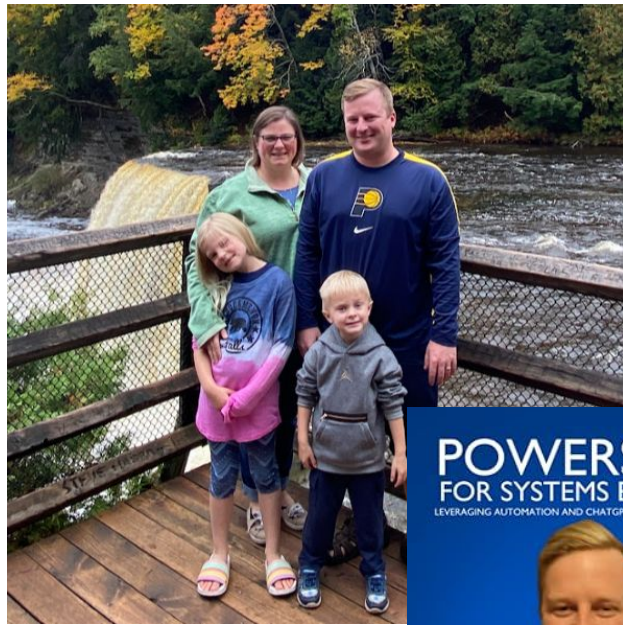

Building Graphical Applications with PowerShell 2.0

James Tyler

Overview

- Introduction
- PowerShell Pro Tools
- PoshGUI.com
- Overview of WinForm Controls
- Build a User Add App
- Converting PowerShell to .exe



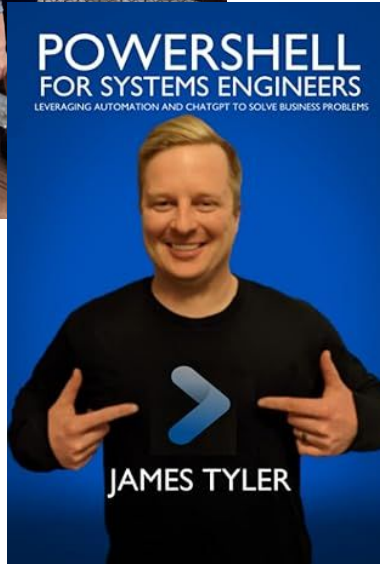
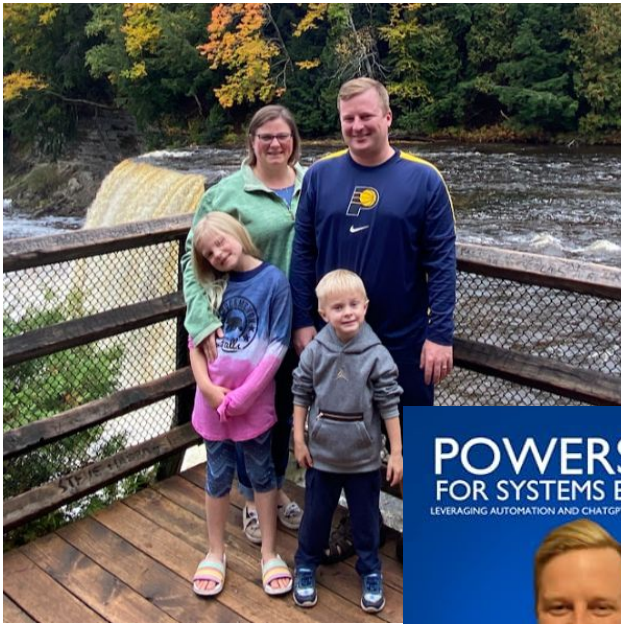
About Me

Director of Technology
Niles Community Schools &
River Valley School District

Author of
PowerShell for Systems Engineers

100K+ Views on YouTube
@PowerShellEngineer

President of Watervliet
Baseball/Softball Rec Council



About Me

Presenter at MAEDS 2022

- PowerShell GUIs
- PowerShell Storage Automation with AWS, Azure & GCP

Brief Presenter at MAEDS 2019

- Chris Thomas/Eric Krebill
PowerShell Session

SoapBox Time...

