Tips and Tricks to Speed LabVIEW Development Useful Nuggets to Save You Time



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Agenda

- 15 Tips and Tricks for NI LabVIEW Development
 - Beginner: Simple tricks to save time
 - Intermediate: LabVIEW tips you probably didn't know about
 - Advanced: Useful nuggets to put you ahead of the game
- New features in LabVIEW 8.5



Automatically Select the Right Tool

- Avoid manually switching among many tools
 - Moperate Value Tool
 - Position/Size/Select Tool
 - A Edit Text Tool
 - Connect Wire Tool



Darren says: "Come on, just try it!"





Hold Down Ctrl and Left-Click on Input Terminal



Note: This works only for functions with two inputs when both inputs have already been wired.



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Easily Scroll Through Structures

- You can use Ctrl + Mouse Scroll to scroll through:
 - Case Structures
 - Event Structures
 - Stacked Sequence Structures
 - Diagram Disable Structures







• Right-click on a block diagram object for a palette shortcut

	Visible Items	+
	Help	
	Examples	
	Description and Tip	
	Set Breakpoint	
(Numeric Palette	•
	Create	•
	Replace	۲
	Properties	

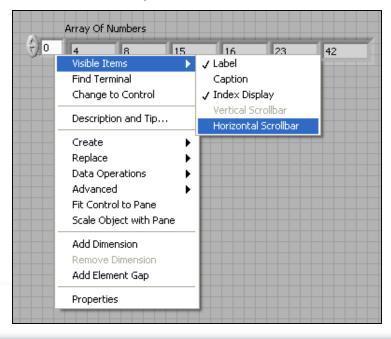
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	Visible Items)
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	Examples	
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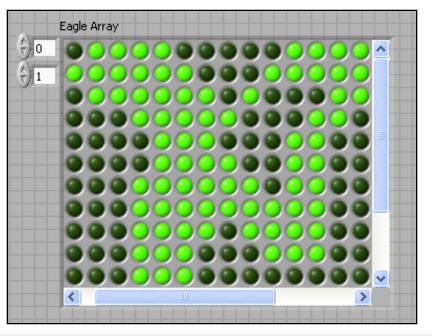
0000	Visible Items	۲
	Help	
	Examples	
	Description and Tip	
	Set Breakpoint	
	Dialog & User Interface Palette	•
	Cluster, Class, & Variant Palette	
	Create	۲
	Replace	



5/15 Easily Navigate Arrays

- Right-click on an array and select Visible Items >> Horizontal Scrollbar (or Visible Items >> Vertical Scrollbar)
- To view last element, select Advanced >> Show Last Element
- Both horizontal and vertical scrollbars available (depending on array dimensions)









Select Edit >> Remove Breakpoints from Hierarchy •

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Redo	Ctrl+Shift+Z		20000
Cu <u>t</u>	Ctrl+X		
Copy	Ctrl+C		
<u>P</u> aste	Ctrl+V		
Delete Select All	Ctrl+A	ample shows how the Write and Read Text File functions : using different options. Click the Run button to execute	
Make Current Values Default Reinitialize Values to Default		mine the behavior of each case.	
Customiz <u>e</u> Control Import Picture to Clipboard Set Tabbing <u>O</u> rder		Path", Default ▼▶	
Remove <u>B</u> roken Wires	Ctrl+B		
Remove Breakpoints from Hierard	hy	Path	
Create <u>S</u> ubVI			
Enable Diagram <u>G</u> rid Alignment Align Items	Ctrl+# Ctrl+Shift+A	Write Text	
Distribute Items	Ctrl+D		
VI Revision Histor <u>y</u> <u>R</u> un-Time Menu	Ctrl+Y	the Write and Read Text File functions can identify using a path. This case shows how the functions	
Eind and Replace	Ctrl+F	execute when a path is defined.	
Show Search Results	Ctrl+Shift+F		

Note: Only available in LabVIEW 8.20 and later.



Easily Add Enumeration Items

- Press Ctrl while over an Enum to use the Text Tool
- Use Shift + Enter to repeatedly add items

Items	Digital Display	^	Insert
Item 1	0		
Item 2	1		Delete
Item 3	2		Move Up
[Item 4]	3	•	Move Down

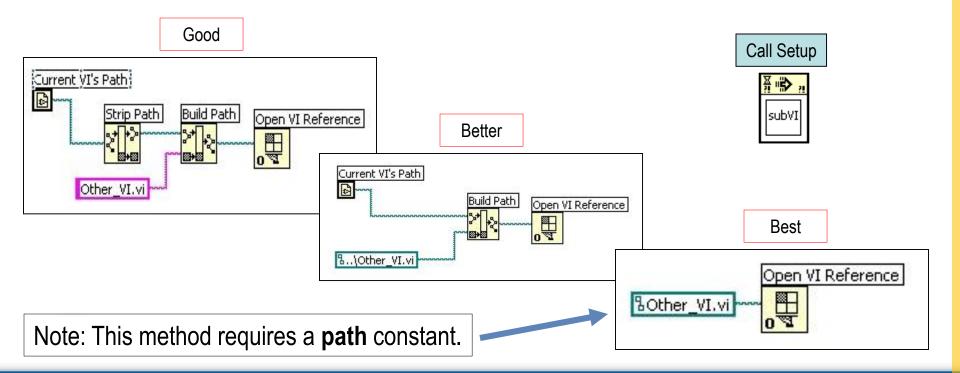
Enum	
- () Item 4	

Shift + Enter





- LabVIEW automatically looks in the current directory
- Right-click on VI and select Call Setup to call it dynamically

