LabVIEW NXG User Interface

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Contents

Creating User Interfaces

Create a user interface (UI) to allow a user to interact with a program.

Use the **Panel** to design a UI for your program.

Build UIs with controls and indicators. A ***control*** is an object that allows a user to input information into a program. An ***indicator*** is an object that gives the user information about the program.

1. Create a program in the **Diagram**.
2. Switch to the **Panel**.
3. From the **Palette**, add controls and indicators to the **Panel**.

> **Note** Controls and indicators have different data types, including numeric, Boolean, and string. Right-click the control or indicator to replace it with another control or indicator of the same data type.

4. Switch to the **Diagram**.
5. In the **Palette**, click **Unplaced Items** to add terminals that correspond to your controls and indicators onto the diagram.
6. Wire the new terminals into your program.
7. Click **Run**.

You can use the **Configuration pane** to change the appearance of your control or indicator.

Centering a Cursor on a Graph or Chart

If you cannot locate a cursor that you added to your graph or chart, you can reset the cursor position to the center of your graph or chart. Use the cursor legend to center a cursor.

Note Cursors are not available for intensity graphs.

1. If you do not see the cursor legend, select **Cursor Legend** in the **Parts** section on the Item tab for the graph or chart.
2. On the **Cursor Legend**, navigate to the cursor you want to center.
3. Ensure the **Visible?** button is selected.
4. Click the **Center Cursor** button to center the cursor.

Clearing Indicator Display Data in a Chart, Graph, or Array

Right-click the chart, graph, or array and select **Clear Data** to remove all data from the indicator displays.

Controlling Panel Objects Programmatically

Control a panel object, such as a control, indicator, or the panel itself, by creating a control reference to the object. Control references are either strictly typed or general. Use control references with the Panel Manipulation nodes to control panel objects programmatically.

Note The Chart class does not support the Value property whether strictly typed or general.

Strictly Typed Control References

Strictly typed control references include data type information and accept only references of the same data type. For example, if a subVI accepts a strictly typed control reference that contains a 32-bit integer data type, you can wire only a reference that also contains a 32-bit integer data type to the subVI.

Complete the following steps to create a strictly typed control reference:

1. Place a control or indicator on the panel.
2. Right-click a panel object and select **Create reference**.

3. On the diagram, place the Static Control Reference of the panel object from the Unplaced Items tray and right-click the reference to create a control, indicator, or constant.

General Control References

General control references are flexible in the type of data they accept. For example, if a subVI accepts a general slide reference, you can wire a reference to a 32-bit integer slide, single-precision slide, or a cluster of 32-bit integer slides to the slide reference terminal of the subVI.

The **Behavior** section on the Item tab displays the following statement if a control reference is general:

```
Reference does not include value data type
```

Note The Value property is not available on general control references.

Complete the following steps to create a general control reference:

1. Place a Control Reference on the panel.
2. On the diagram, place the Control Reference from the Unplaced Items tray and click the **Select reference type** button next to the **Reference type** option on the Item tab to select a type.

Creating Controls Dynamically on a Panel

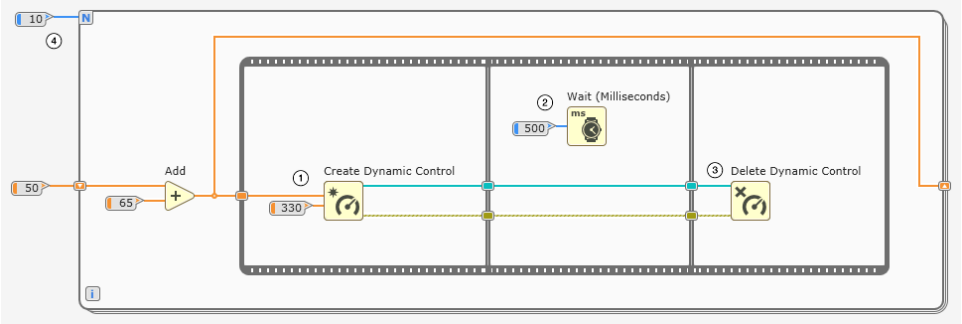
G Types allow you to reuse controls throughout your project. You can use G Types to create and delete controls dynamically at run time.

What to Use

- Create Dynamic Control
- Delete Dynamic Control
- Wait (Milliseconds)
- Sequence Structure
- For Loop

What to Do

Create the following diagram to create and delete controls at run time.



①	Create a control on the panel according to the specified x and y positions. Select the Create Dynamic Control node and use the **Data type** option on the Item tab to specify the G Type that contains the control. The Create Dynamic Control node also returns a reference to the control.
②	Wait for 500 milliseconds before executing the next subdiagram. You can add a Property Node to change the properties of the control.
③	Delete the control from the panel.
④	Repeat the subdiagram for ten times. The shift registers pass the x position value from one iteration to the next.

Setting the Tabbing Order for Controls on the Panel

Controls on the panel have an order, called tabbing order, that is unrelated to their position on the panel.

Tabbing order is based on the order in which you place controls on the panel. The first control you create on the panel is element 0, the second is 1, and so on. If you delete a control, the tabbing order adjusts automatically. The tabbing order determines the order in which the software selects controls when the user presses the <Tab> key while a VI runs.

Use the **Tab Order** on the Document tab to configure tabbing order for controls on the panel.

Writing Multiple Plots to a Graph or Chart

Before you write multiple plots to a graph or chart, you must generate all the data sets you want to plot. Make sure each set of data has the same data type.

1. Wire each set of data you want to plot to a Build Array node.
2. Wire the `appended array` output from Build Array to a graph or chart indicator. If your data consists of numeric, complex, or cluster values, `appended array` is a 2D array. Each row of the array is a separate plot. If your data consists of waveforms, `appended array` is a 1D array. Each waveform is a separate plot.