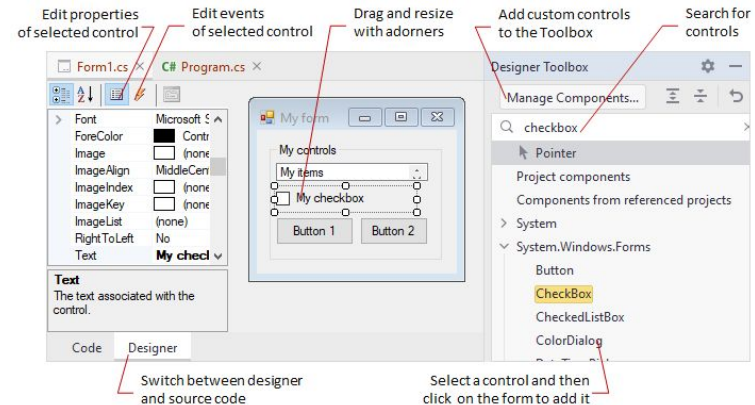
- Don't fall victim to imposter syndrome!
- I'm going to put on my Chris Thomas hat...
- Everyone has something valuable to share
- Present next year!

PowerShell Resources

- PowerShell Podcast
<https://www.youtube.com/playlist?list=PL1mL90yFExsjUS8DRkzfLUcHds7vIxxgM>
- New York PowerShell Meetup
<https://www.meetup.com/NycPowershellMeetup/>
- Steve Lee, Principal Software Engineering Manager of PowerShell
https://twitter.com/steve_msft
- Jeff Hicks Newsletter - “Behind the Pipeline”
<https://jeffhicks.substack.com/>

Why use graphical apps?

- Make repeated tasks easier
- Make repeated tasks faster
- Make repeated tasks more accurate
- Make tools portable for frontline technical staff

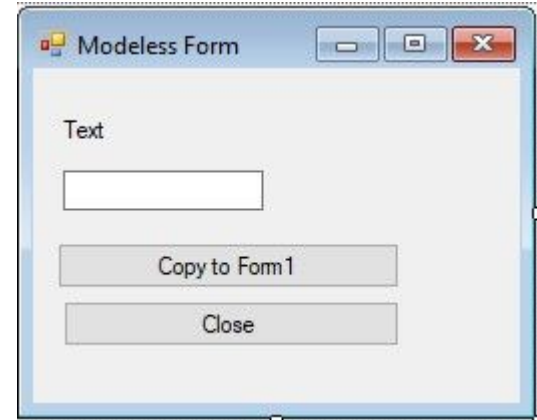




Windows Forms

What are Windows Forms?

- Windows Forms is a UI framework for building Windows desktop apps. It provides one of the most productive ways to create desktop apps based on the visual designer provided in Visual Studio. Functionality such as drag-and-drop placement of visual controls makes it easy to build desktop apps.



Why Windows Forms?

