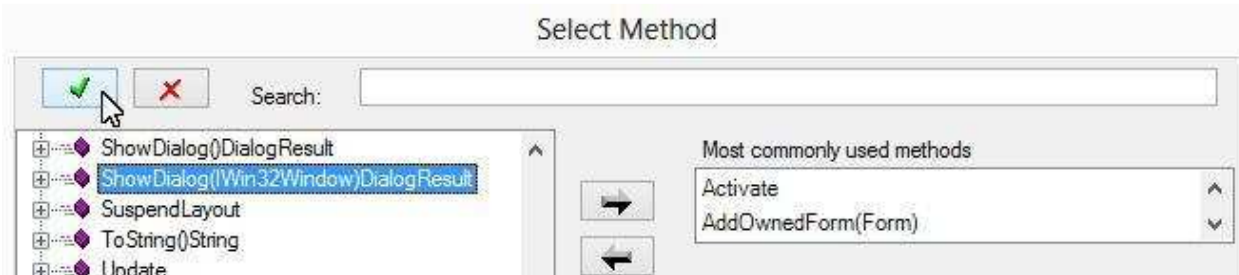## Create dlgSelectDateTime

Create a dlgSelectDateTime variable:
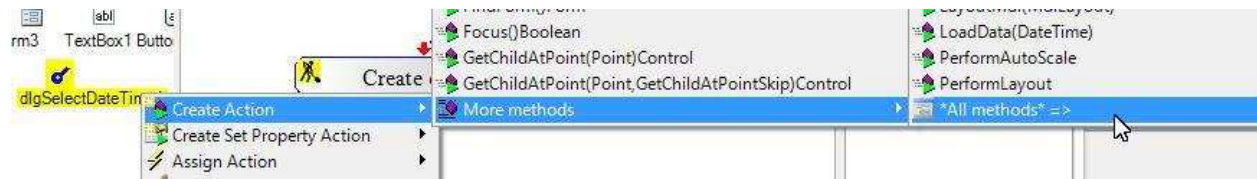
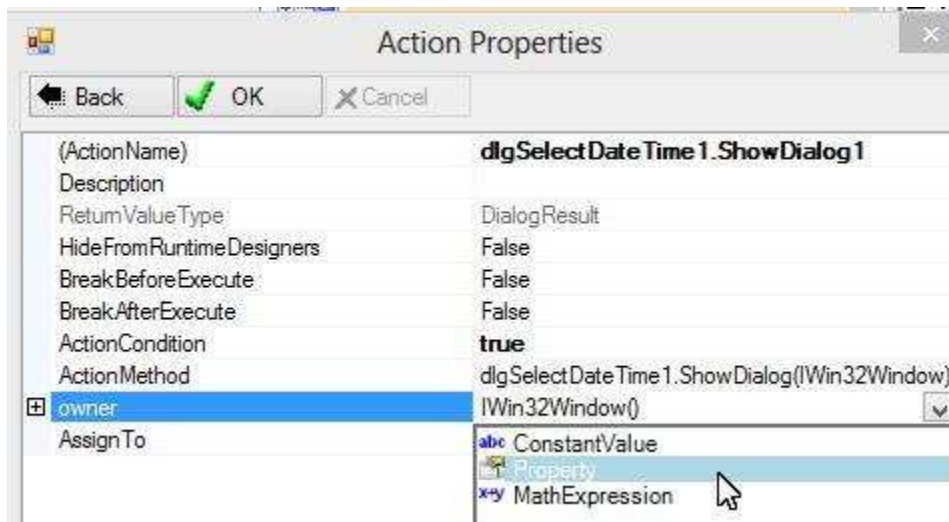A variable, dlgSelectDateTime1, is created and an action to initiate the variable appears:

Launch dlgSelectDateTime

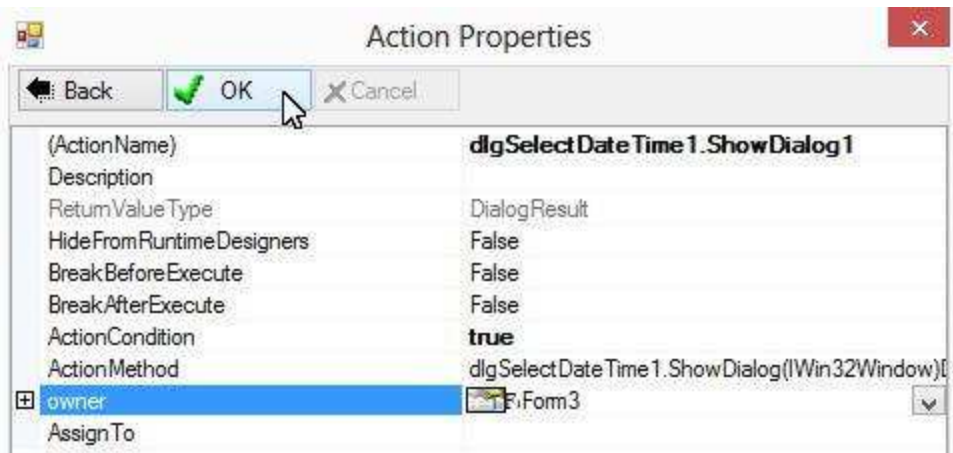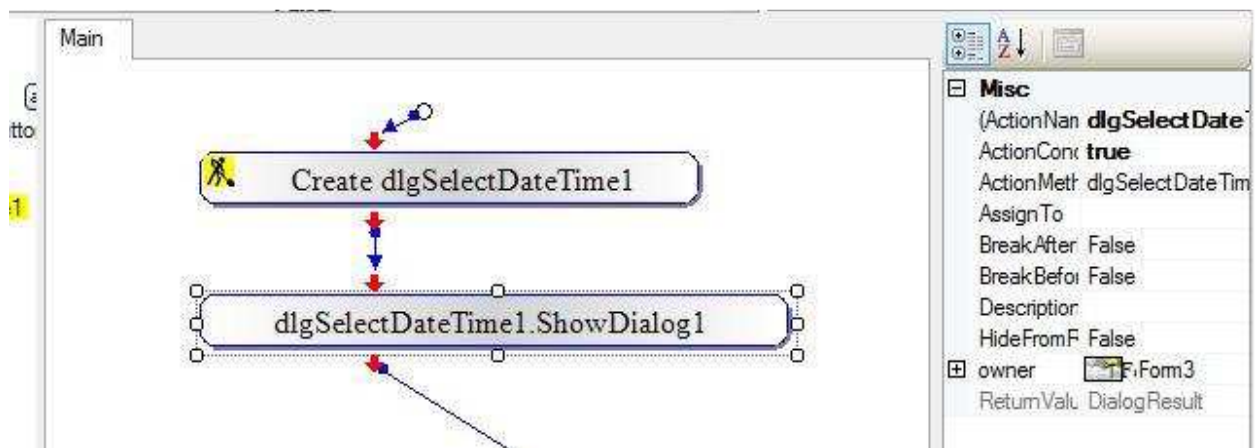Right-click dlgSelectDateTime1; choose its ShowDialogue method:

Use the current form as the dialogue box owner:
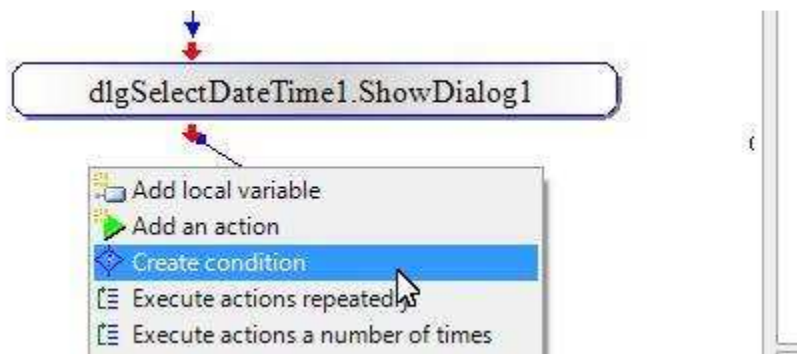

Click OK:

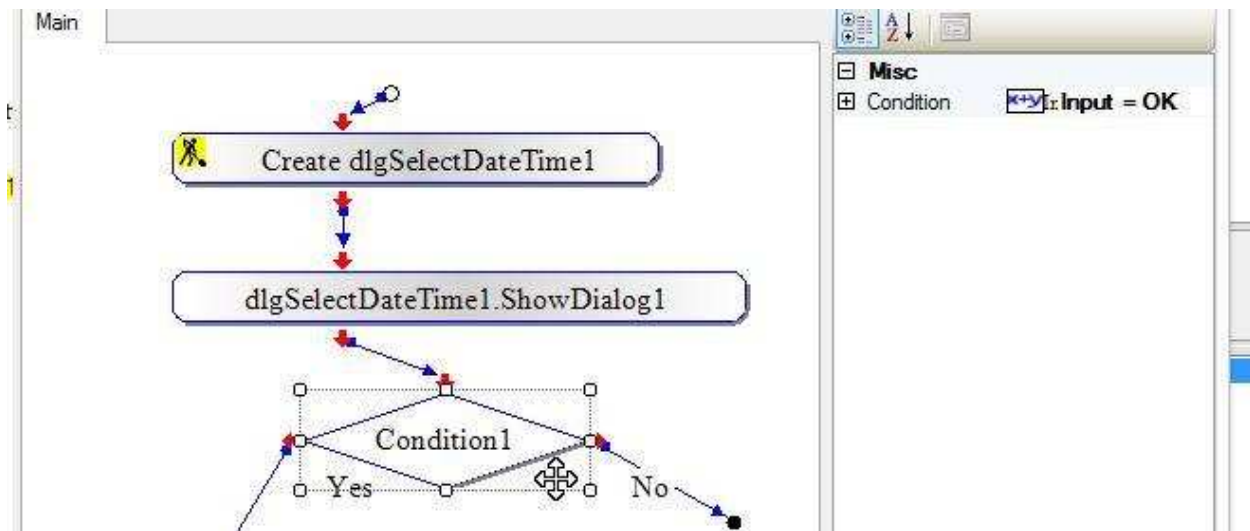The action is created. Link it to the last action:

Check dialogue box result

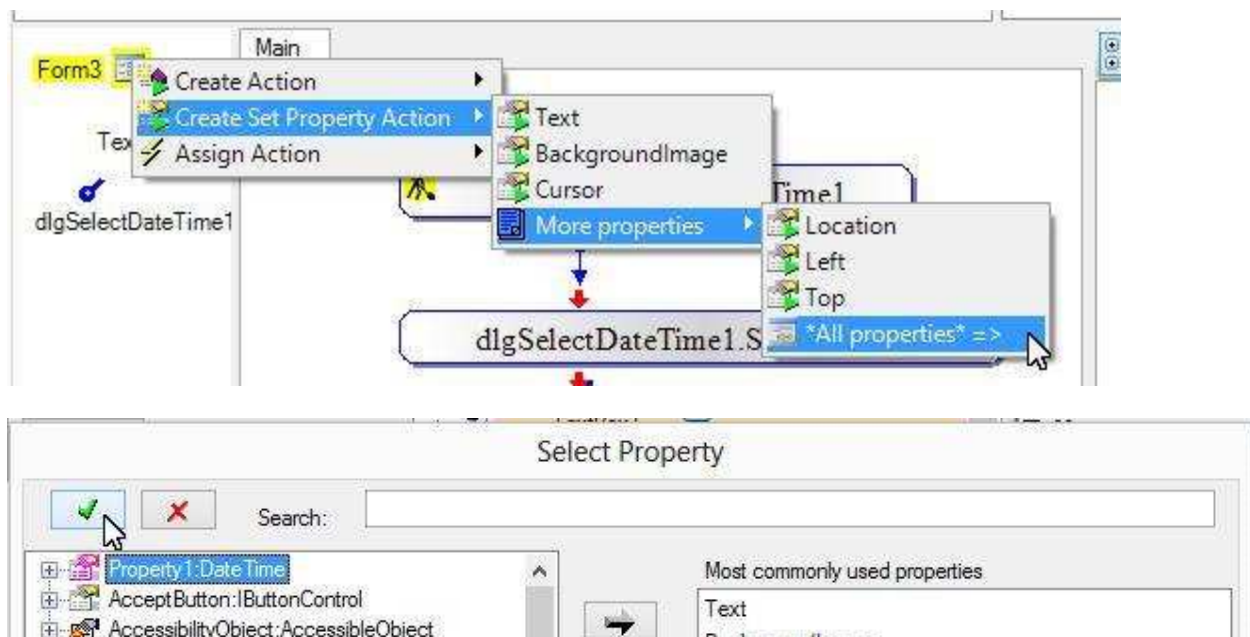Add a Condition action to check the dialogue box result:
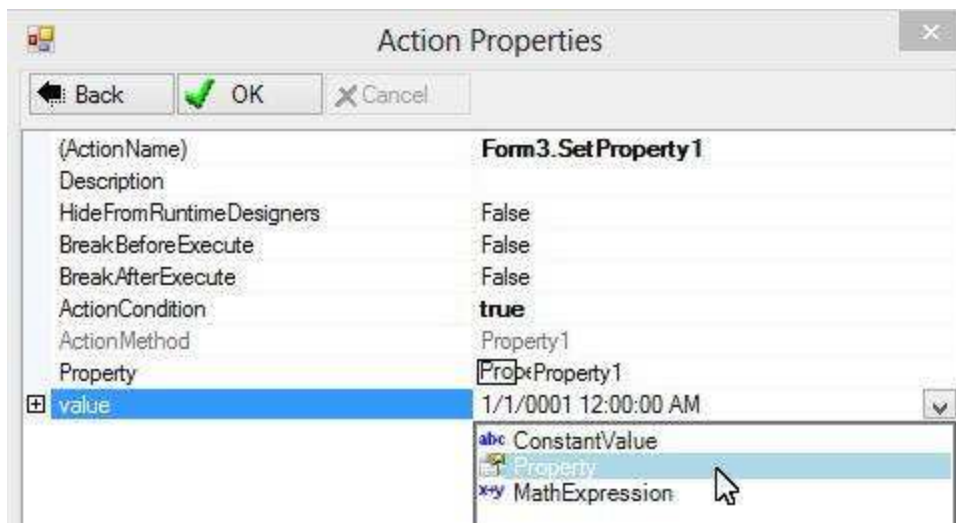

Link it to the last action:

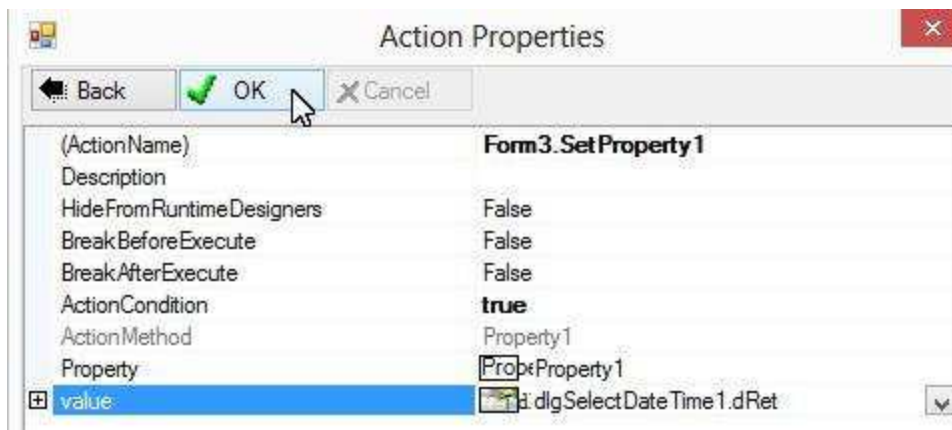## Get result

Set selected date time to Property1:
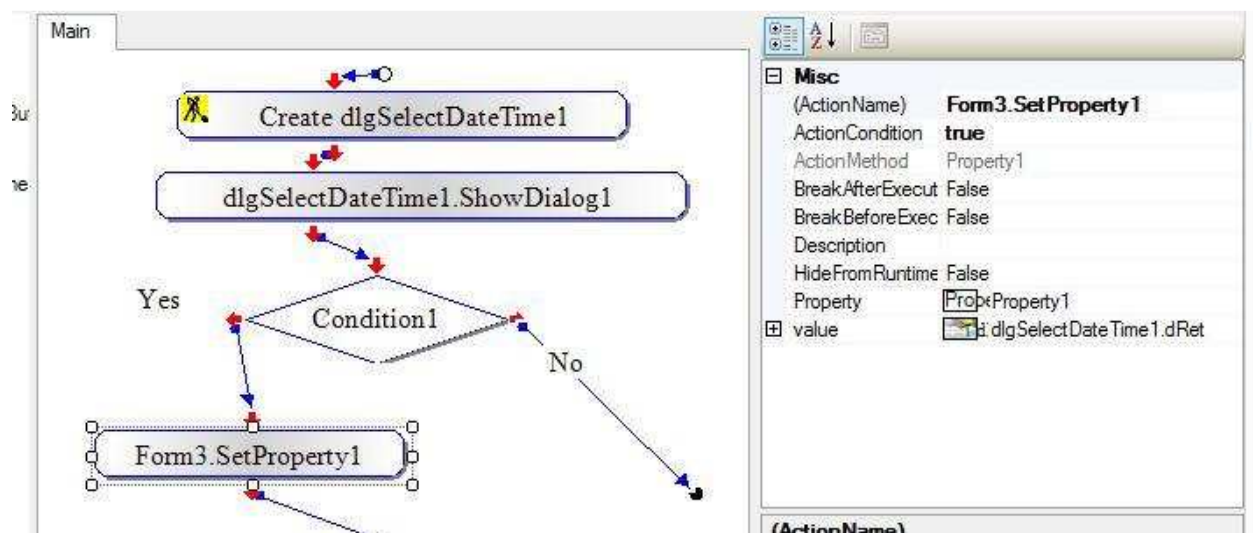

Select dRet of dlgSelectDateTime for the "value":

Click OK:

The action is created. Link it to the Yes port of the Condition action:

Display result

We may create an action to display selected date time in the text box:
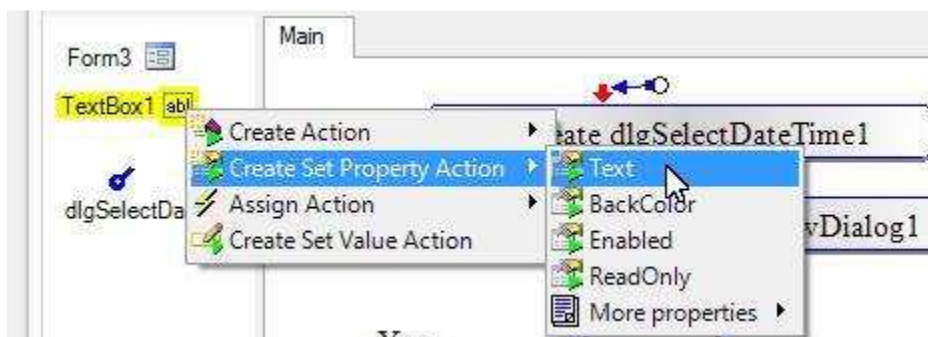
Use an expression to format date time display:

Select ToString method of Property1:
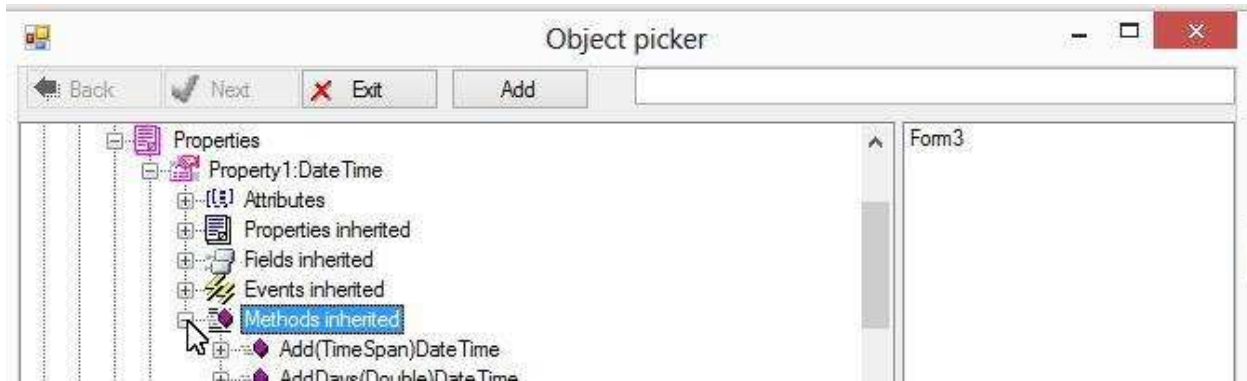
The method requires a string indicating the formatting:

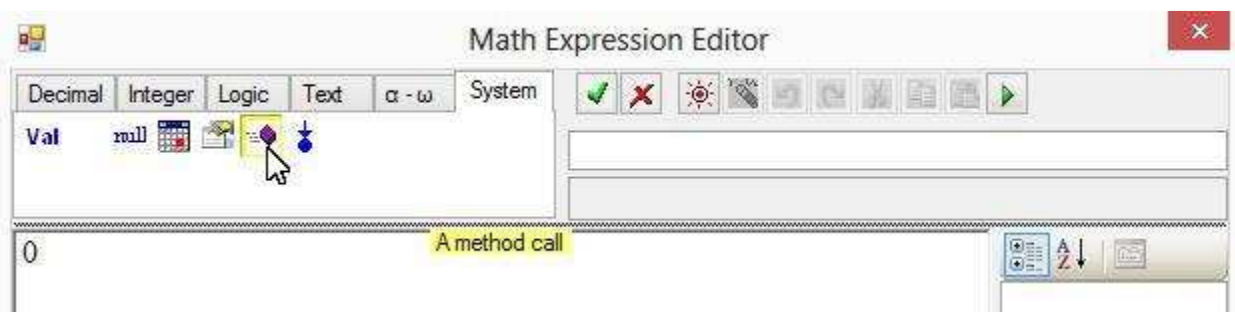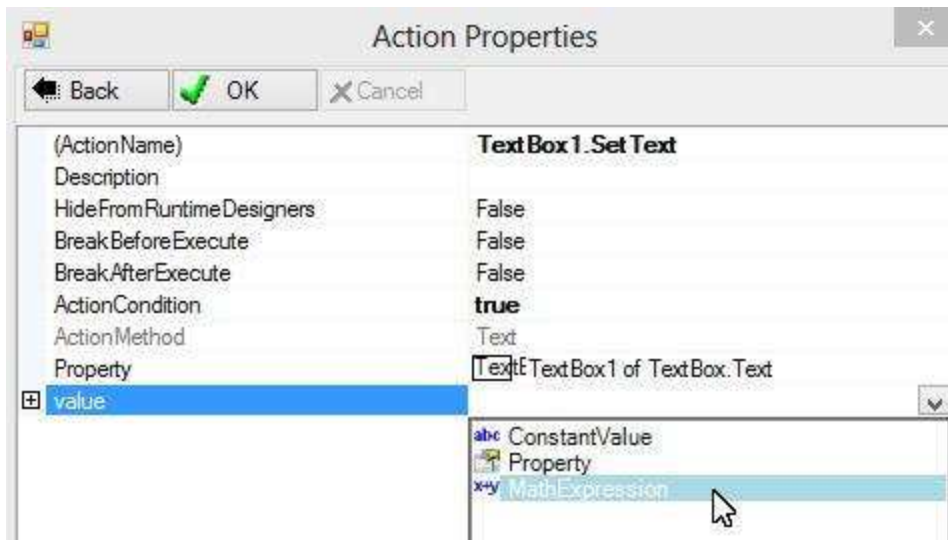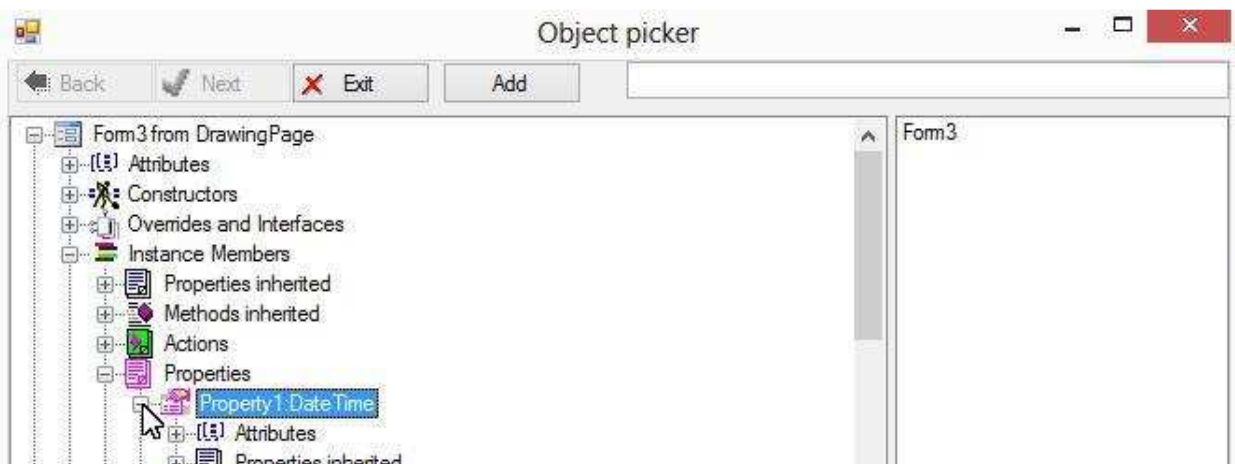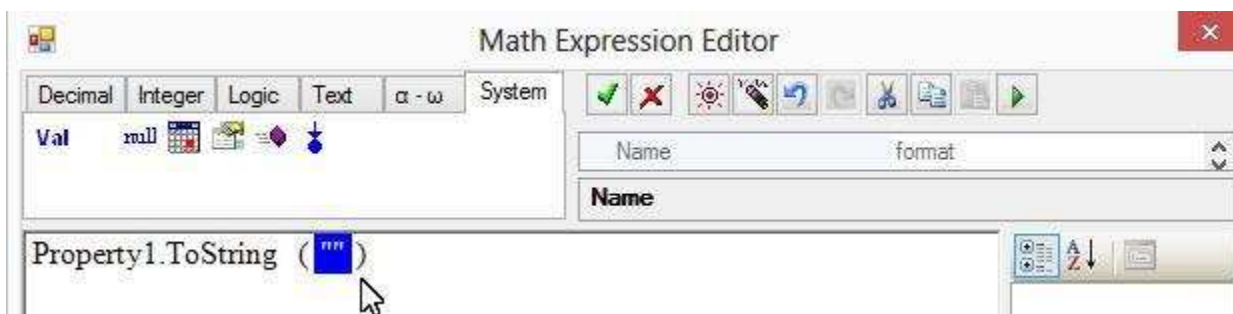As a sample, we format date time as year-month-day hour-minute-second. It can be represented as "yyyy-MM-dd hh:mm:ss"
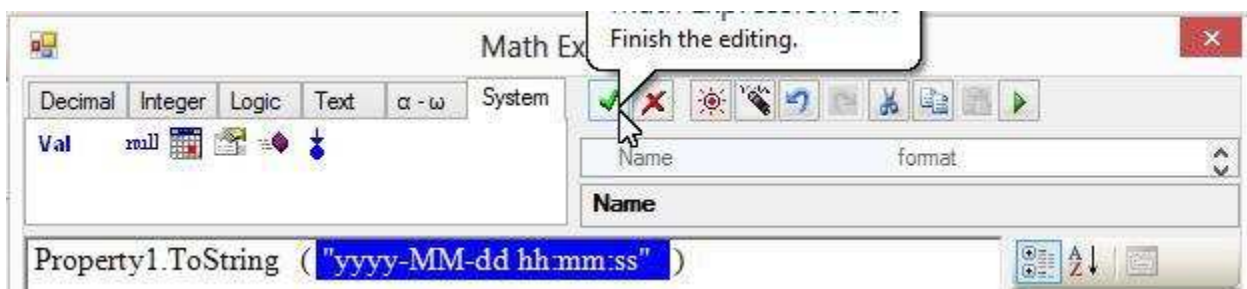
Click OK:

The action is created. Link it to the last action. That is all we need for this method:
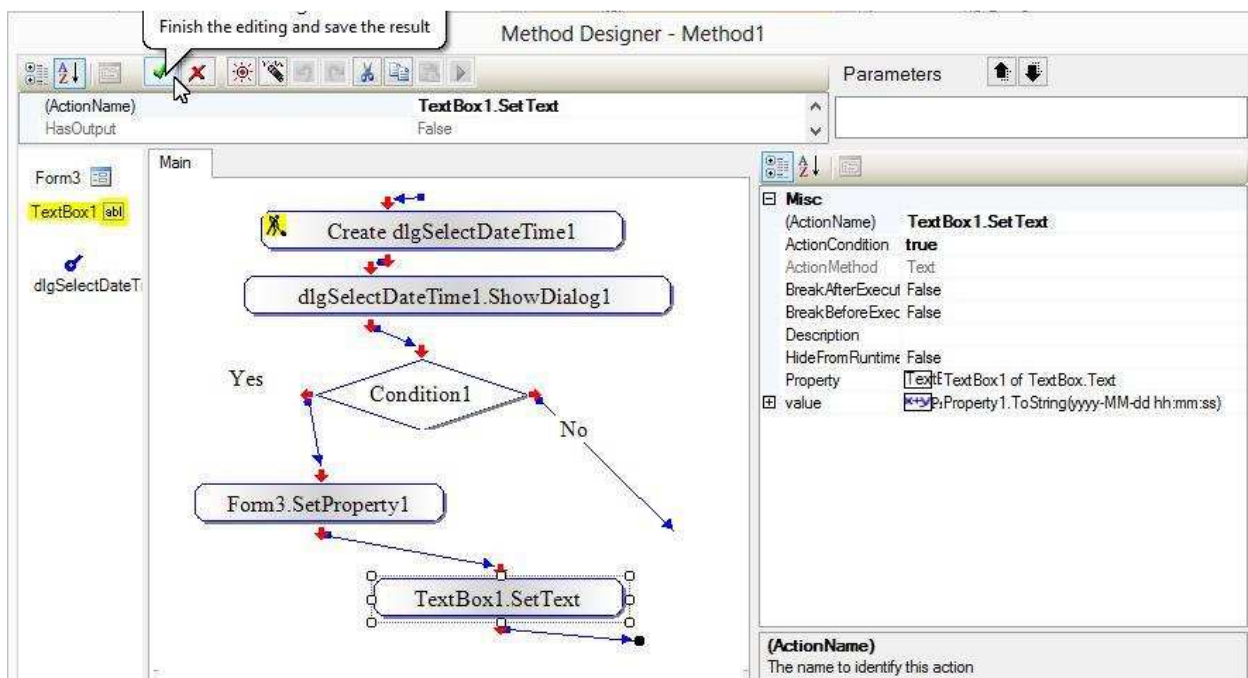
Execute method