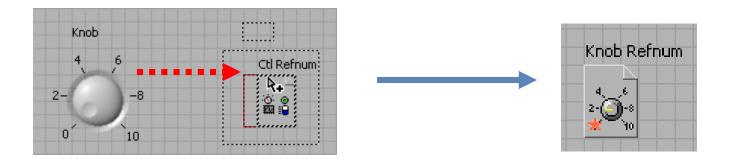




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Automatically Create Control References

- Simply drag a control into a Control Refnum
- Automatically creates a class-specific, type-specific reference

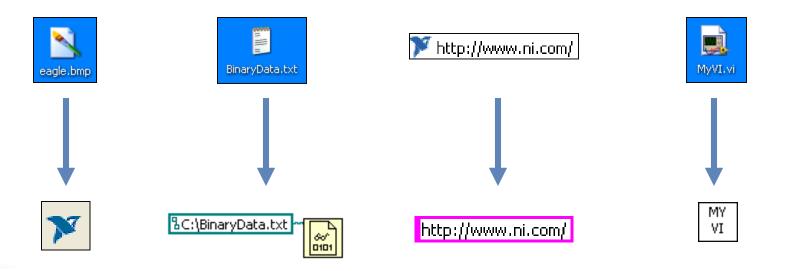


Note: To keep the original control, use Ctrl-Drag instead.



Drag and Drop to Save Time

- Drag an image into your VI icon
- Select a file and drag into a path constant
- Take a URL from Internet Explorer and drag into a string constant
- Drag items from disk or Project Explorer into a LabVIEW block diagram





Quickly Browse Properties and Methods

- View >> Class Browser
- Shortcut: Ctrl + Shift + B
- Drag a property or method directly into your VI

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Class Browser 🛛 🛛 🕅				
Object library VI Server				
Class				
VI Stand Methods				
 Properties Auto Logging Automatic Error Handling Callees' Names Callers' Names Edit Mode On Open Execution Expand When Dropped As SubVI Front Panel Front Panel Window Help 				
Selected property or method				
Create Create Write Help				



Perform Advanced File I/O Tasks

• New File I/O VIs in LabVIEW 8.20



Recursive File List



Check If File or Folder Exists



Get File Extension



Compare Two Paths



Generate Temporary File Path

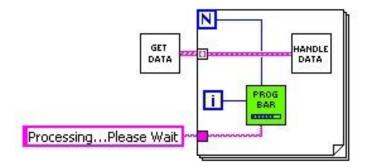


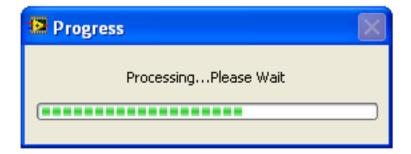
MD5 Checksum File



13/15 Implement a For Loop Progress Bar

- Place Progress Bar VI inside a For Loop
- Opens automatically after a specified amount of time
- Download sample code from ni.com/forums (search for "For Loop Progress Bar")





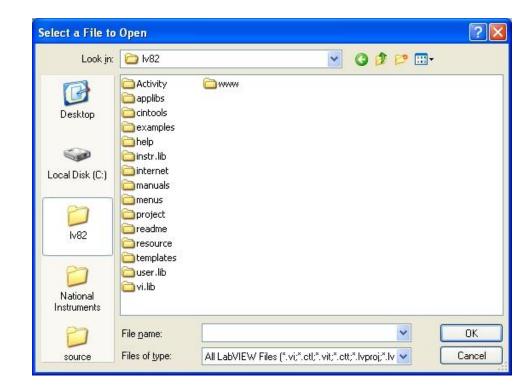


Change the Windows File Dialog (to contain recently used folders in LabVIEW)

Add LabVIEW.ini token
 "MRUFolders = TRUE"

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 Maintain easy access to the last 5 directories used in LabVIEW



Note 1: Only available in LabVIEW 8.20 and later. Note 2: Overrides TweakUI settings.