Simplicity in Design

Simplicity in Coding

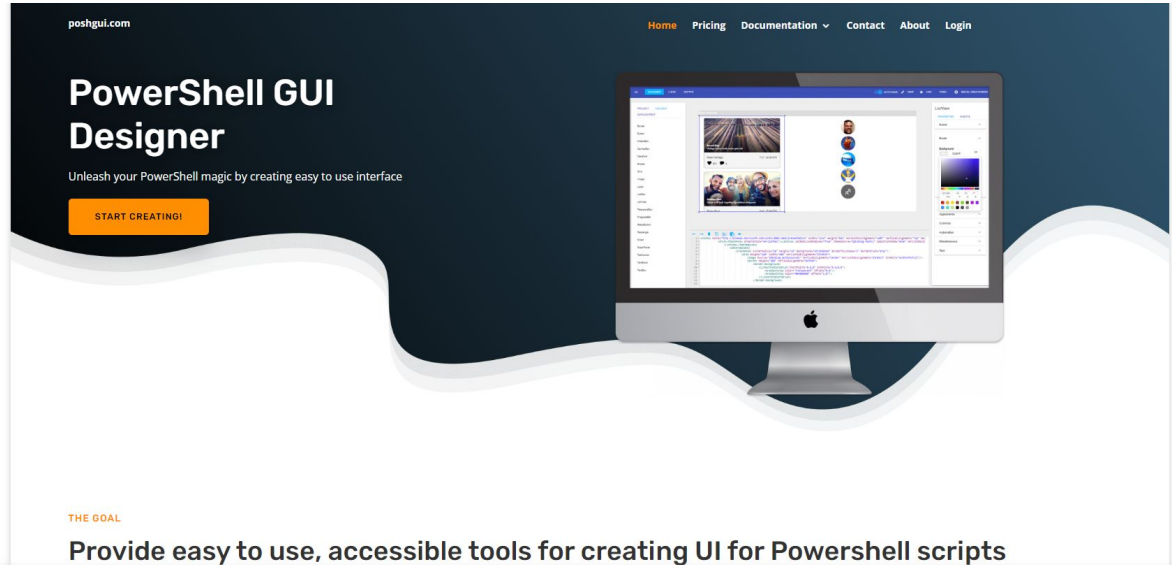


Windows Forms

PoshGUI.com

\$6.99/m

- WPF Designer
- Winforms Designer
- Cmdlet Builder
- Code Editor



Code Examples

<https://github.com/jimrtyler>



Initializing an Empty Form

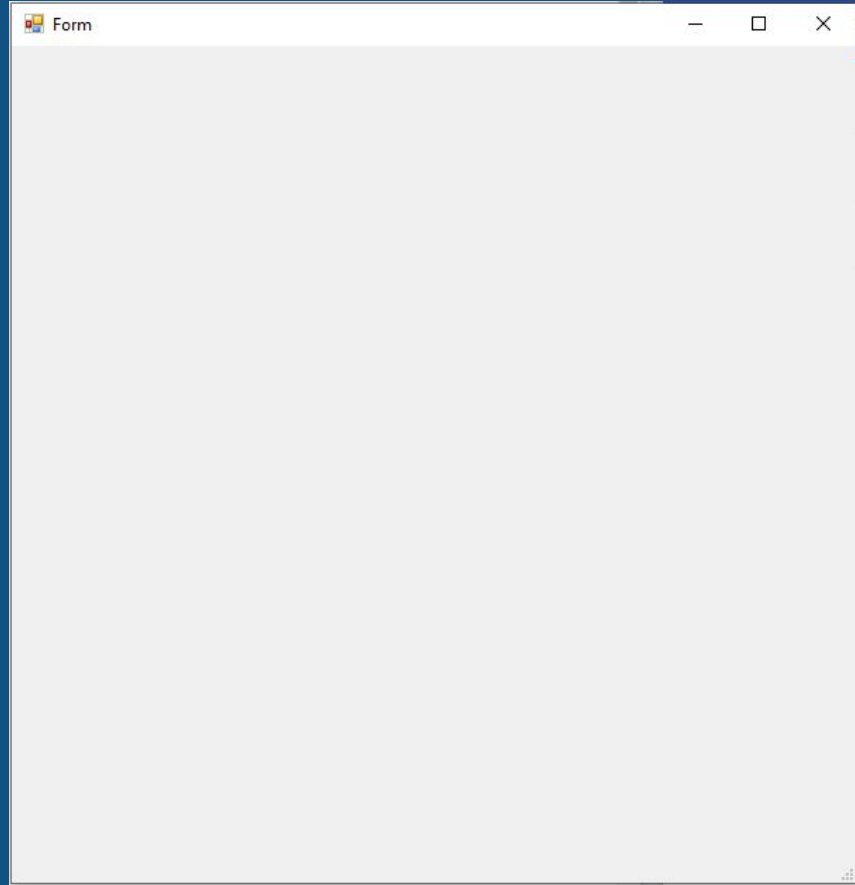
```
Add-Type -AssemblyName System.Windows.Forms
```

```
[System.Windows.Forms.Application]::EnableVisualStyles()
```

```
$Form = New-Object system.Windows.Forms.Form  
$Form.ClientSize = New-Object  
System.Drawing.Point(600,600)  
$Form.text = "Form"  
$Form.TopMost = $false
```

```
[void]$Form.ShowDialog()
```