We want to execute the above method when the button is clicked. Right-click the button; choose "Assign Action"; choose "Click" event:
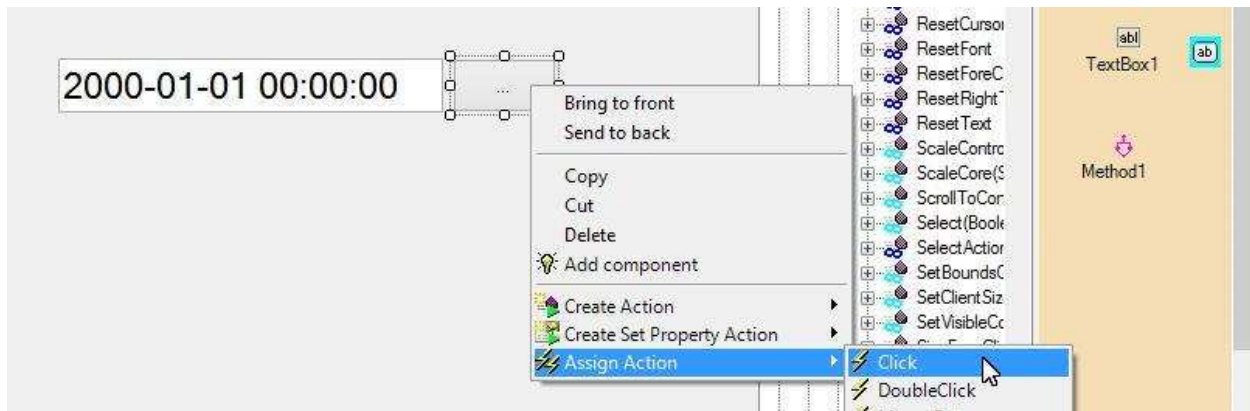
Select the method:
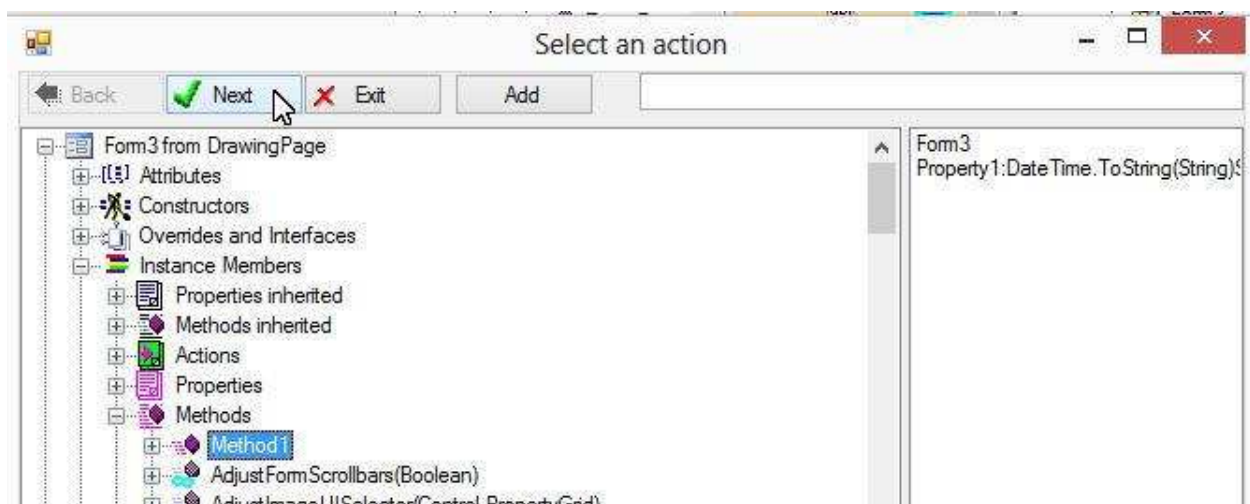
Click OK:
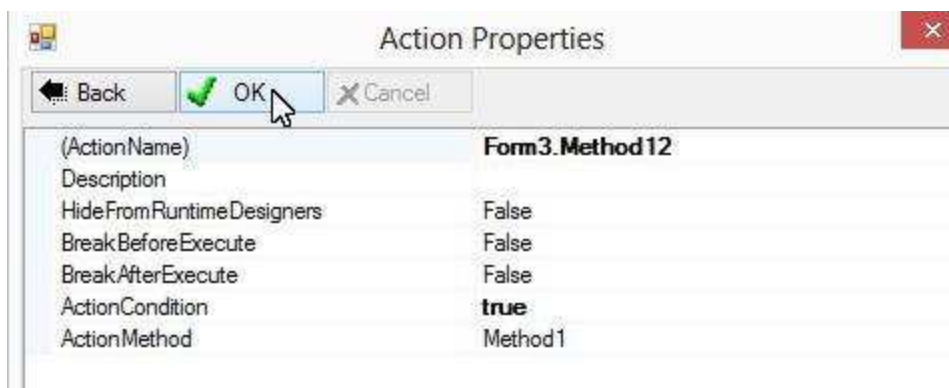
The action is created and assigned to the button:
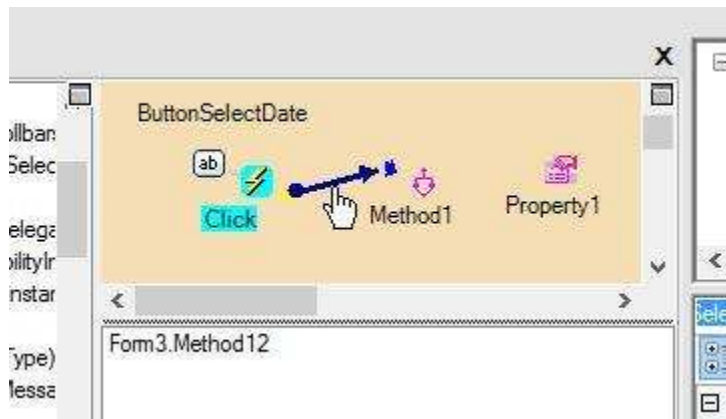
Test
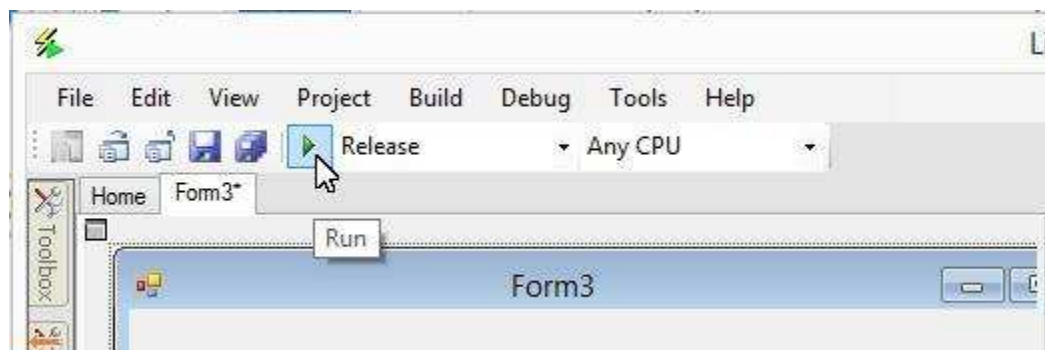
The form appears:
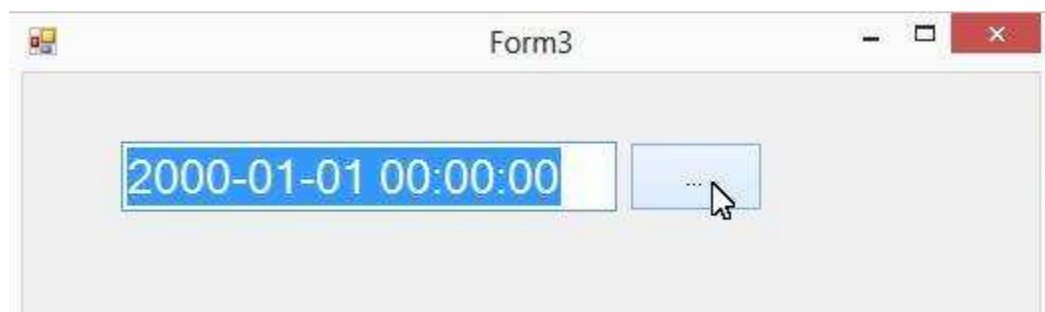
Click the button, the date time picker appears. Make a date-time selection. Click OK:

Selected date-time appears in the text box:

Disable time input

dlgSelectDateTime has a method, DisableTimeInput, which can be used to disable time input.

Convert String to Date Time

We used format "yyyy-MM-dd HH:mm:ss" to display a date time value in the text box. We may use other date time formats to show a date time to the user in a user familiar way.

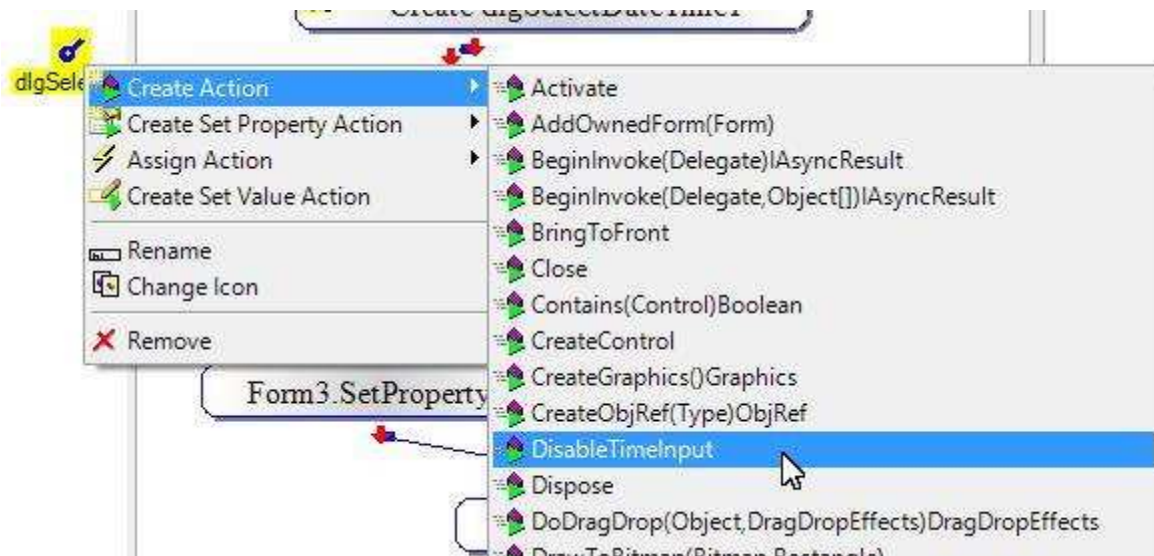But you have to keep in mind that when you are using a date time value to do calculations or saving it to a database, it is better to use the date time object, not to use one of its string displays. For example, in our sample, you should use property Property1 to do calculations or send it to databases, not to use the Text property of the text box.

The date-time picker dialogue box we showed previously is designed not only for the purpose of convenience, but also to separate date time value from its string displays. The date-time picker allows any user to specify precise date-time value without ambiguity, no matter which date-time formats the user is used to.

In our previous sample, it is recommended that you make the text box **read-only** so that the user can only use the date-time picker to enter a date time value, the user cannot directly type in the text box.

If you insist on allowing the user to enter a date-time value without using the date-time picker then you have to pay attention to converting the string the user entered to a date-time.

