

Use ScheduleTimer Component

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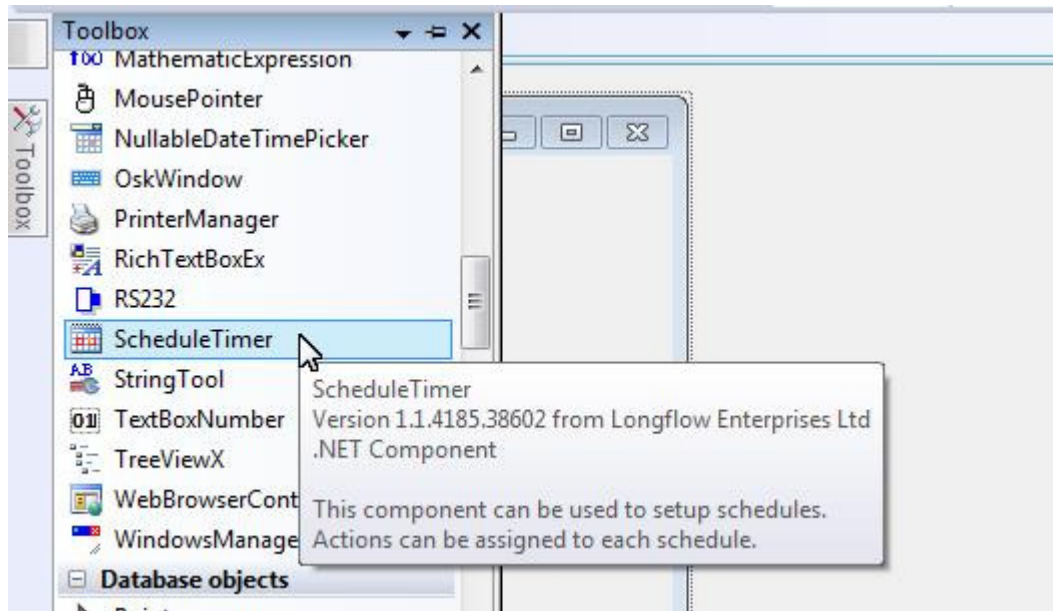
Introduction

The ScheduleTimer is a component derived from Timer component in the .Net Framework. The ScheduleTimer has following features.

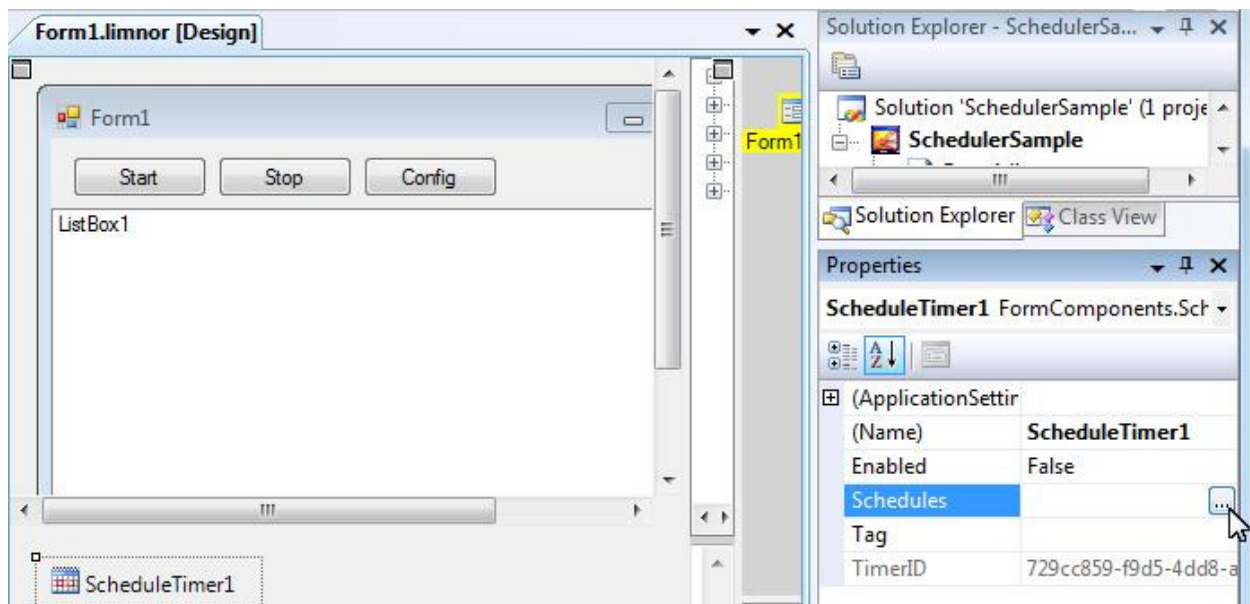
- Multiple schedules can be defined
- Schedules can be in milliseconds, in seconds, in minutes, in hours, daily, weekly, monthly, Yearly, and specific time.
- May limit the maximum occurrences
- May change and add schedules at runtime and persist per user
- May assign actions to schedules at runtime. The actions are created at design time.

Create Schedules

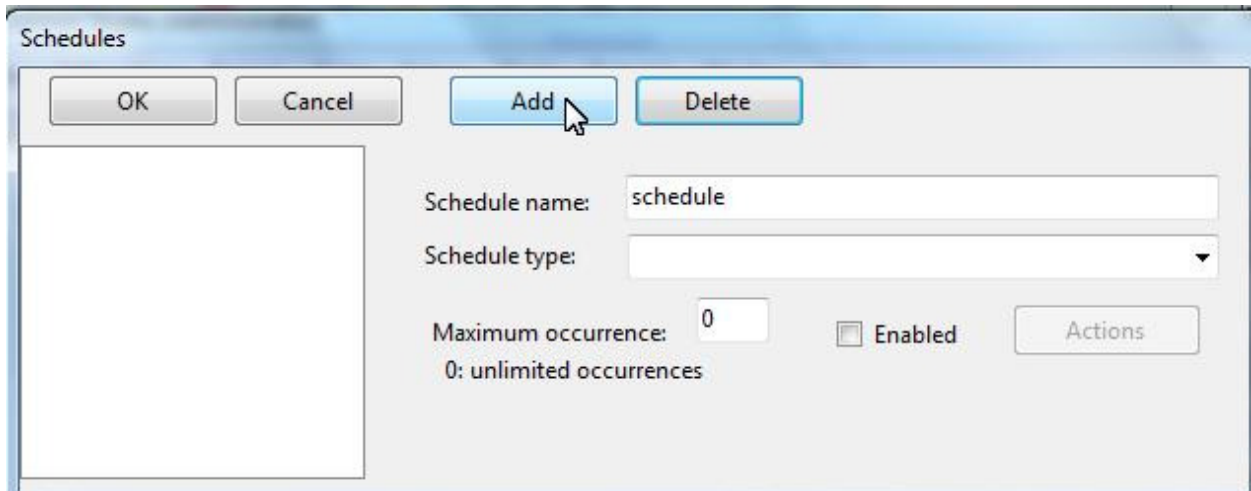
Drop a ScheduleTimer component to a form:



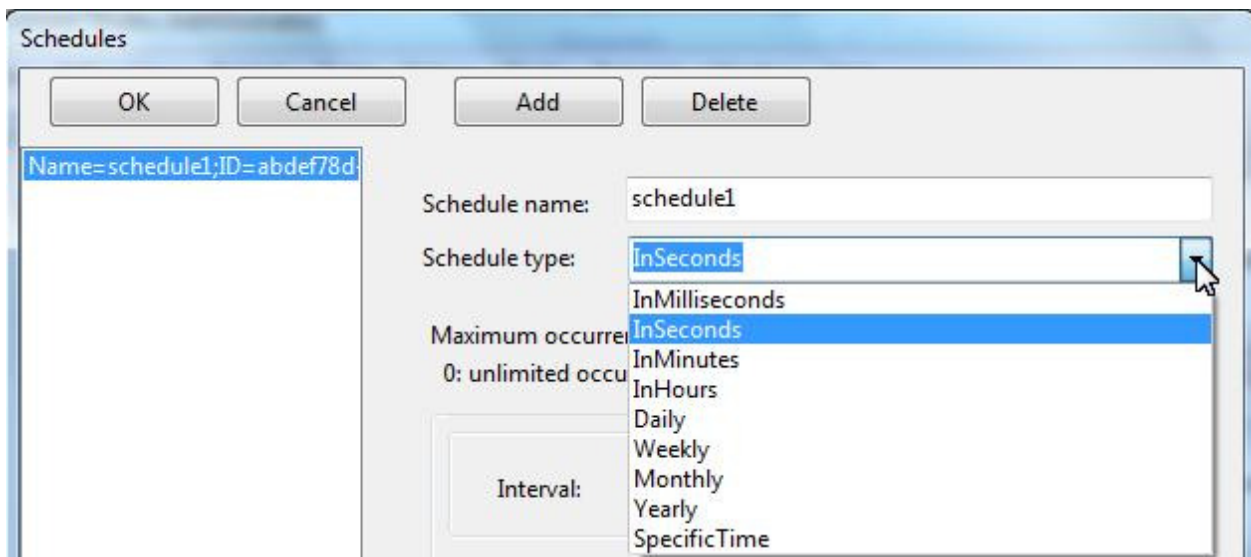
Set Schedules property to create schedules:



Click Add button to add a new schedule:

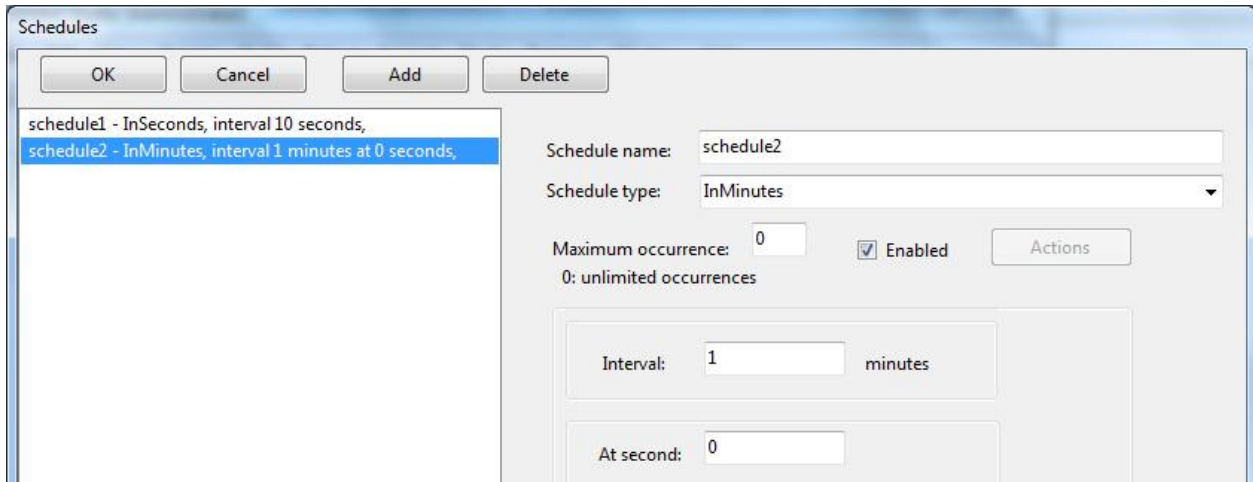


Select schedule type:



- InMilliseconds -- Occurs every {interval} milliseconds
- InSeconds – Occurs every {interval} seconds
- InMinutes – Occurs every {interval} minutes at specified seconds
- InHours – Occurs every {interval} hours at specified minutes and seconds
- Daily – Occurs every day at specified time
- Weekly – Occurs every week at specified time
- Monthly – Occurs every month on specified month day and time
- Yearly – Occurs every year at specified month, day, and time
- SpecificTime – Occurs one time on the specified date and at specified time

In this sample we create two schedules: 10 seconds and 1 minute:

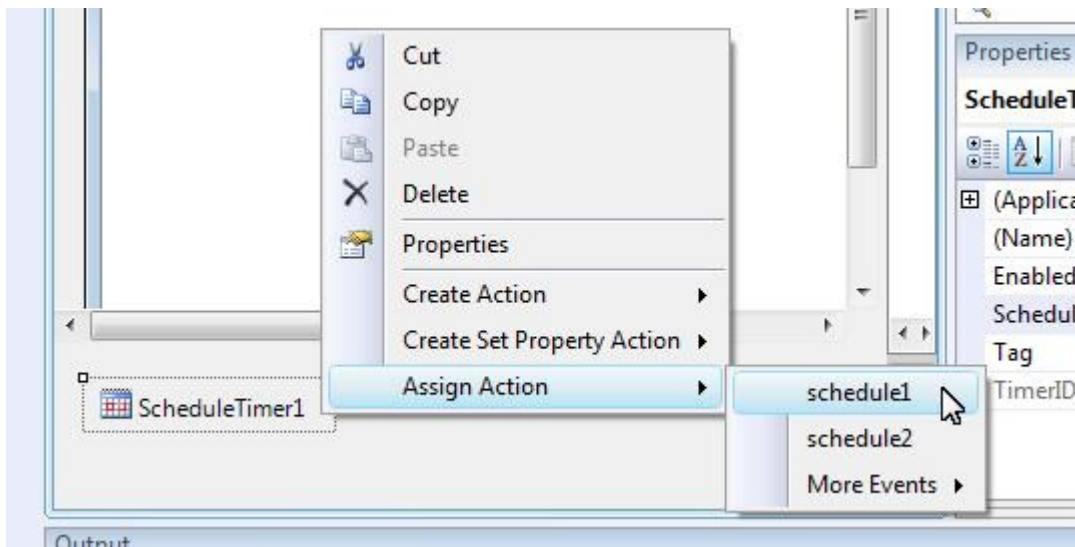


Process Schedule Events

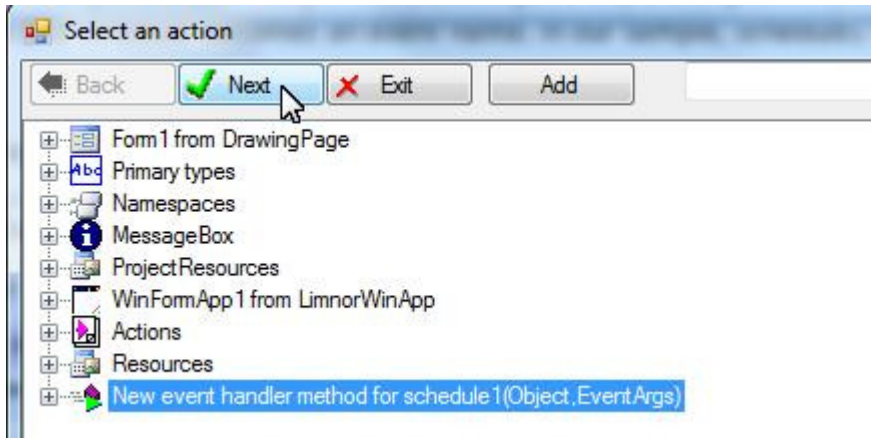
The name of a schedule becomes an event name. In our sample, Schedule1 and Schedule2 become two events.

In this sample, we simply display the schedule in a list box when the schedule event occurs.

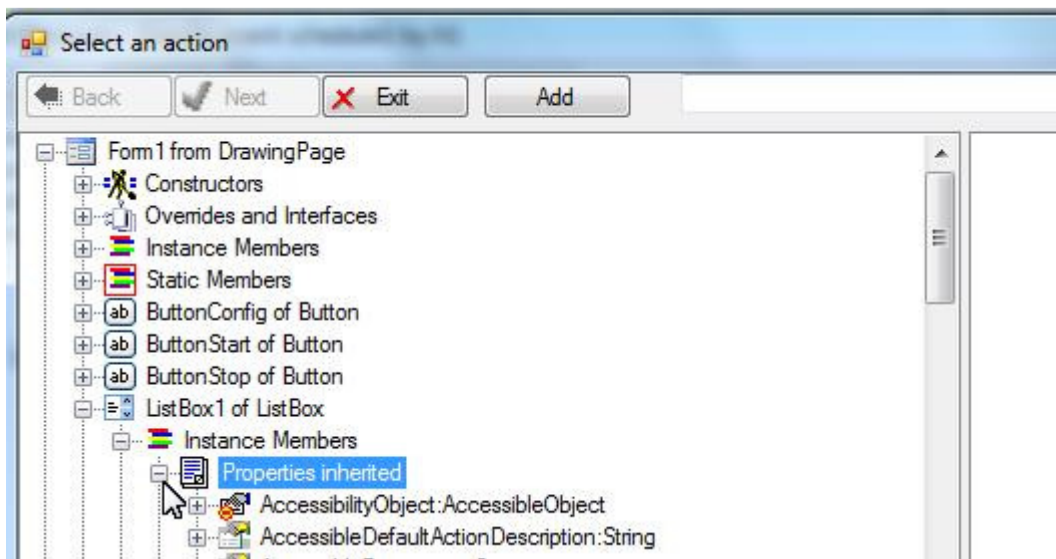
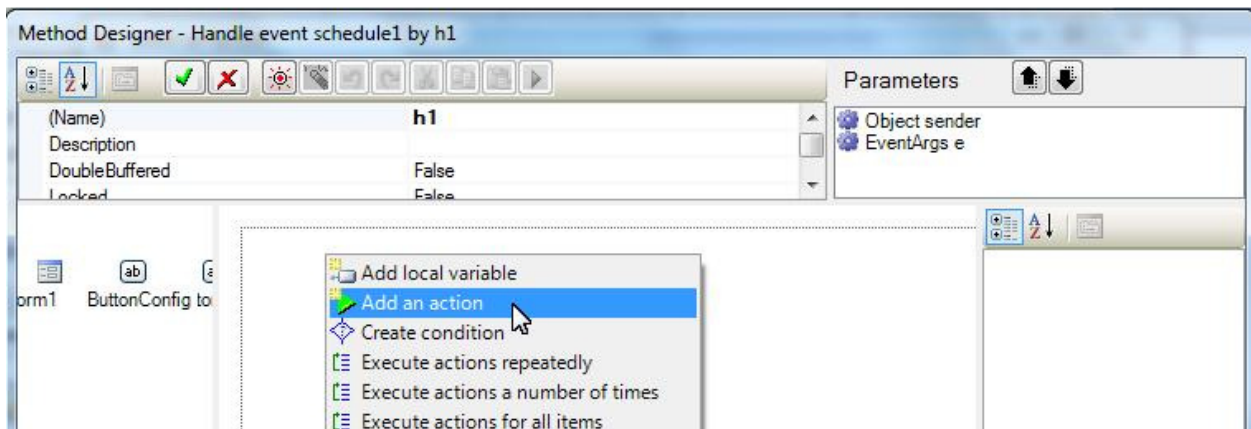
Right-click the ScheduleTimer component; choose “Assign Action”; choose an event:

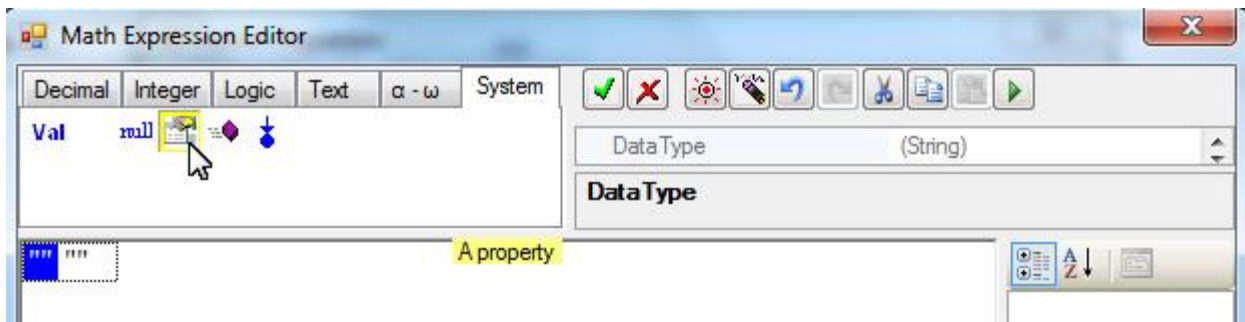
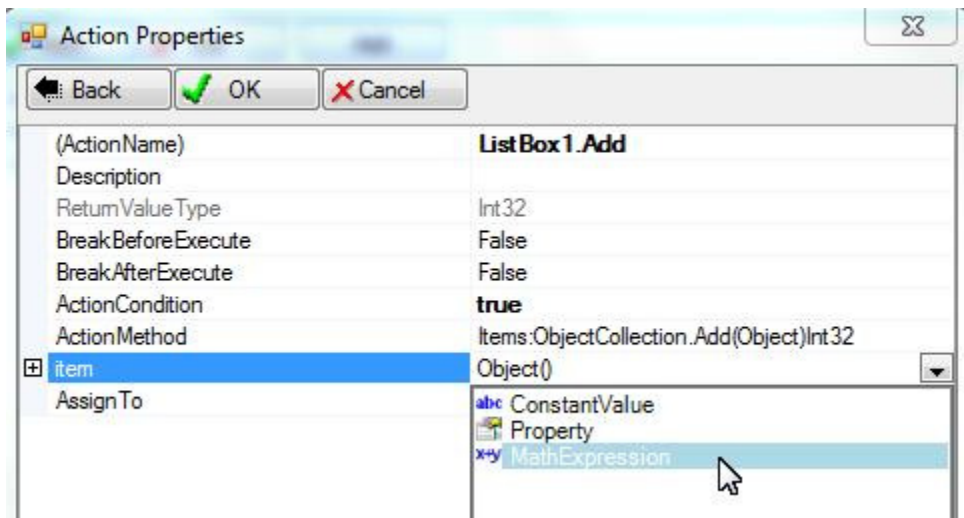
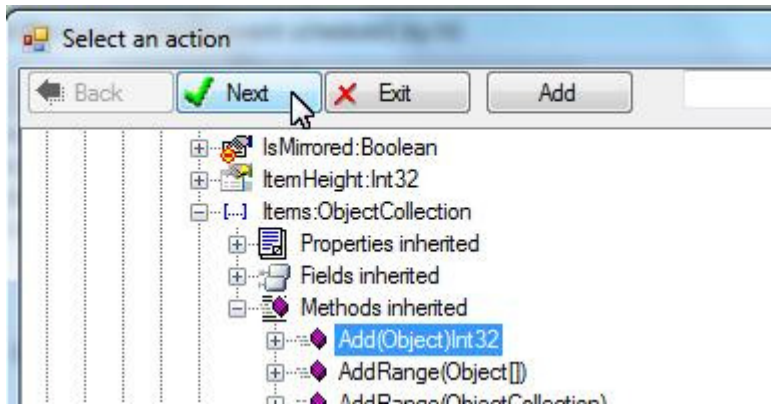


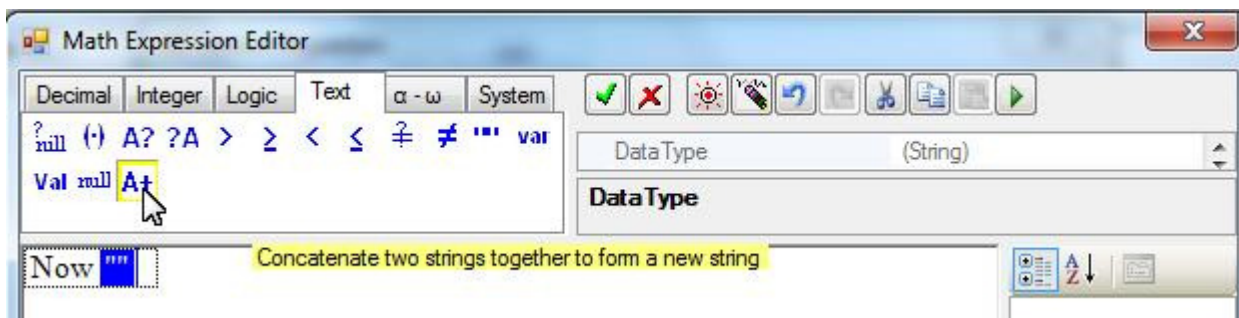
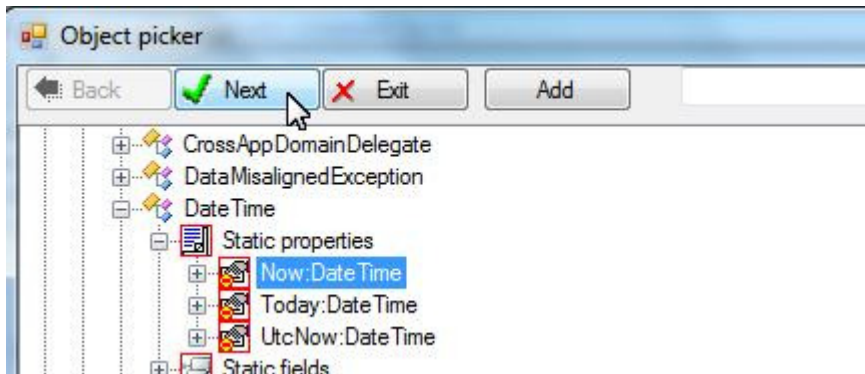
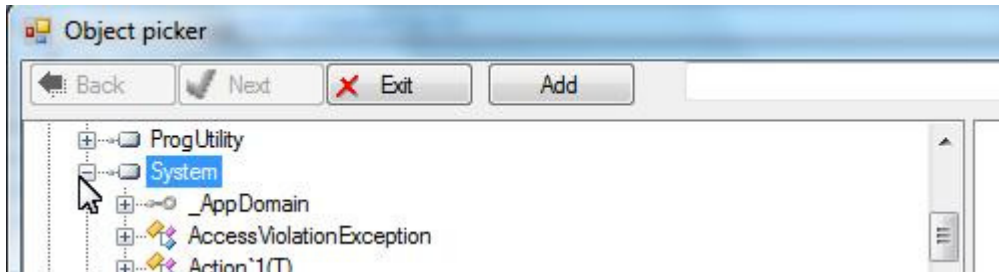
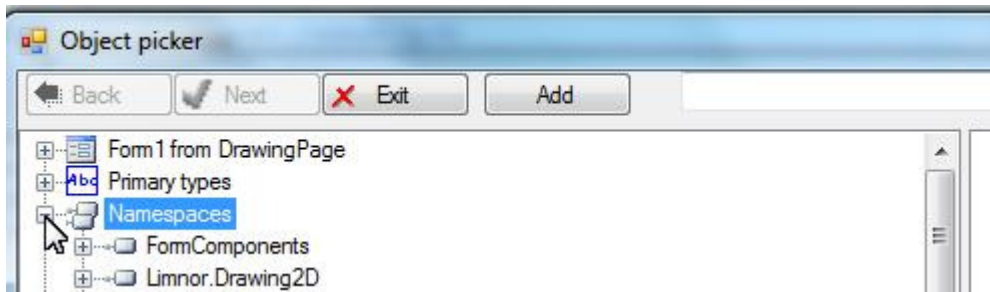
We may select actions to be executed at this event. For this sample, we choose “New event handler method for schedule1”

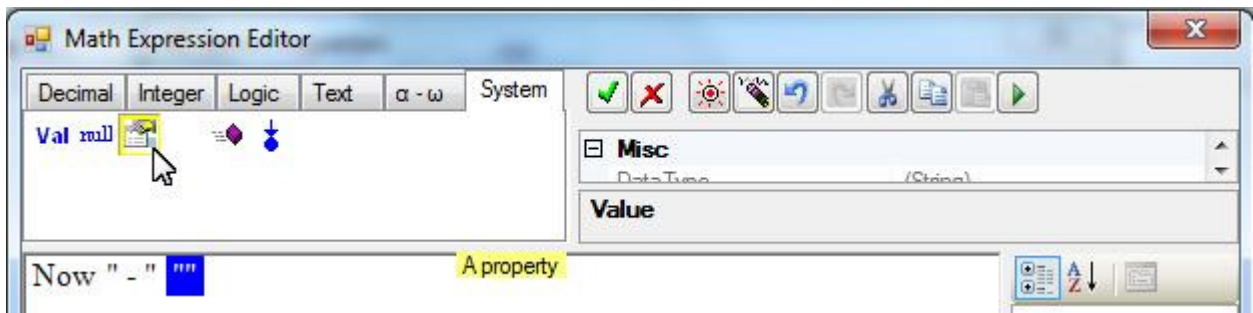
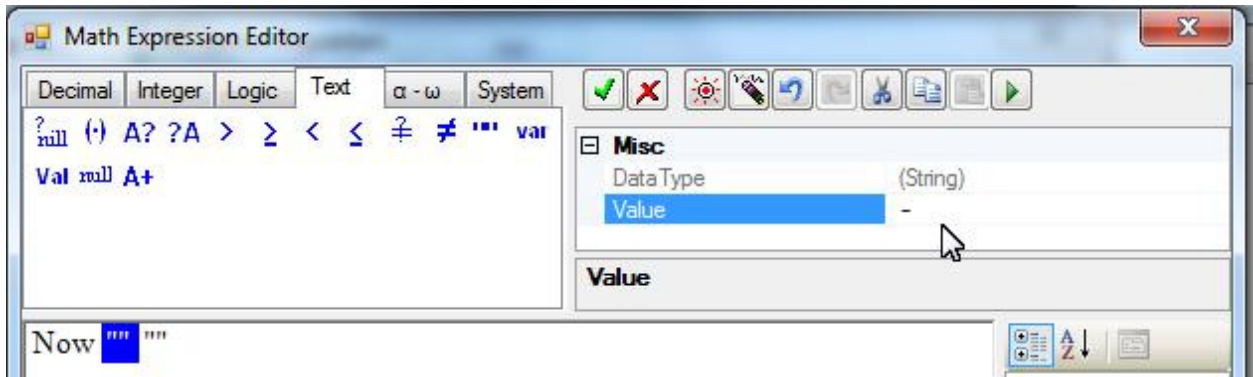


We want to add a line in the list box which is formed by the time the event occurs and the schedule causing the event.