Initializing an Empty Form



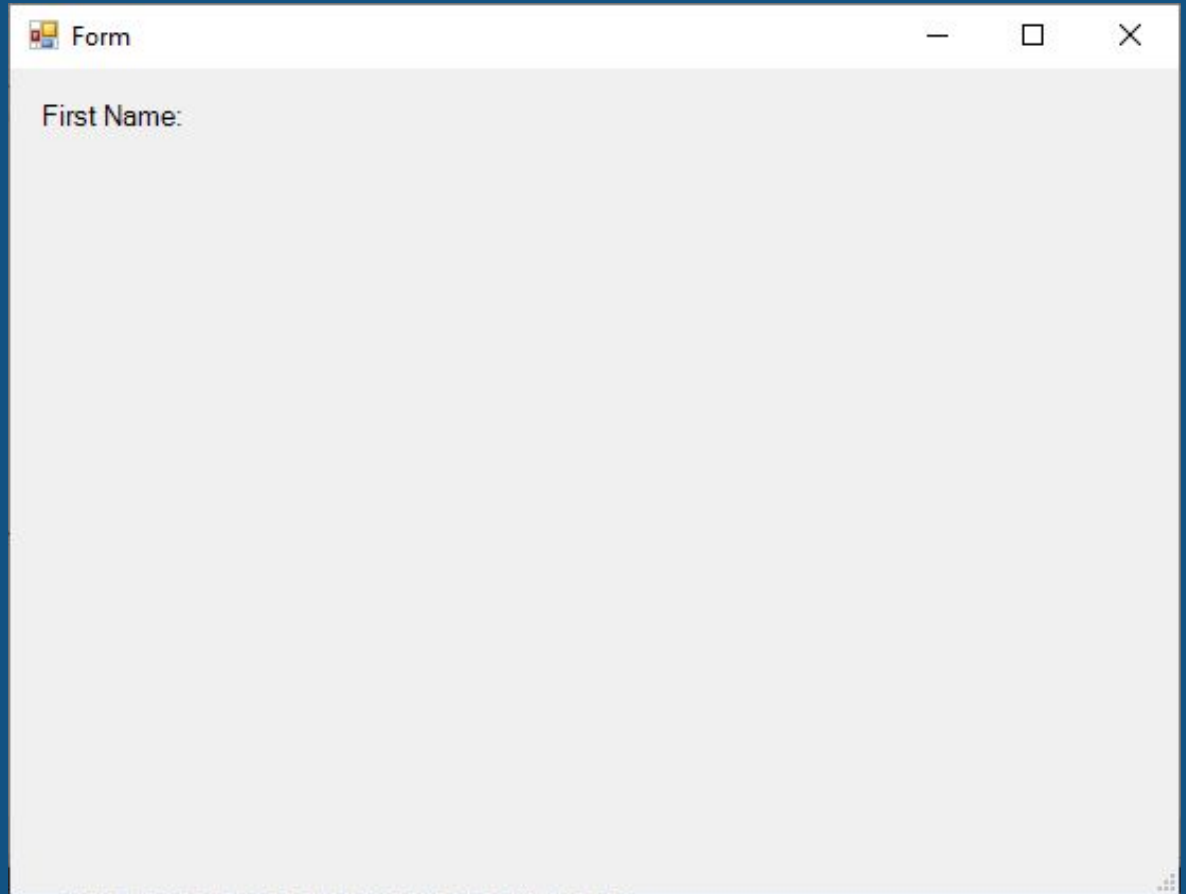
Label

```
$FirstNameLabel = New-Object system.Windows.Forms.Label
$FirstNameLabel.text           = "First Name:"
$FirstNameLabel.AutoSize       = $true
$FirstNameLabel.width          = 25
$FirstNameLabel.height         = 10
$FirstNameLabel.location       = New-Object
System.Drawing.Point(13,14)
$FirstNameLabel.Font           = New-Object
System.Drawing.Font('Microsoft Sans Serif',10)

$Form.controls.AddRange(@($FirstNameLabel))

[void]$Form.ShowDialog()
```