In our sample, if you insist on allowing the user to enter a date-time value directly into the text box then you should still use Property1 for calculations or saving it to databases, not using the Text property of the text box. You need to convert the Text property to a date time value and set the value to Property1 before using Property1. Let's use an example to show the process.

Suppose we want to insert a new database record using a date-time value from a text box. It is incorrect to use the Text property to do that. For example, the following programming is **not** recommended:
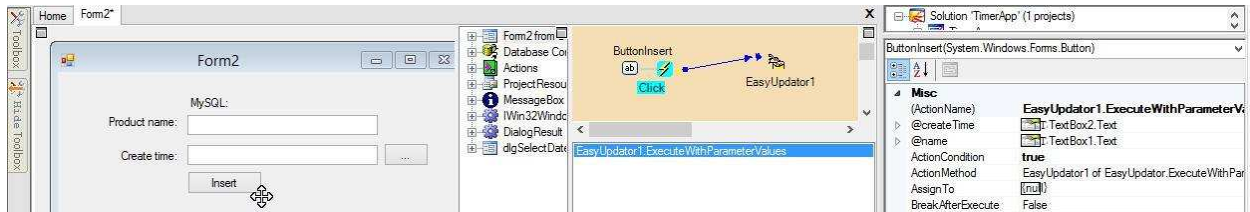
When the Insert button is clicked, we execute an action: EasyUpdator1.ExecuteWithParameterValues. We use Text property of the text box for parameter @createtime. This is **not** recommended. We should change it to use Property1:
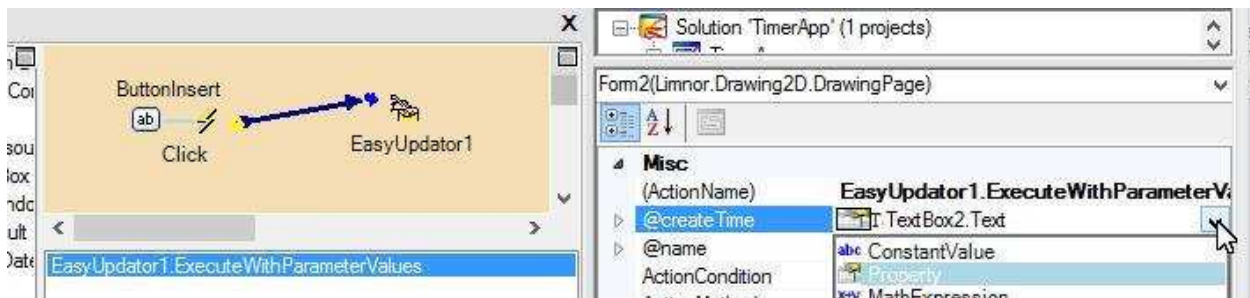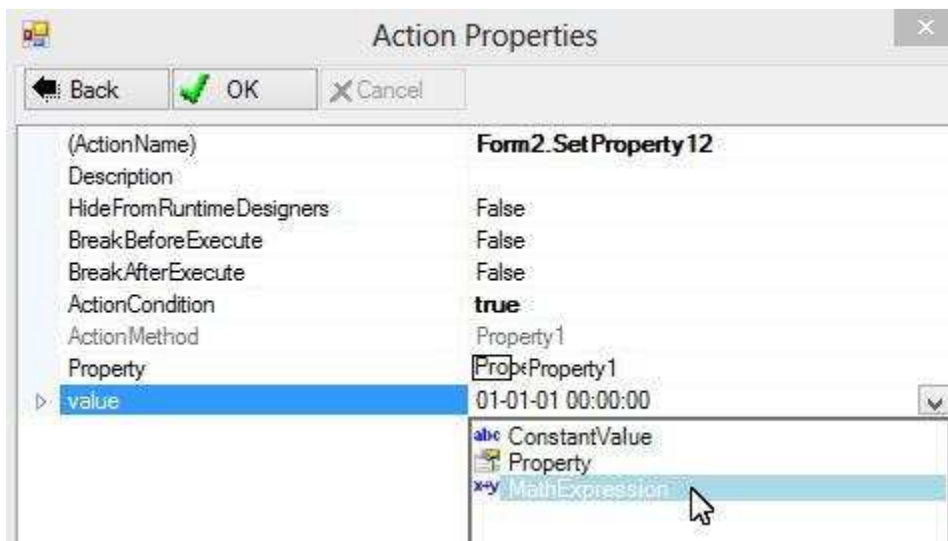

This is the action we **recommend**:
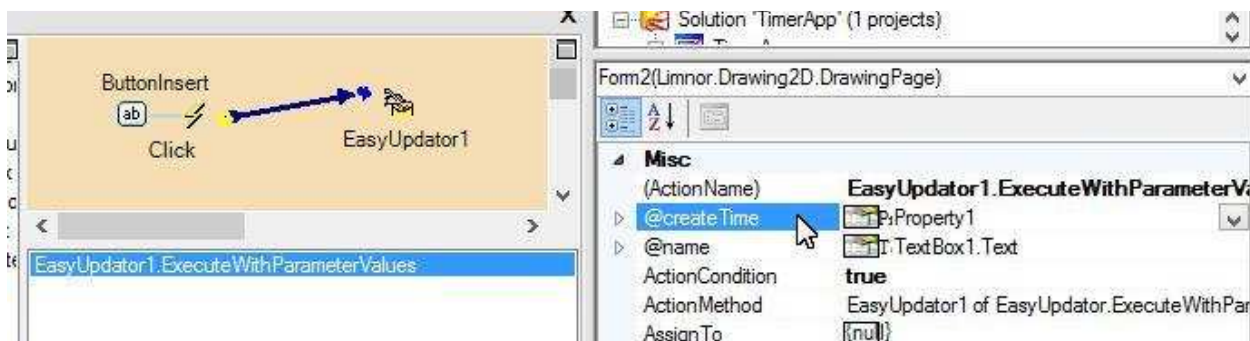
But we need to convert the Text of the text box to a date-time and set it to Property1. We also do it at button click event:
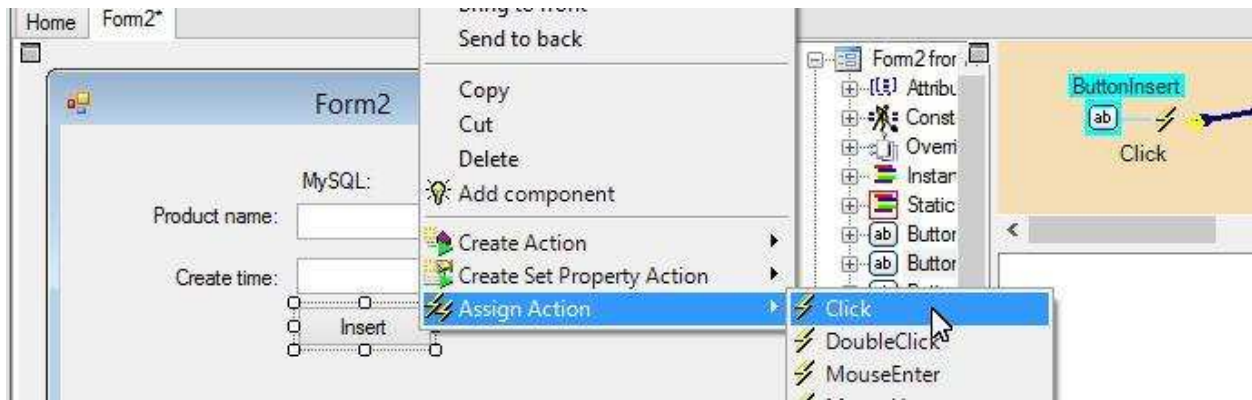
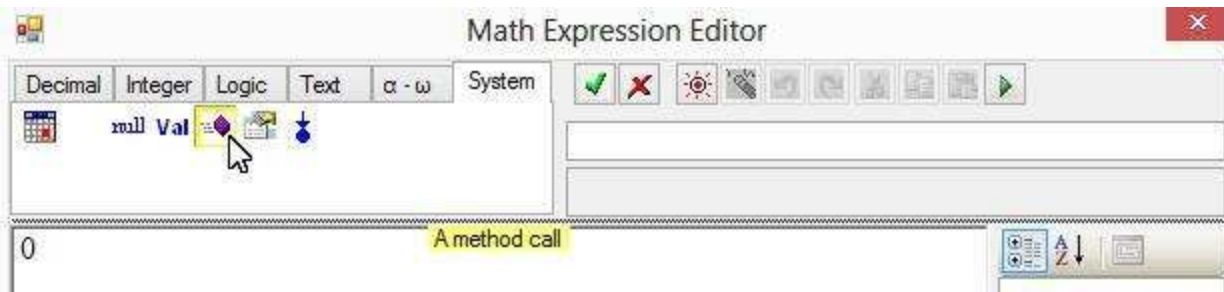Select Property1 to assign value to it:

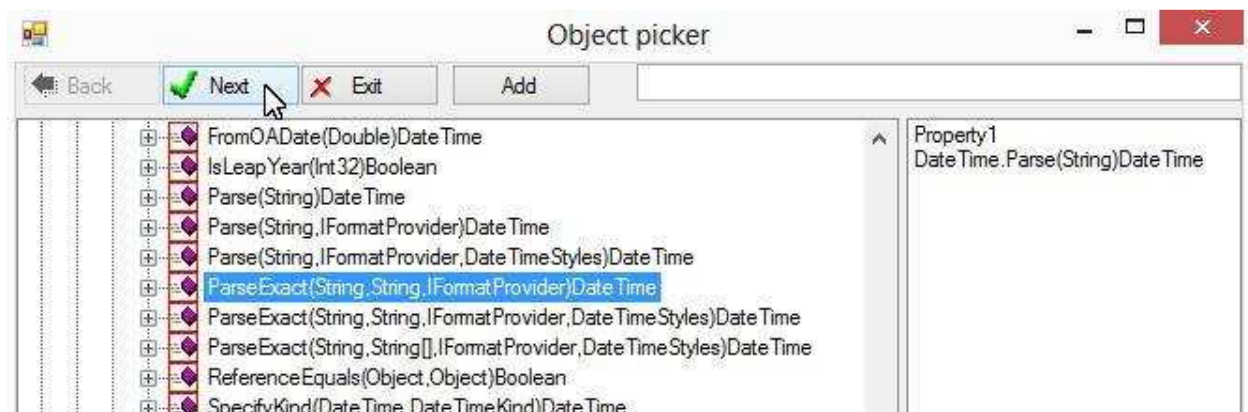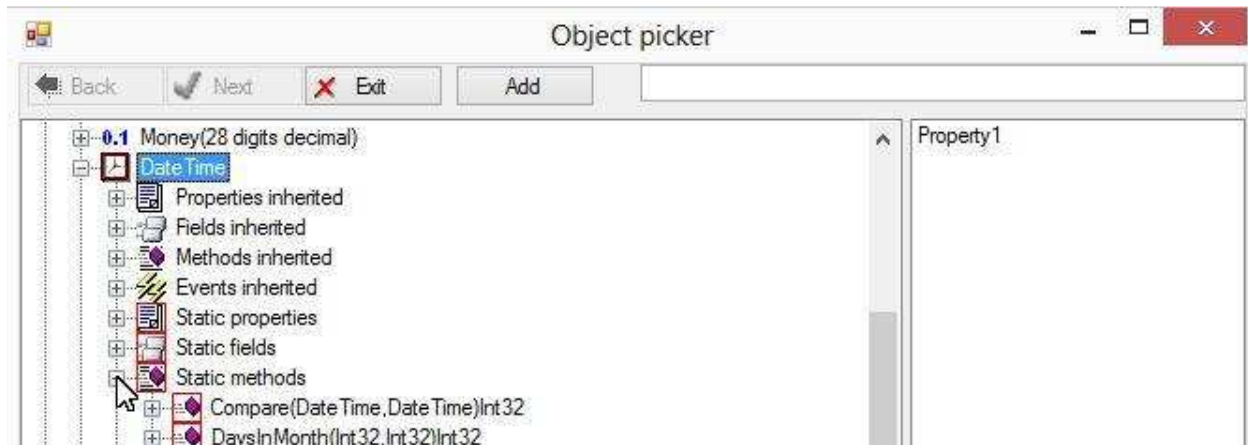Select Math Expression to make a date-time conversion from the text box:
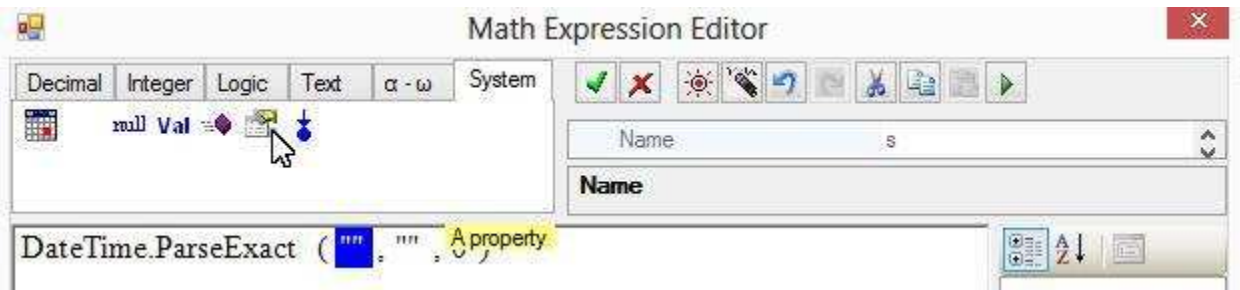

Click the method icon:

Select a Parse method of the DateTime class, under "Static methods":

The Parse method we selected takes 3 parameters: a text representing a date-time, a date-time format, and a culture. Let's set these 3 parameters for the action.
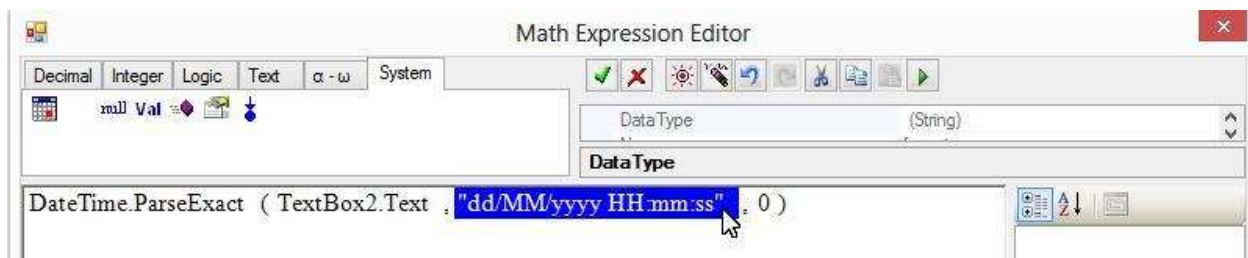
Set date-time text to be parsed

We'll use the Text property of the text box:
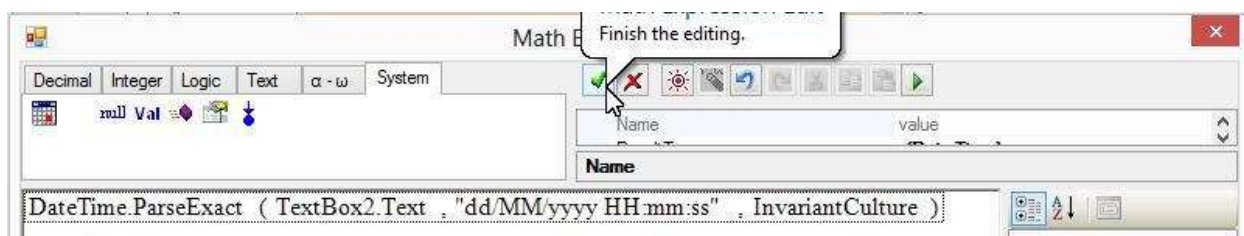
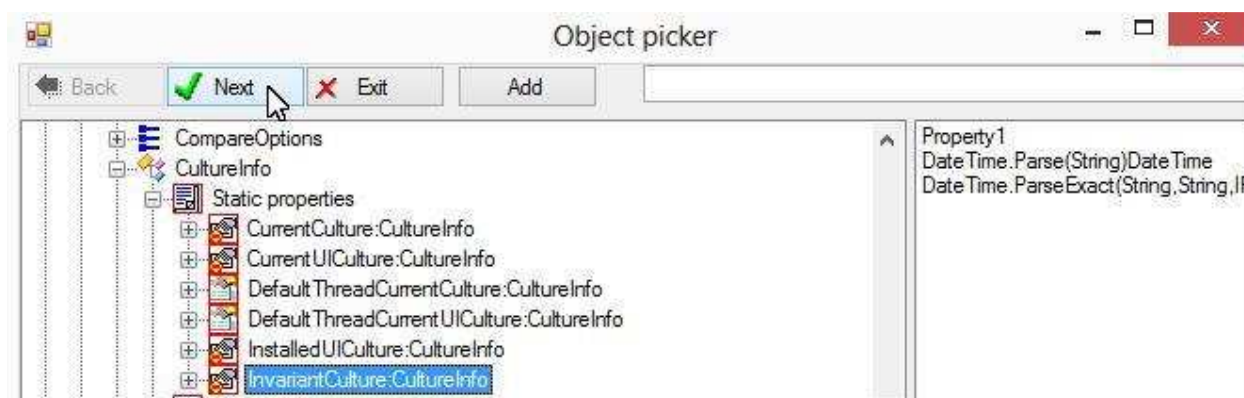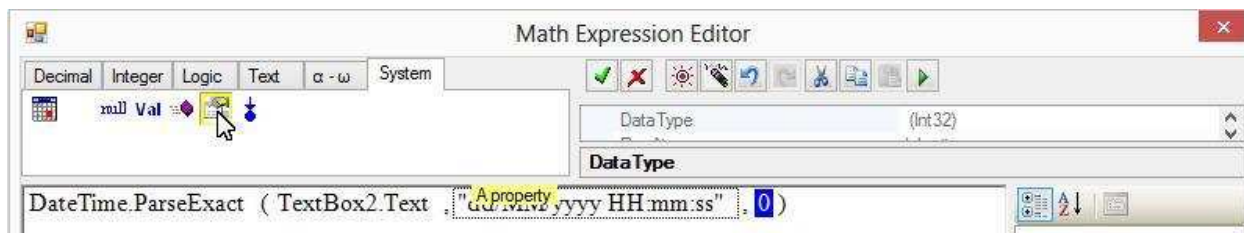

Set date-time format

As an example, we use "dd/MM/yyyy HH:mm:ss":
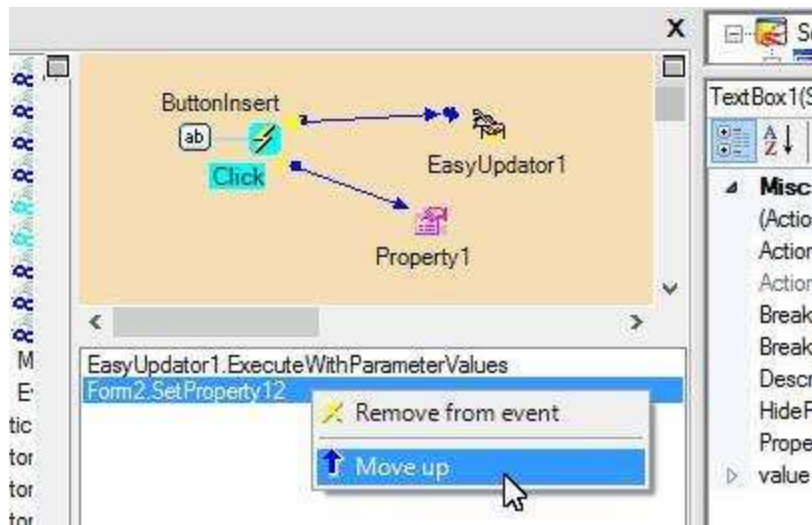

Set culture

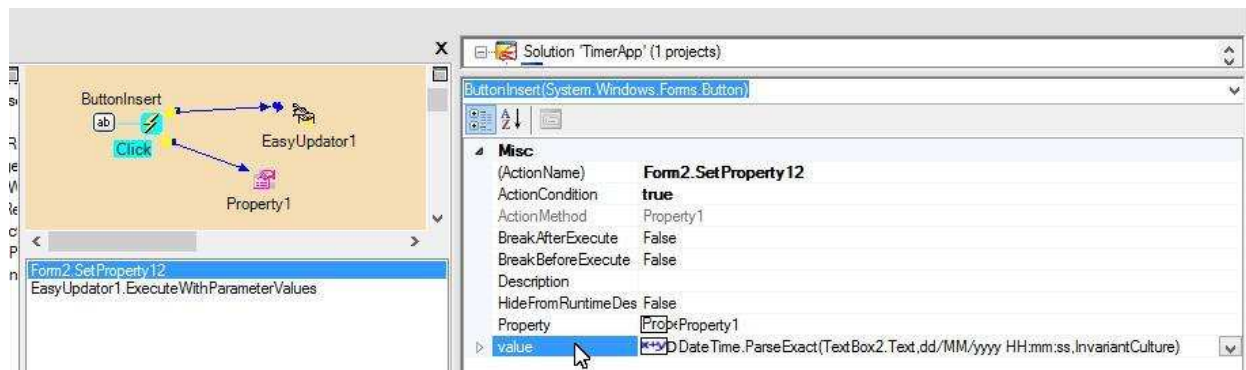For this example, we simply use the InvariantCulture:

Click OK to finish creating the action.