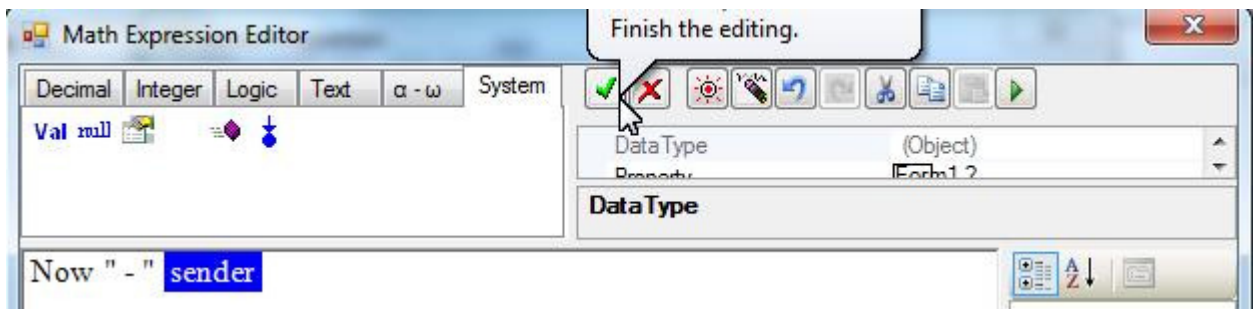
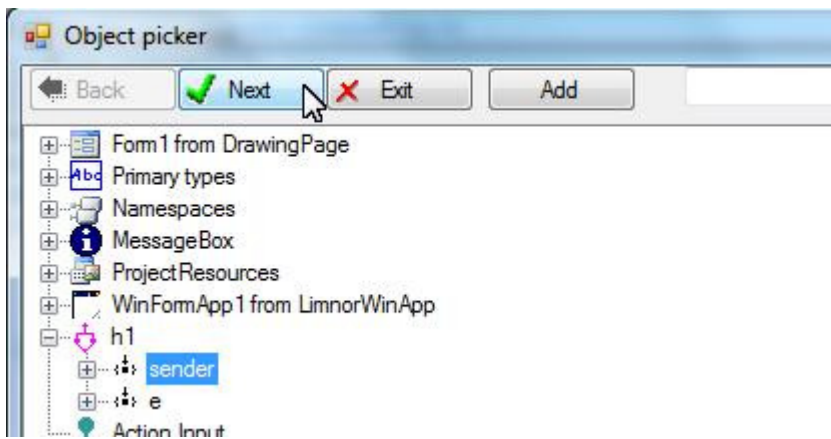


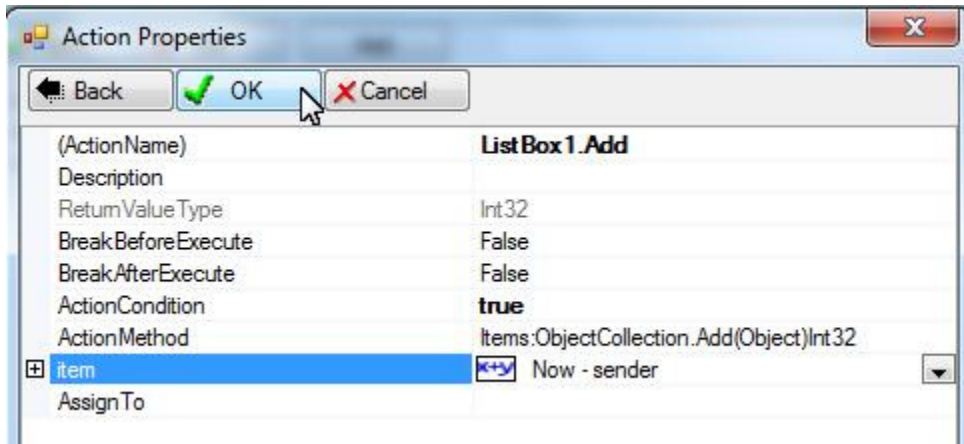




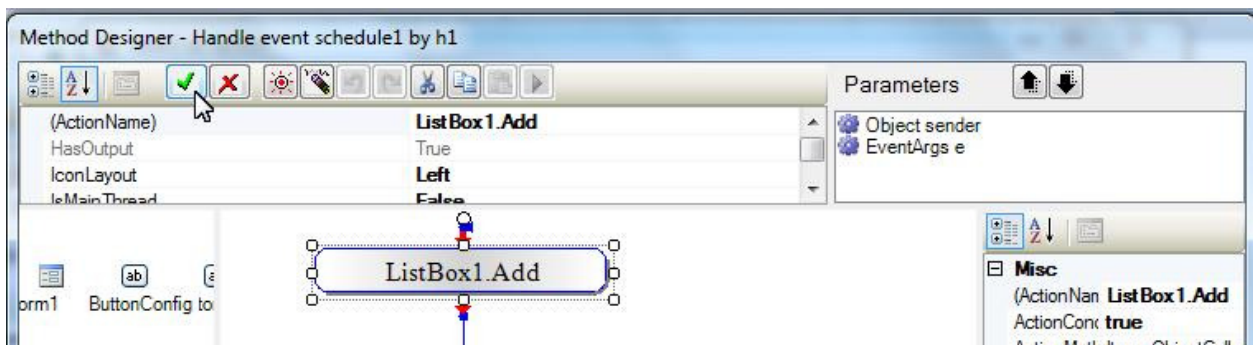


“sender” is the schedule that causing the event:

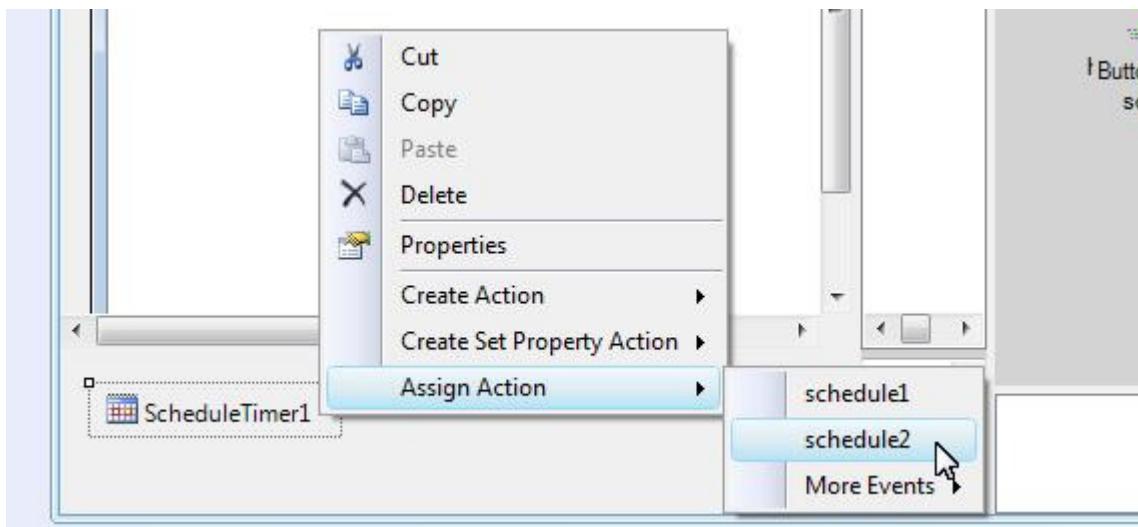


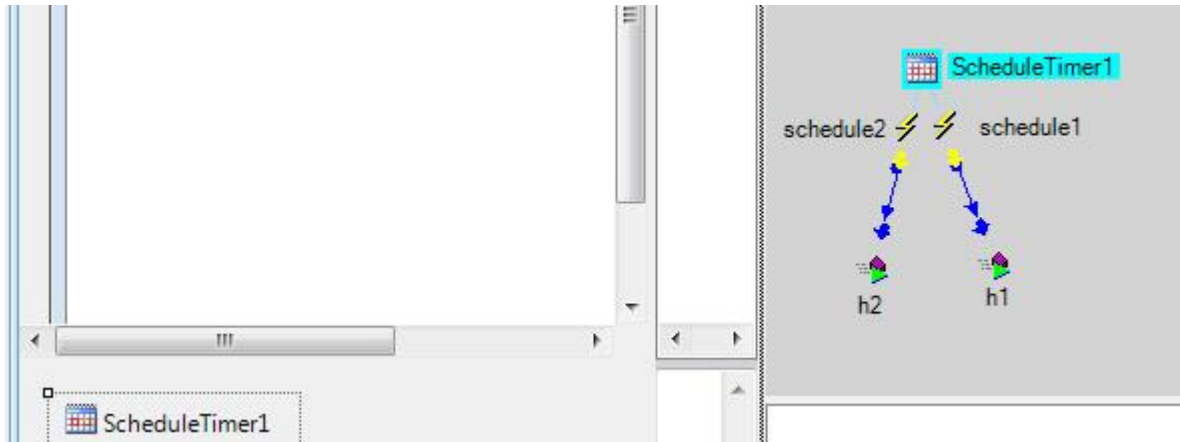


For this sample we just need this one action for handling this event:

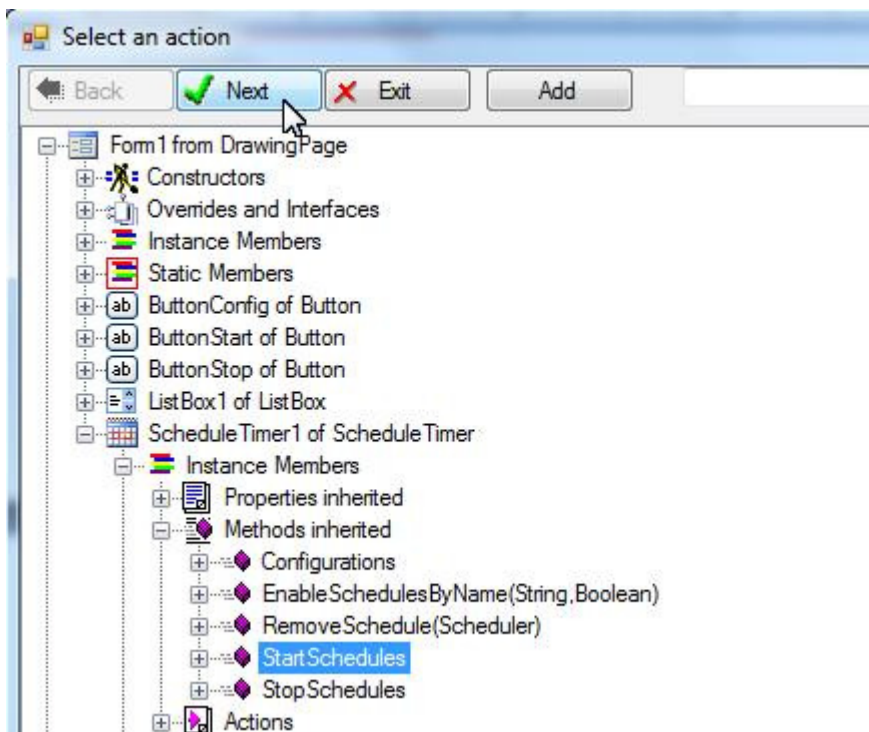
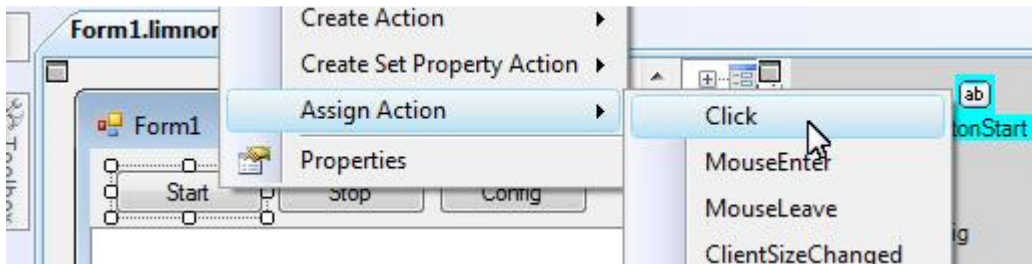


Do exactly the same thing for event schedule2:

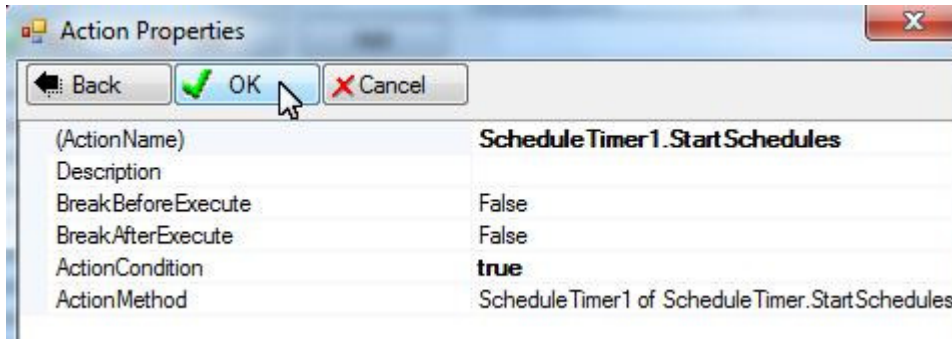




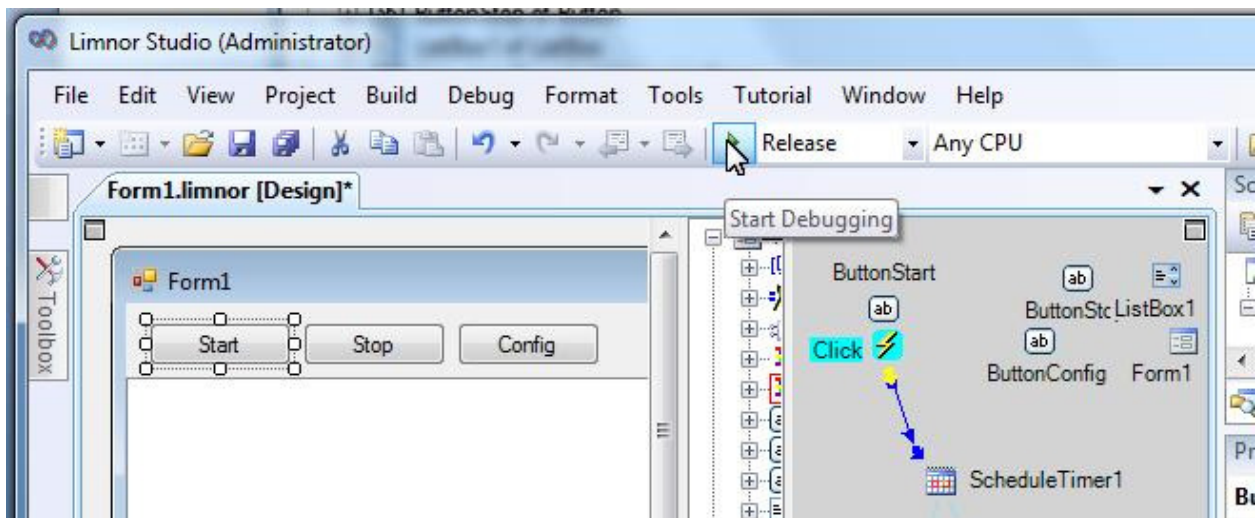
Use the button to start the ScheduleTimer component:



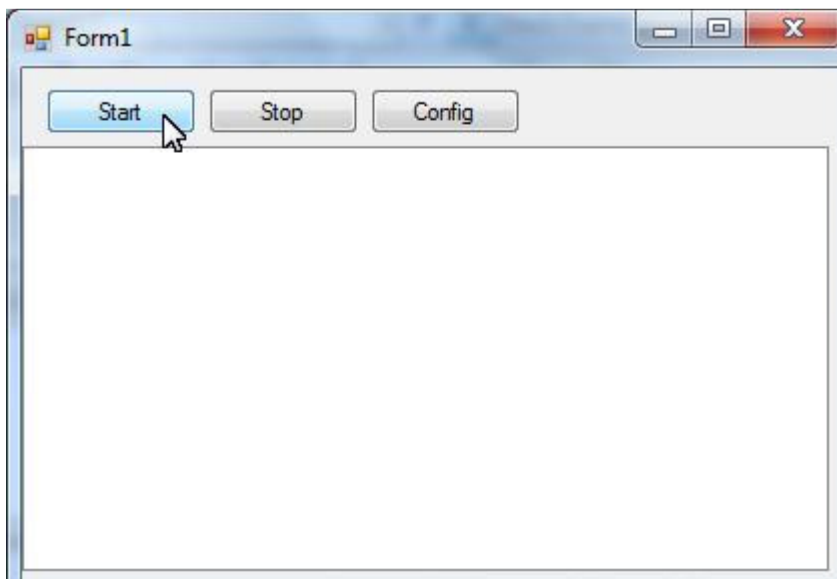
Click OK to finish creating this action and assigning it to the button:



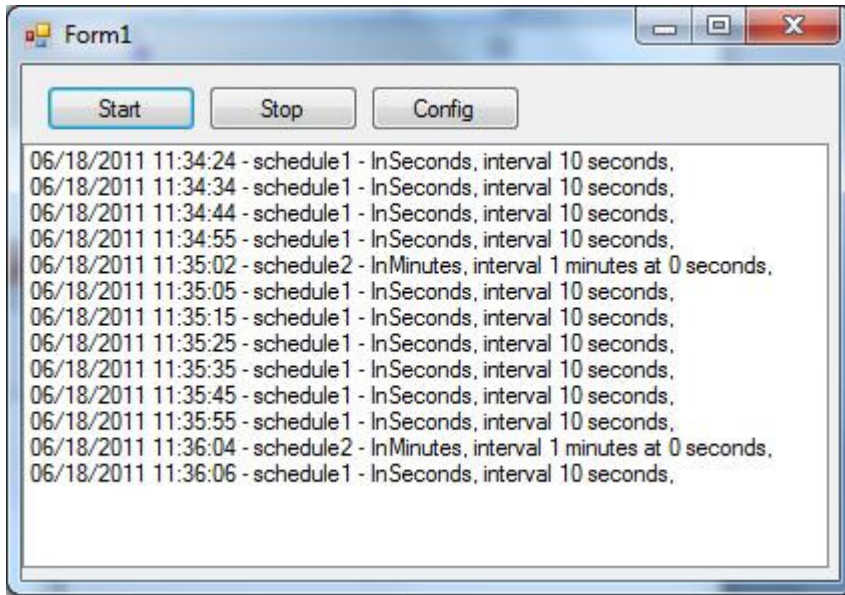
We may test the sample now:



The form appears. Click Start button:



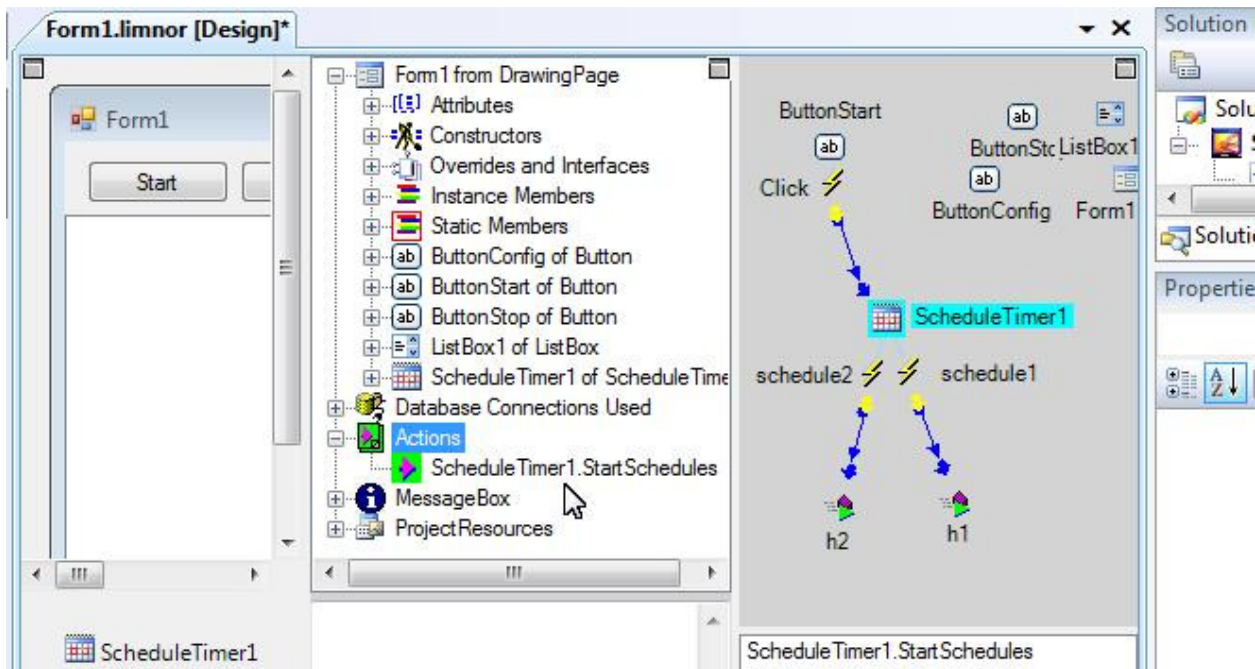
In every 10 seconds we can see that schedule1 occurs and in every minute schedule2 occurs.



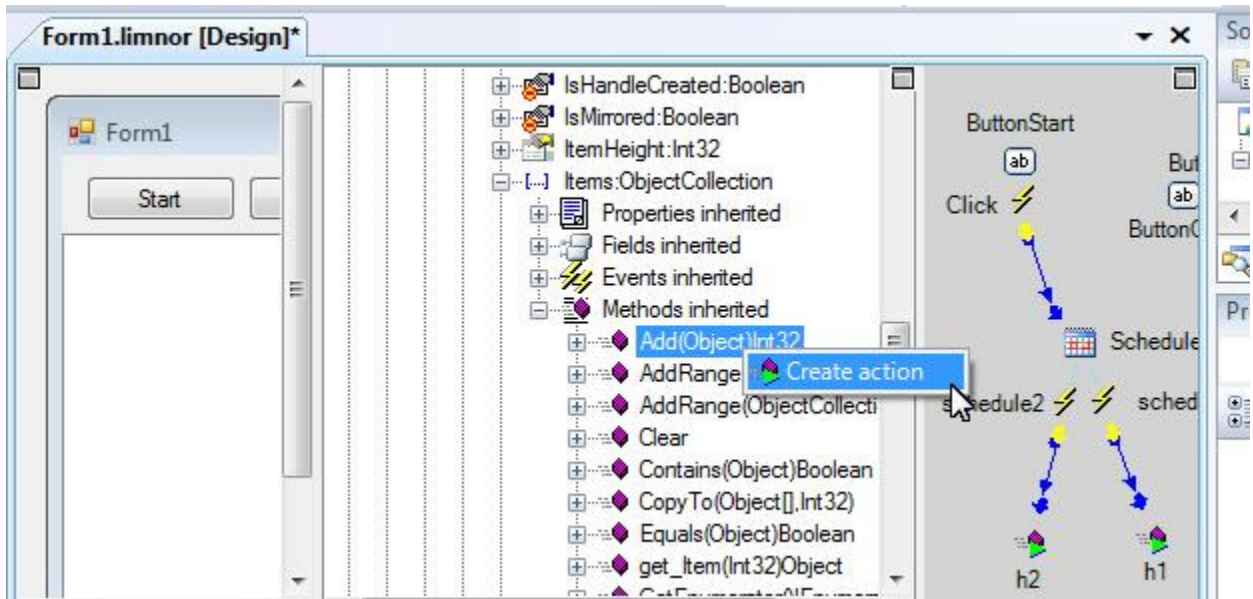
Configurations at runtime

Configurations action can be used to modify schedules at runtime. Schedules can be modified, added, and actions be assigned to schedules.

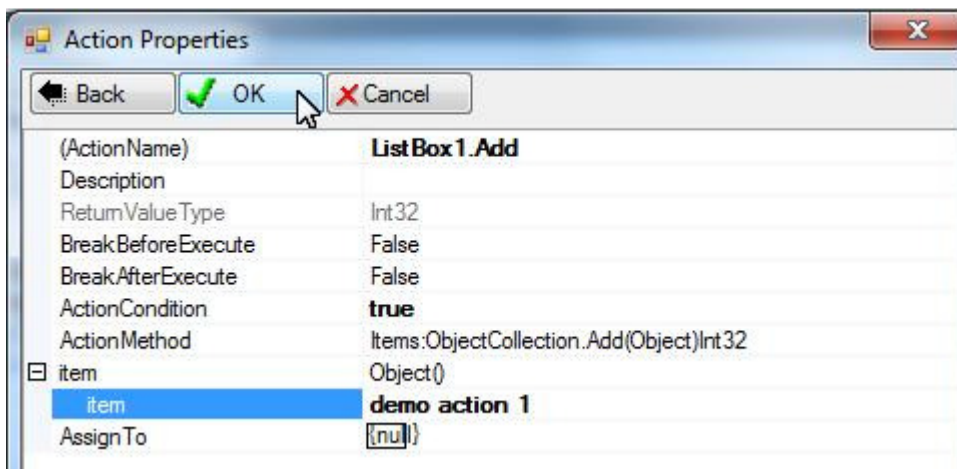
The actions can be used are created at design time and listed under Actions:



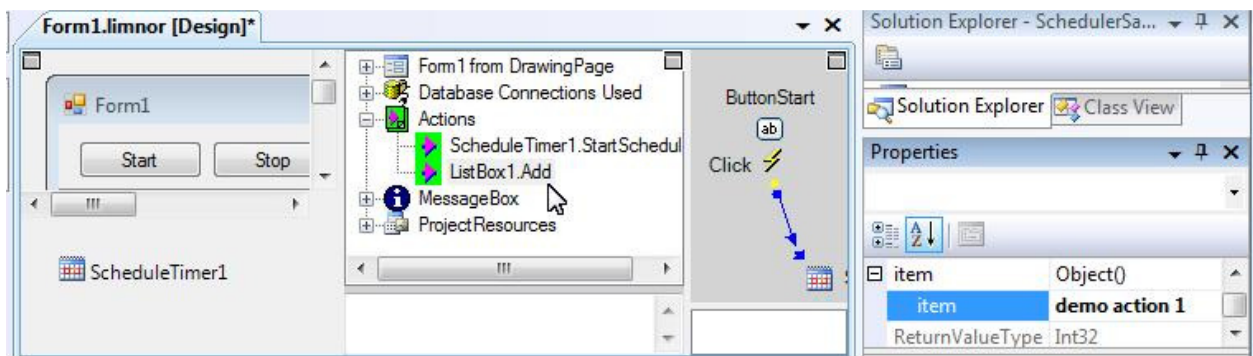
Currently in this sample there is only one action under Actions. For demonstration purpose we add two actions using the Add method of the Items property of the list box.