Label

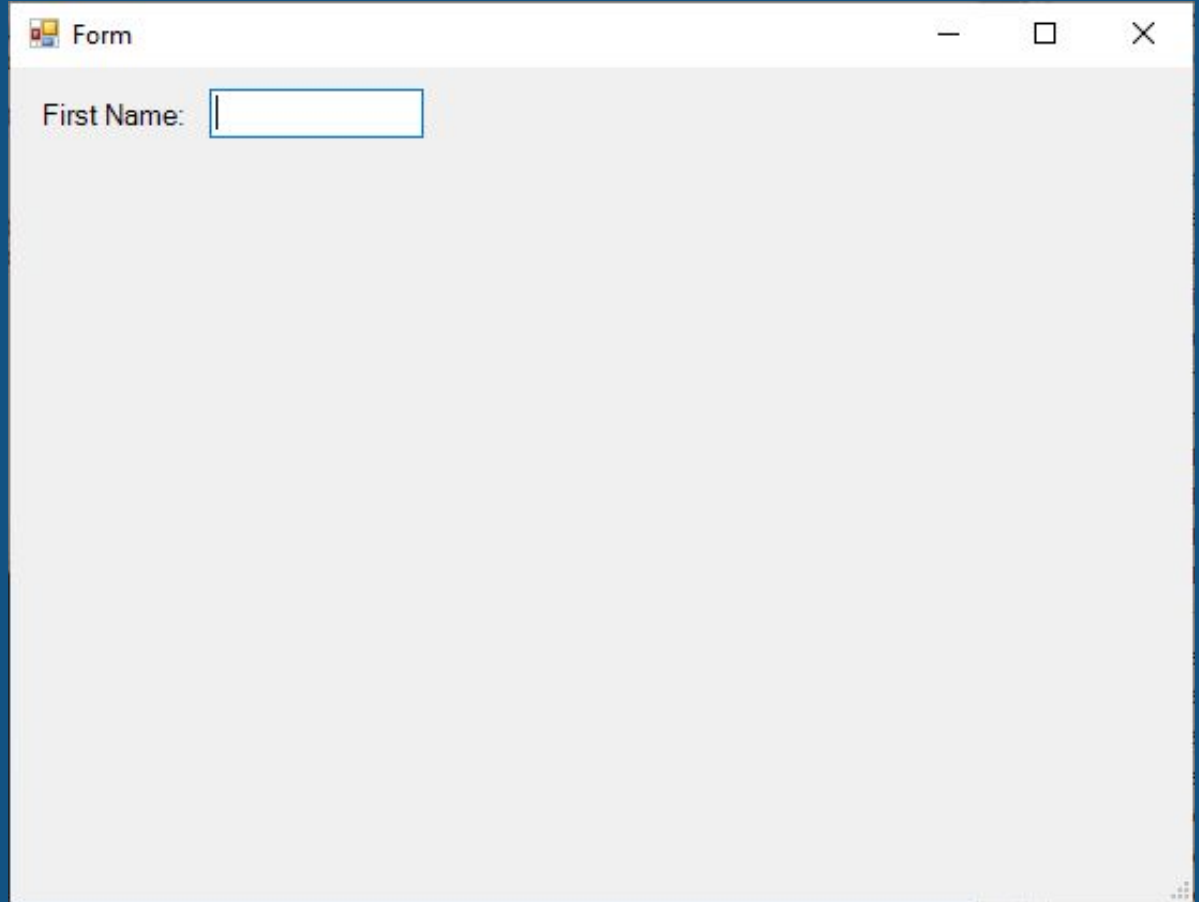


A screenshot of a Windows-style window titled "Form". The window has a standard title bar with minimize, maximize, and close buttons. The main content area is light gray and contains a single text label "First Name:" in the top-left corner. The window is set against a solid dark blue background.

Text Box

```
$FirstNameTextBox = New-Object  
system.Windows.Forms.TextBox  
$FirstNameTextBox.multiline = $false  
$FirstNameTextBox.width = 100  
$FirstNameTextBox.height = 20  
$FirstNameTextBox.location = New-Object  
System.Drawing.Point(93,10)  
$FirstNameTextBox.Font = New-Object  
System.Drawing.Font('Microsoft Sans Serif',10)  
  
$Form.controls.AddRange(@( $FirstNameLabel, $FirstNameTextBo  
x) )  
  
[void]$Form.ShowDialog()
```