The action is created and assigned to the button. Move it up so that it is executed before the database operation:

This is the recommended event handling:

Handling NULL value

Suppose the field for date time allows NULL value, and we allow the text box to be empty to represent a NULL value. We need to add conditions in our actions to handle NULL value.
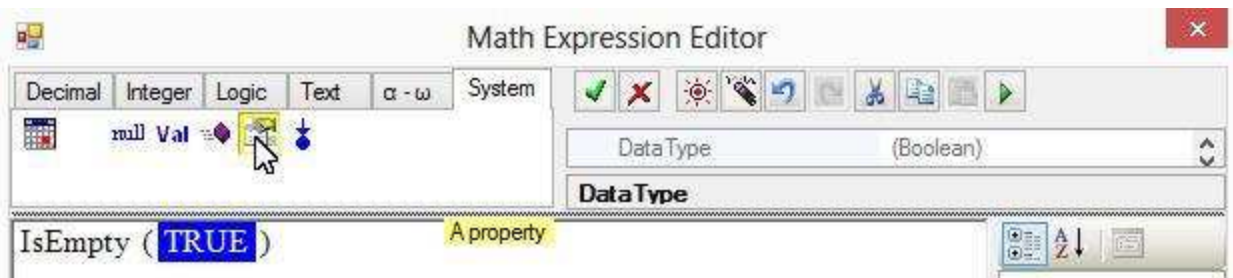
Only convert non-empty string to date time

For the action to convert a string to a date time value we may set ActionCondition to check that the text box is not empty:
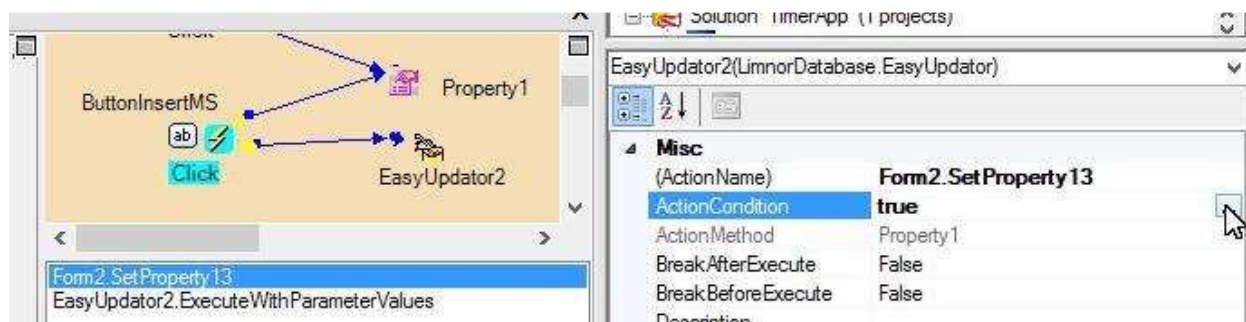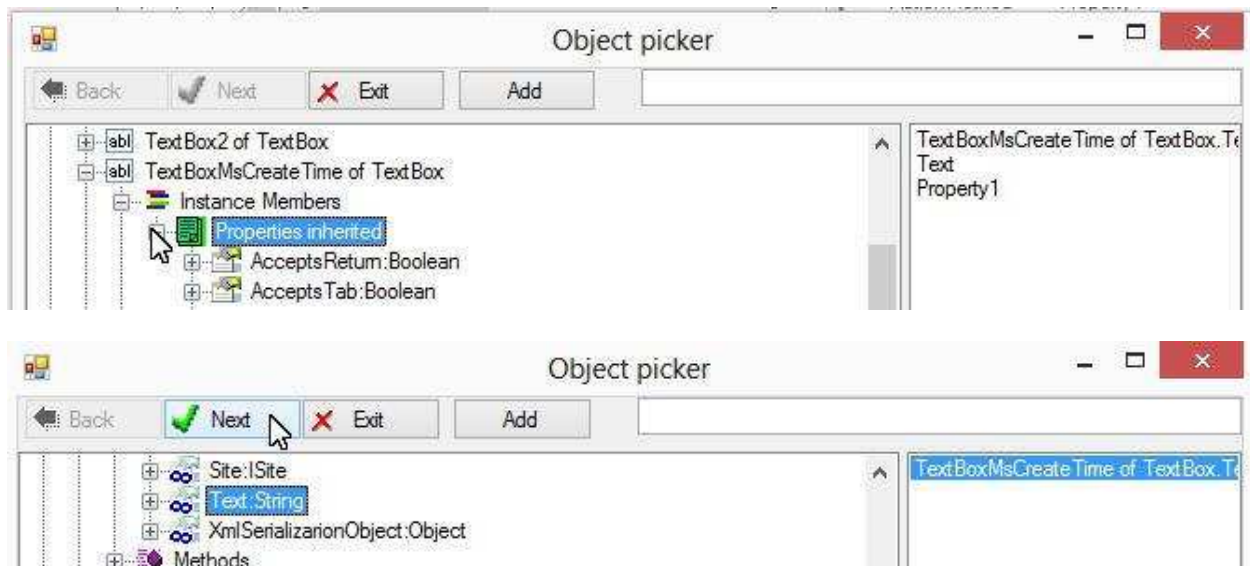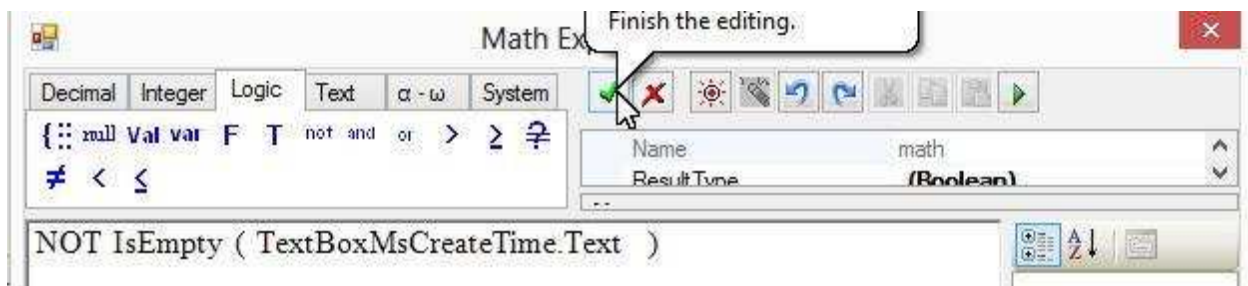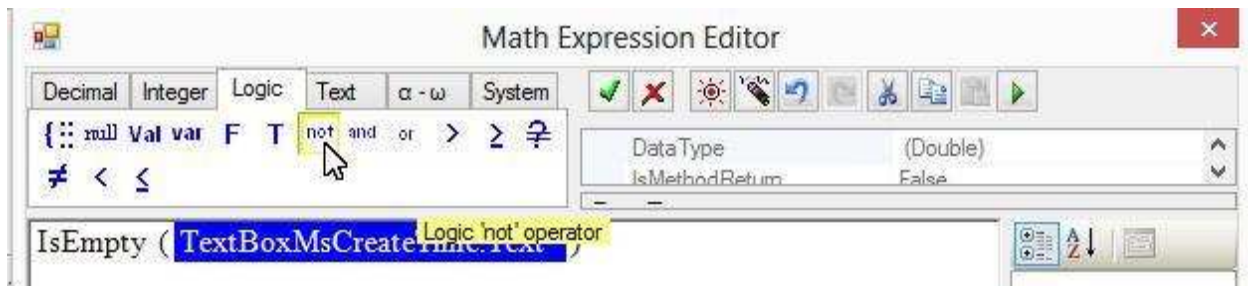

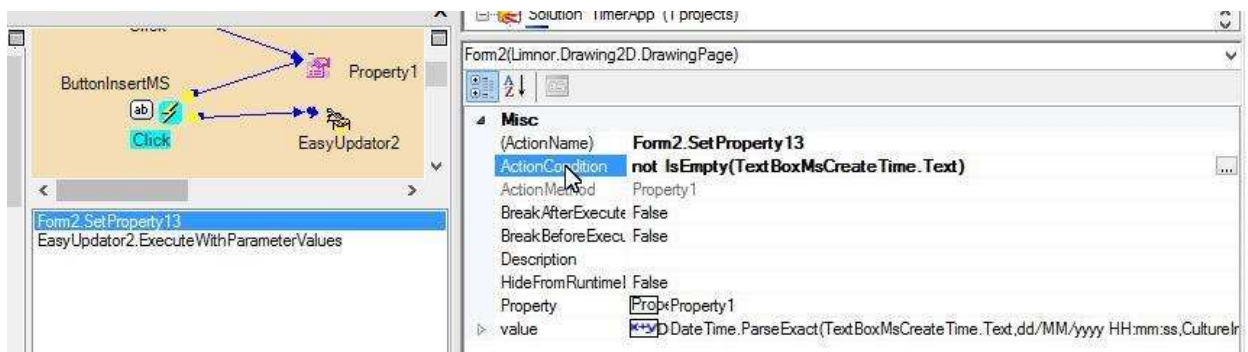Select "null-check" icon:
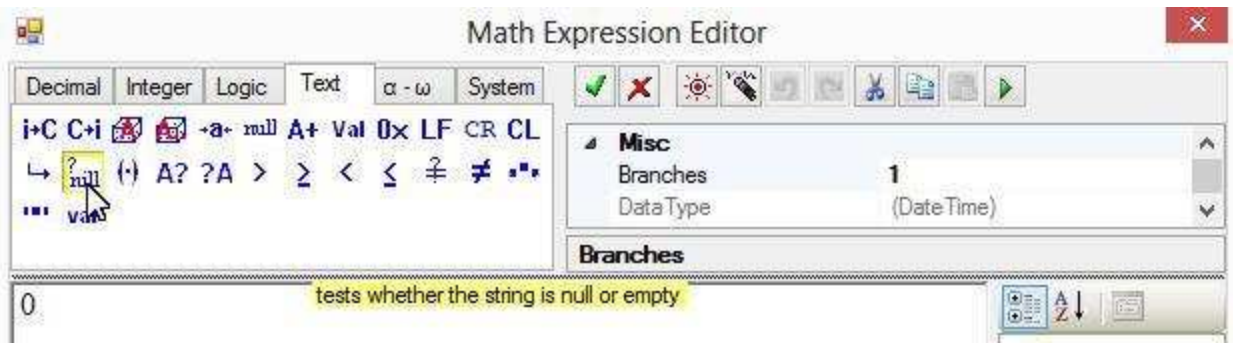
Select property icon for the parameter:

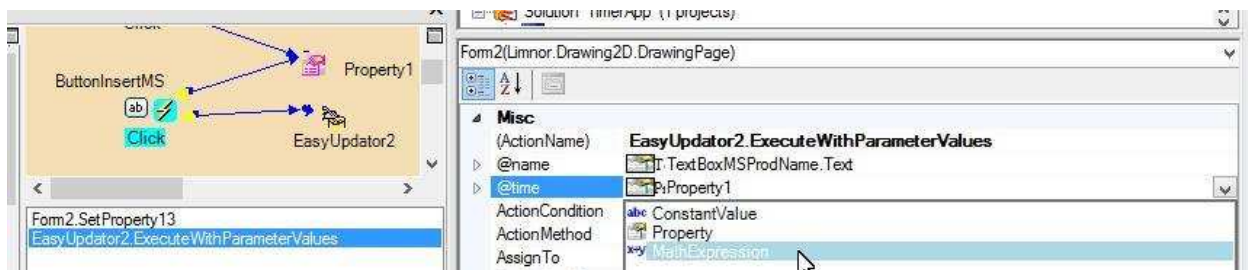Select the Text property to be checked:

Add "not" operator:

The action condition is added:

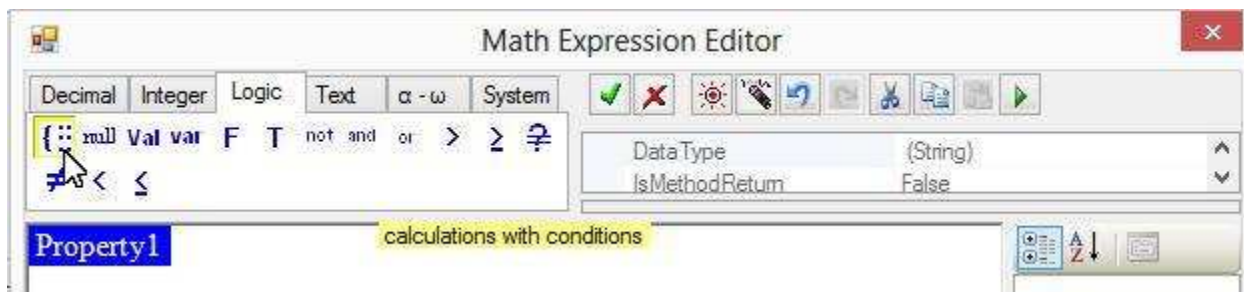

Use condition in action parameters

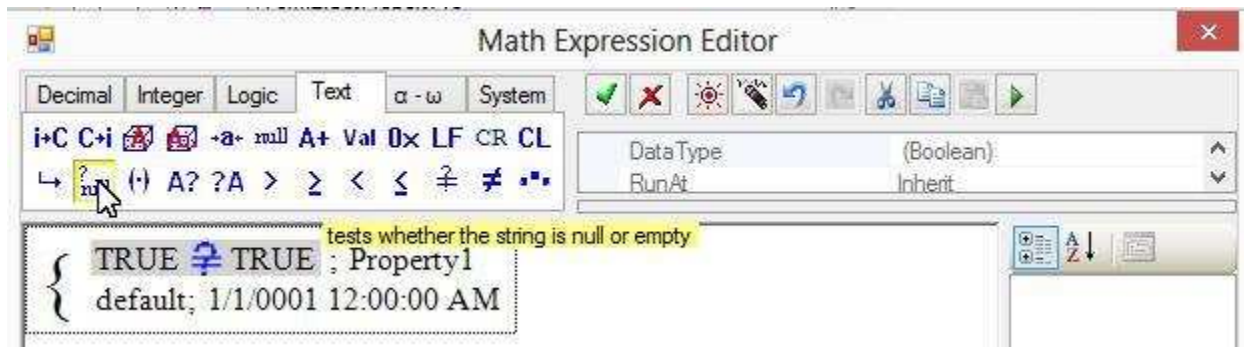We used Property1 for action parameter @time. We need to change it to add conditions:

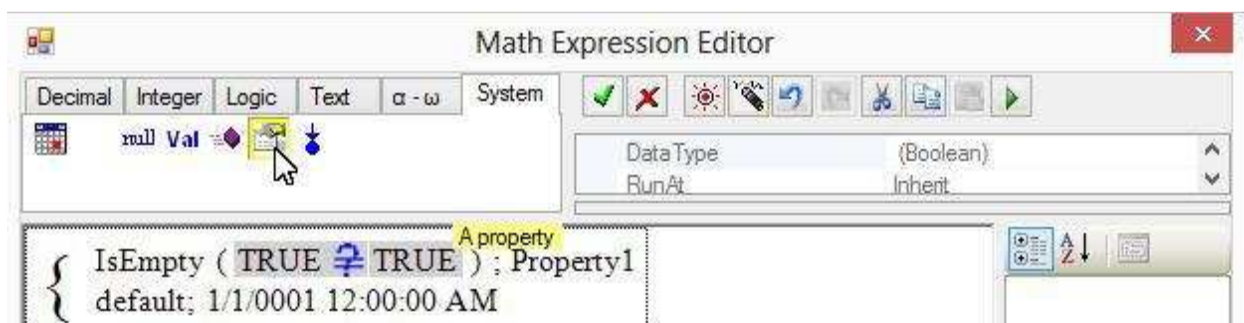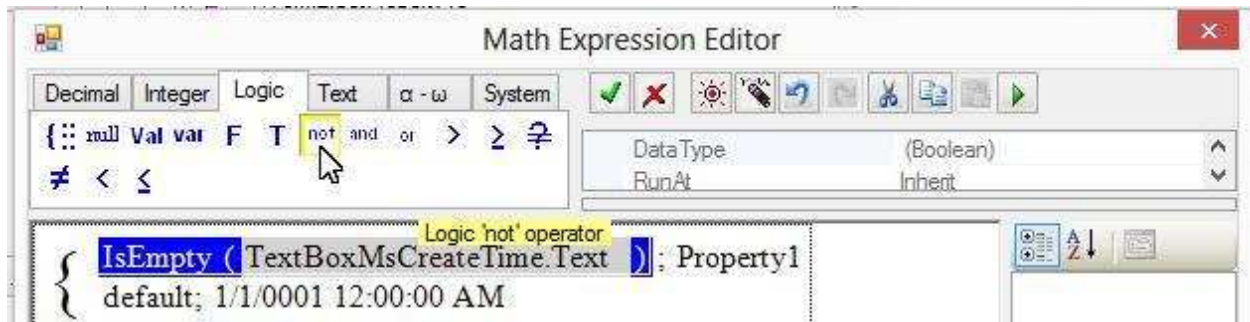Use condition operator to determine expression value:

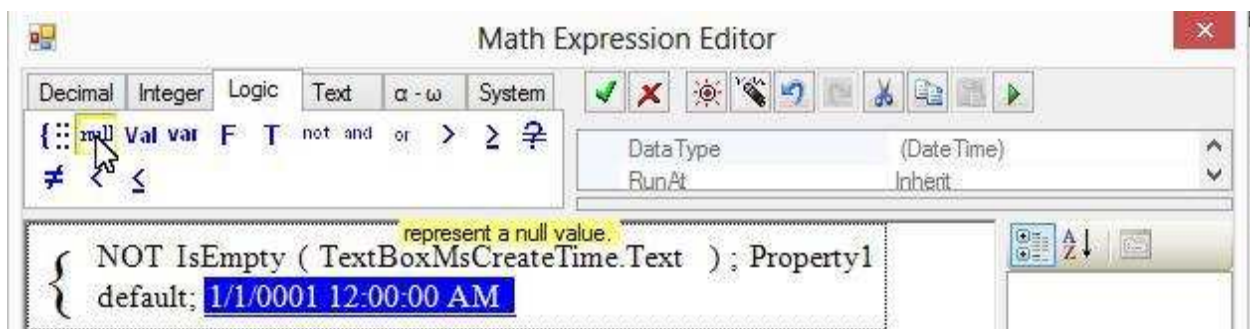Use null-checking operator for the first condition:
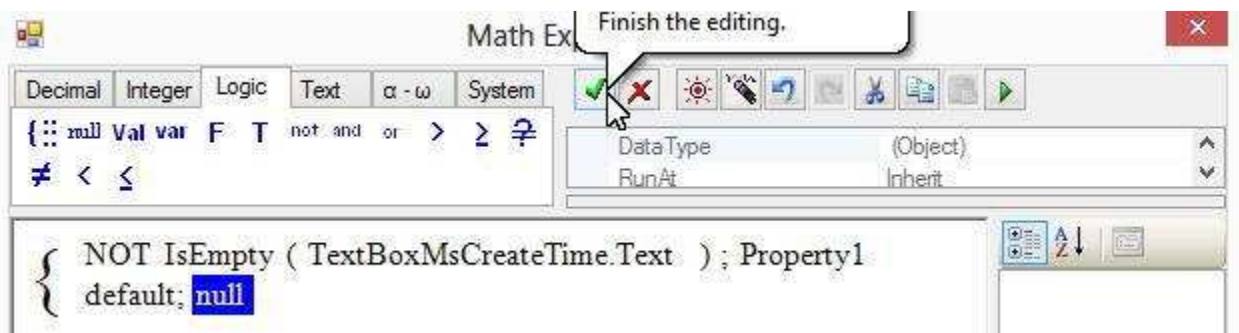

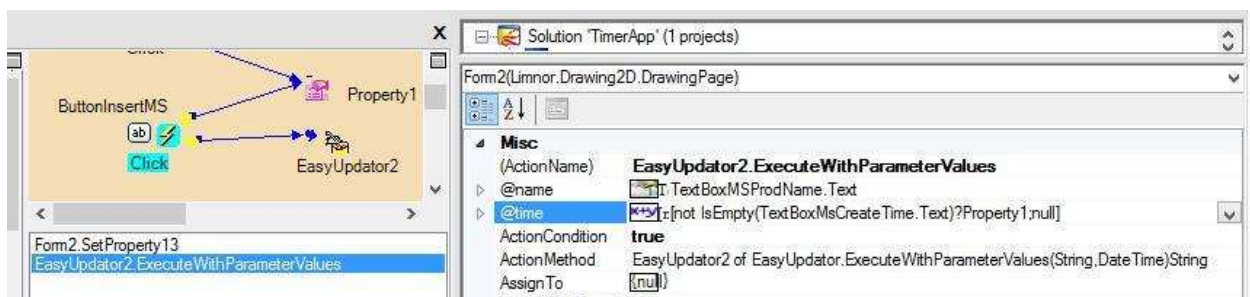Select the text box to be checked:

Apply "not" operator:

Use null value for empty text:

This is our action parameter value:

 The action becomes:

Feedback

Please send your feedback to support@limnor.com