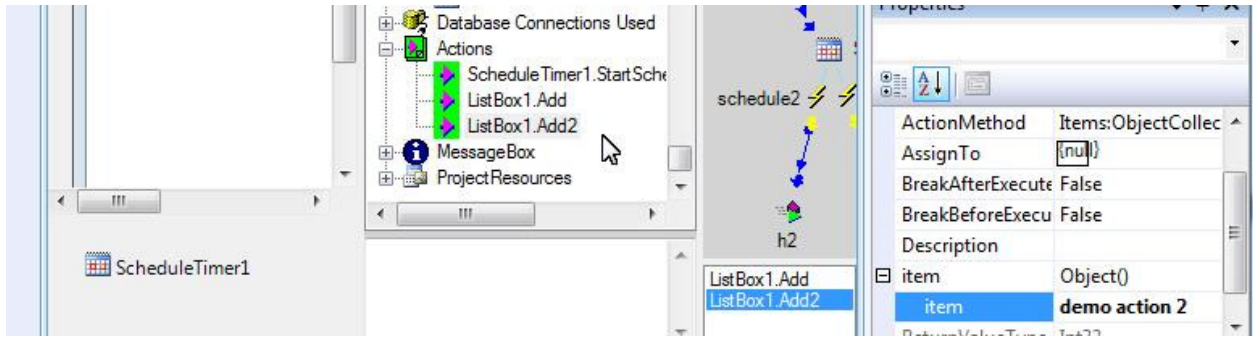
The action simply adds a line “demo action 1” to the list box:



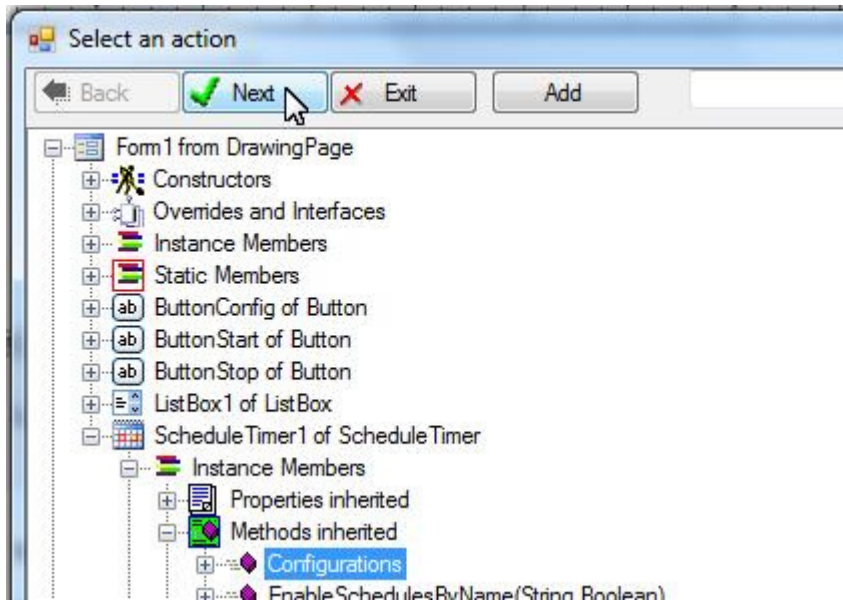
The action appears under Actions:



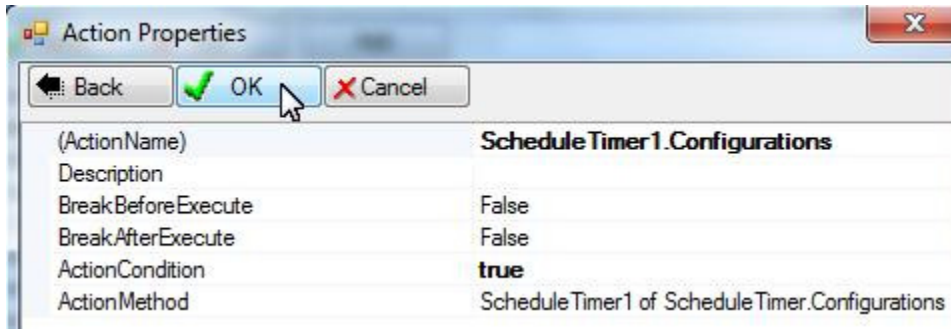
Add another action to add a line “demo action 2” to the list box:



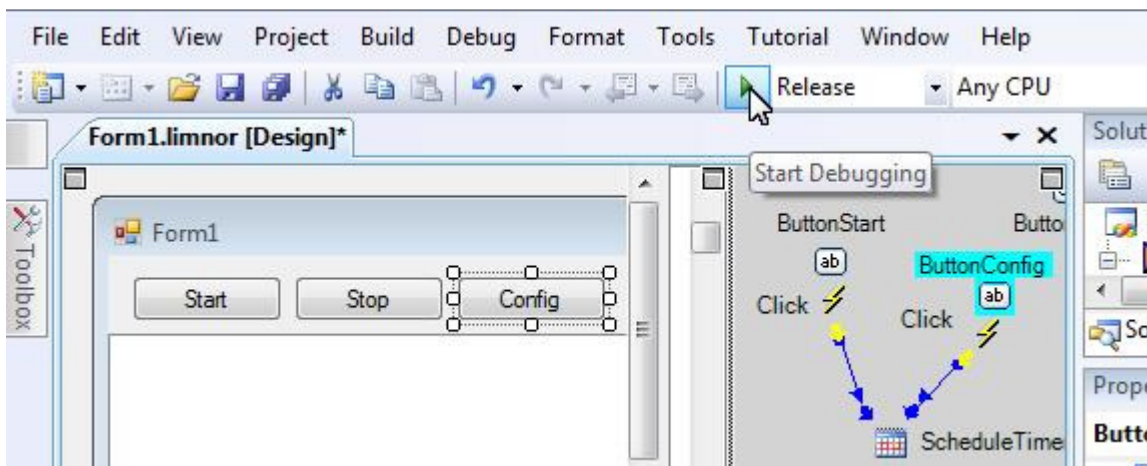
We want to use a button to do the configurations:



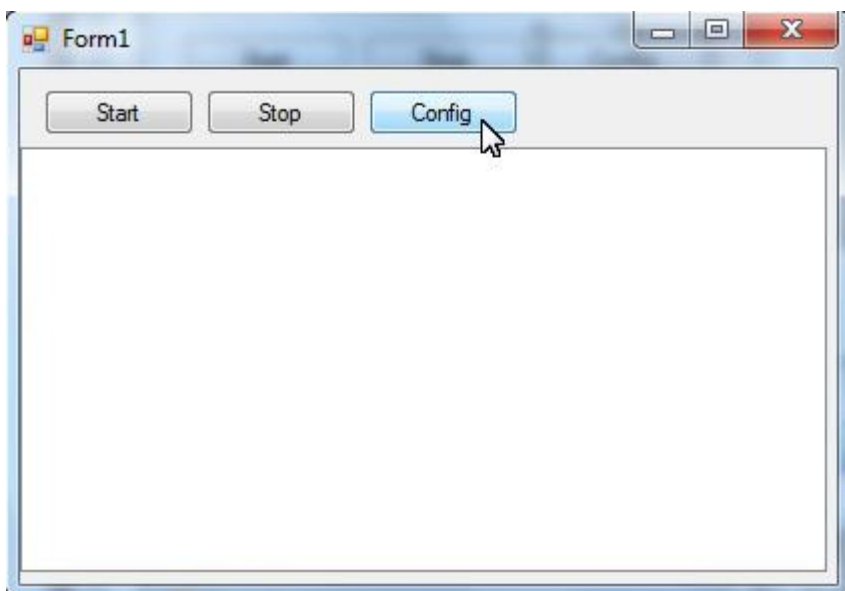
Click OK to finish creating this action and assigning it to the button:



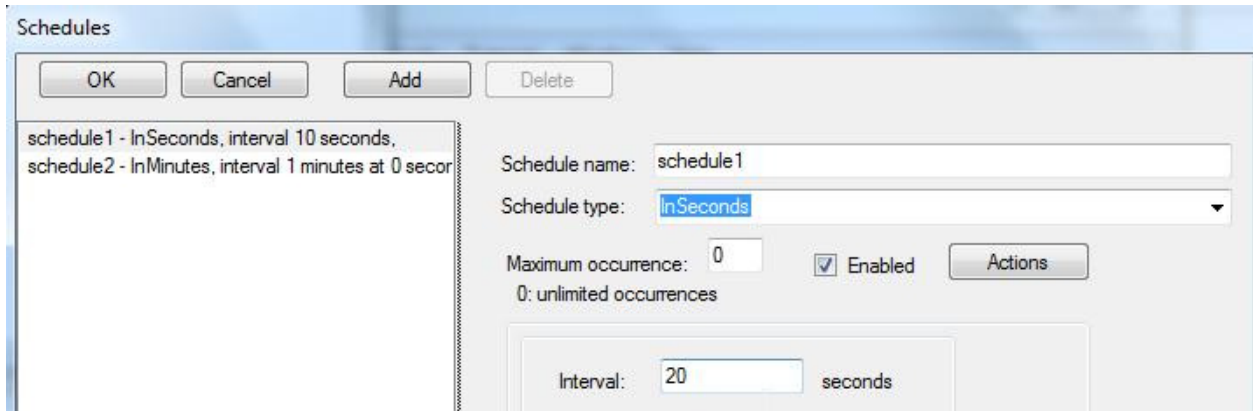
We may test the sample now:



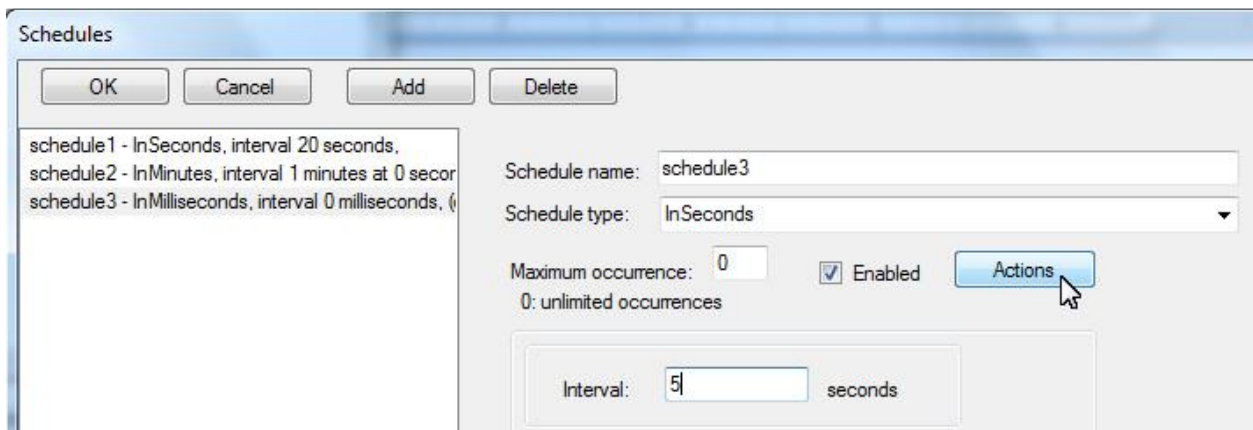
The form appears. Click "Config"



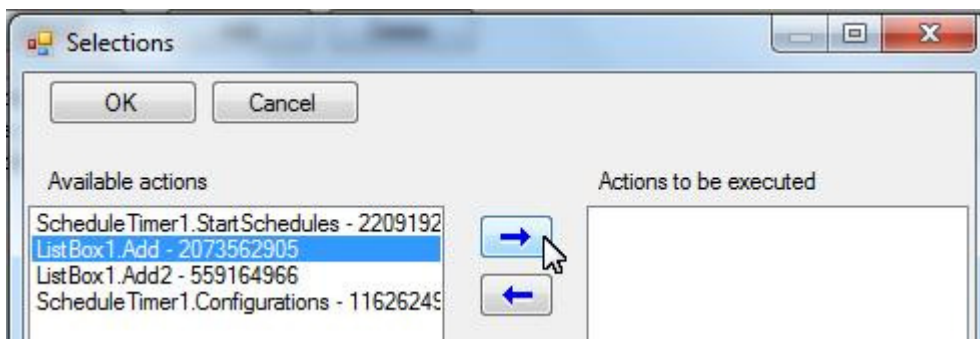
Modify schedule1 from 10 seconds to 20 seconds:

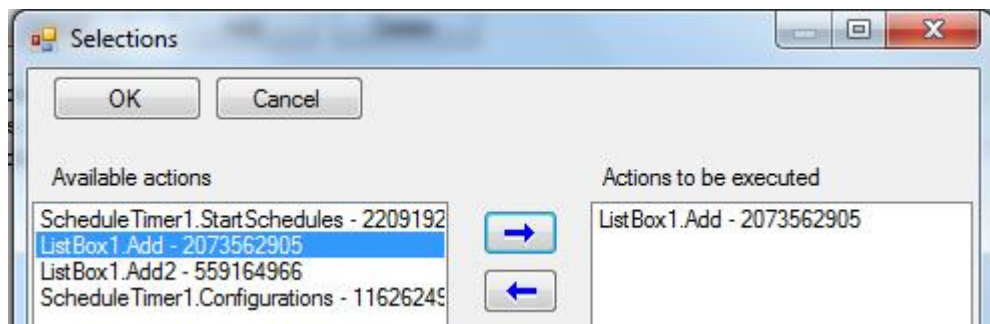


Click Add button to add a new schedule. Make the new schedule to occur every 5 seconds. Click Actions to assign actions to this new schedule:

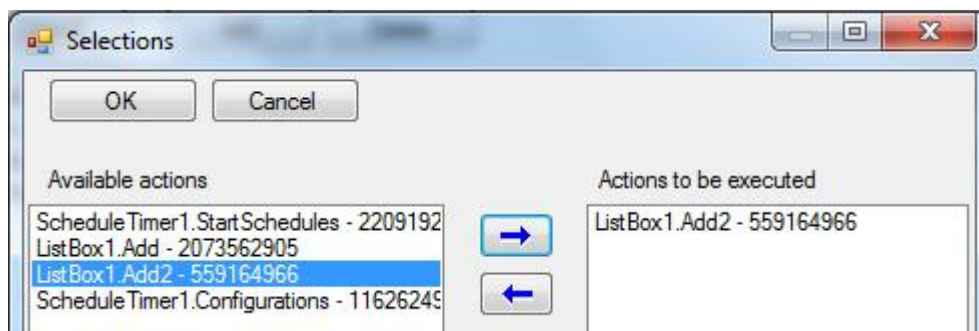
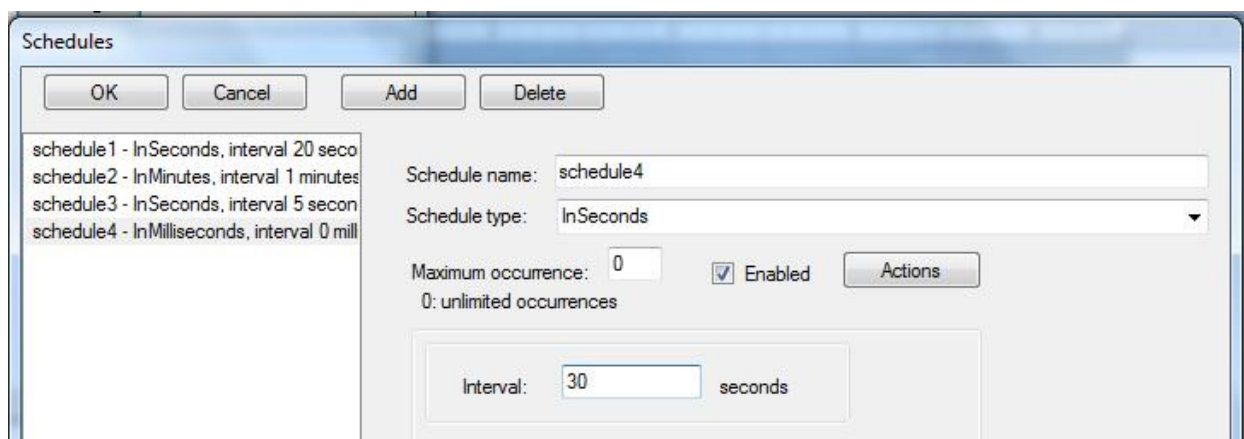


Select actions:

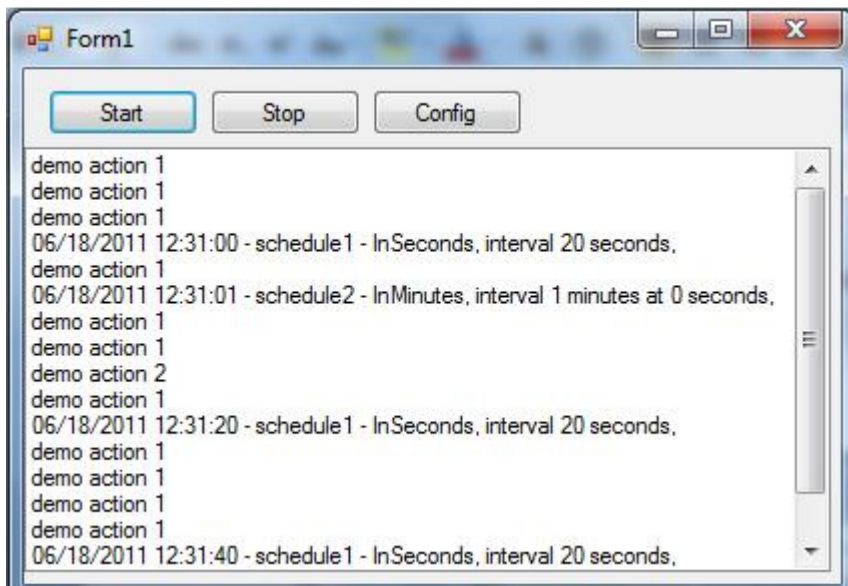
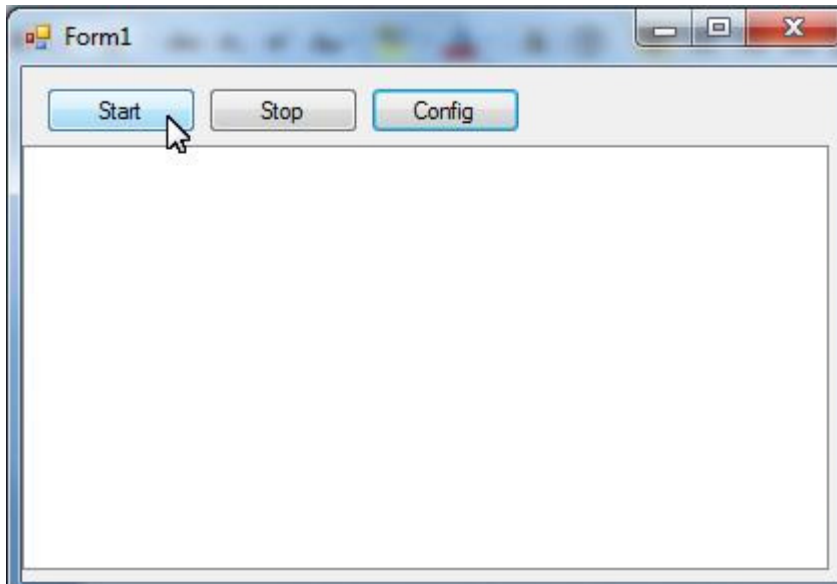




Add another schedule and make it occur every 30 seconds. Select actions for it.



Start the schedules:



“demo action 1” happened more frequently because it is executed on a schedule of every 5 seconds.

“demo action 2” happened less frequently because it is executed on a schedule of every 30 seconds.