Text Box

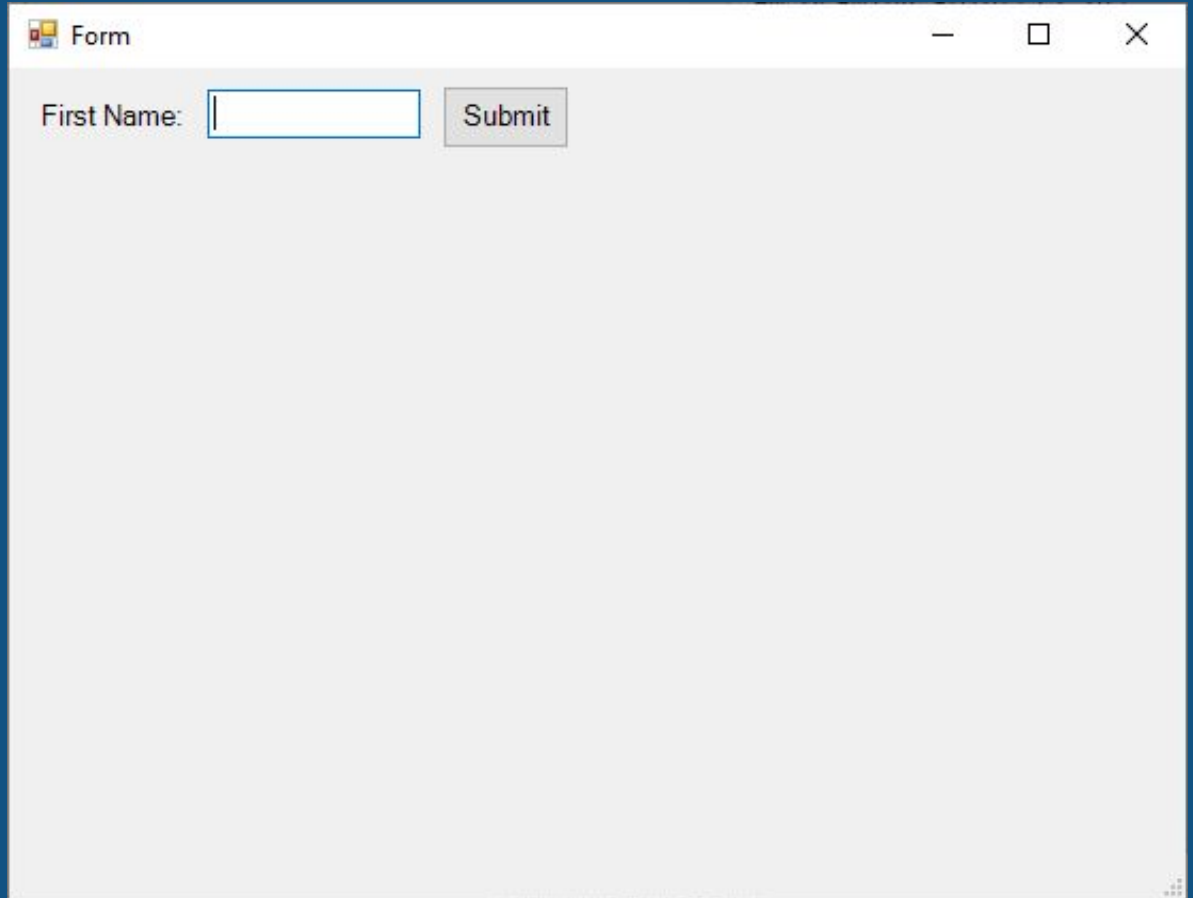


A screenshot of a Windows-style window titled "Form". The window has a white title bar with standard minimize, maximize, and close buttons. The main content area is light gray. In the top-left corner of the content area, the text "First Name:" is displayed in a black, sans-serif font. To the right of this text is a rectangular text box with a thin blue border and a vertical cursor inside, indicating it is ready for input.

Button

```
$SubmitBtn = New-Object system.Windows.Forms.Button  
$SubmitBtn.text = "Submit"  
$SubmitBtn.width = 60  
$SubmitBtn.height = 30  
$SubmitBtn.location = New-Object  
System.Drawing.Point(203,8)  
$SubmitBtn.Font = New-Object  
System.Drawing.Font('Microsoft Sans Serif',10)
```

Button



A screenshot of a Windows-style window titled "Form". The window has a standard title bar with minimize, maximize, and close buttons. Inside the window, there is a label "First Name:" followed by a text input field. To the right of the input field is a button labeled "Submit".