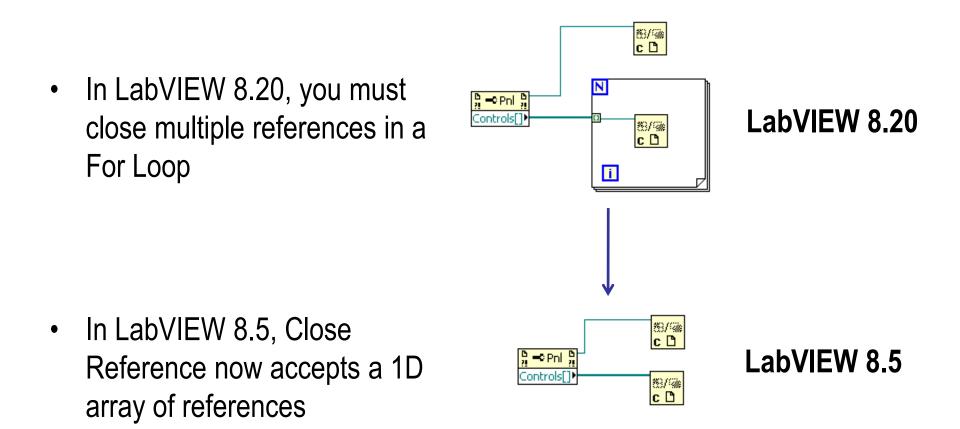
Automatically Analyze Your VIs

- Tools >> VI Analyzer >> Analyze VIs
 - Check performance, style, UI, documentation, and more
 - Save VI Analyzer settings for later use

🖻 VI Analyzer - Select Tests 📃 🗖 🔀				
Select the checkbox next to a test or group to include it i Test's Configuration. Tests Performance Style Style Control Terminal Label Visible Control Terminal Wiring Sequence Structure Usage String Constant Style Vires Bends Wires Under Objects Wires Under Objects Warnings	n the analysis. Configure a selected test with the options under Selected Selected Test's Configuration Selected Test's Configuration Image: Configuration Unused LabVIEW functions Image: Constants with functions Unnecessary Case Structures Image: Constants that are not wired Ignore string constants with scrollbars Image: Constants in Sequences and Loops Ignore Sequence Structures Image: Constants output tunnels			



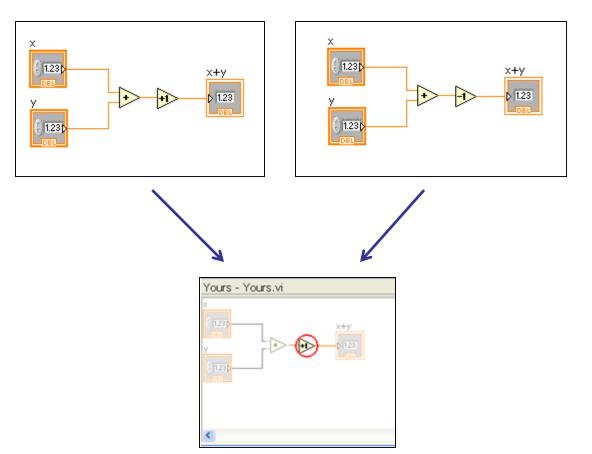
LabVIEW 8.5 - Close Arrays of References





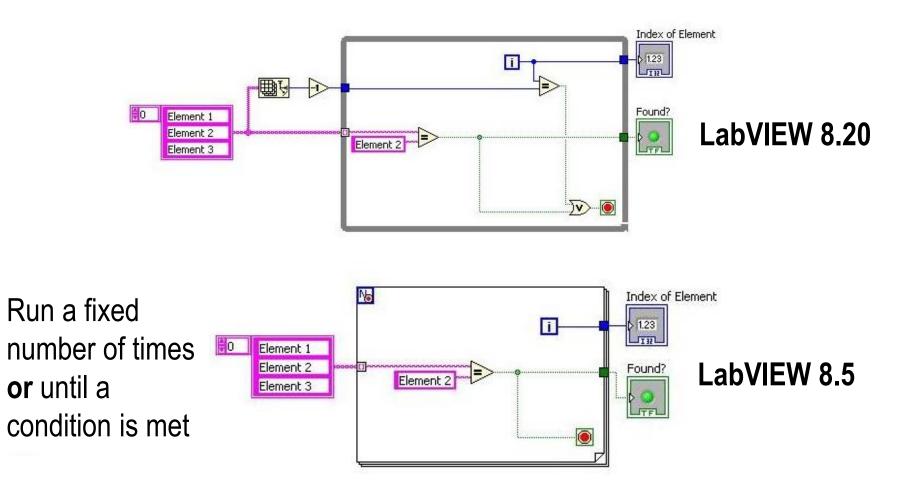
LabVIEW 8.5 - Merge Two VIs

 Track changes made to a base VI (Tools >> Merge VIs)



 Interactively decide which changes to incorporate

LabVIEW 8.5 - For Loop with Break





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Other Resources

• <u>ni.com/info</u>

(Use info code "nugget" to download presentation)

- <u>Weekly LabVIEW Nuggets</u> (ni.com/forums and search for "nuggets")
- LAVA: Favorite Tips and Shortcuts (forums.lavag.org)



Thank you for attending!





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