Form

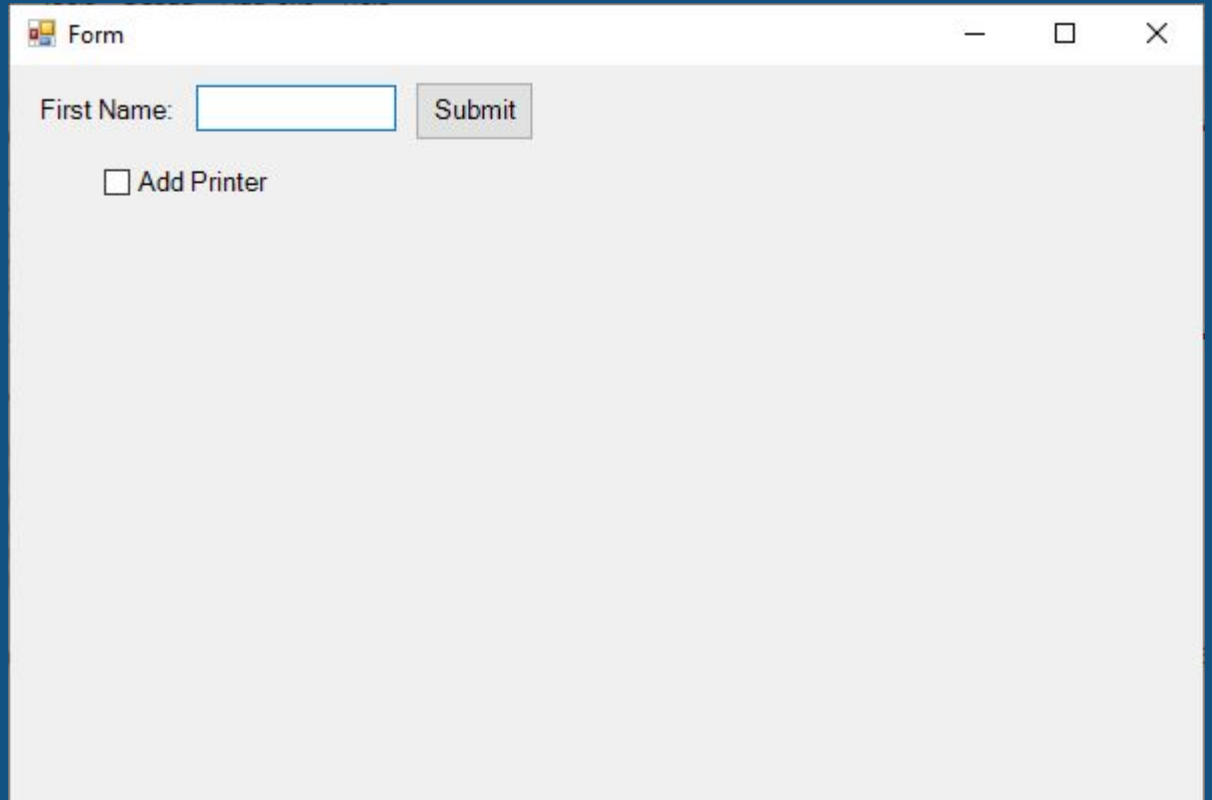
First Name:

Submit

Checkbox

```
$AddPrinterCheckBox = New-Object  
system.Windows.Forms.CheckBox  
$AddPrinterCheckBox.text           = "Add Printer"  
$AddPrinterCheckBox.AutoSize       = $false  
$AddPrinterCheckBox.width          = 95  
$AddPrinterCheckBox.height         = 20  
$AddPrinterCheckBox.location       = New-Object  
System.Drawing.Point(47,49)  
$AddPrinterCheckBox.Font            = New-Object  
System.Drawing.Font('Microsoft Sans Serif',10)
```

Checkbox



A screenshot of a web browser window displaying a form titled "Form". The form contains a text input field labeled "First Name:", a "Submit" button, and a checkbox labeled "Add Printer".

Form

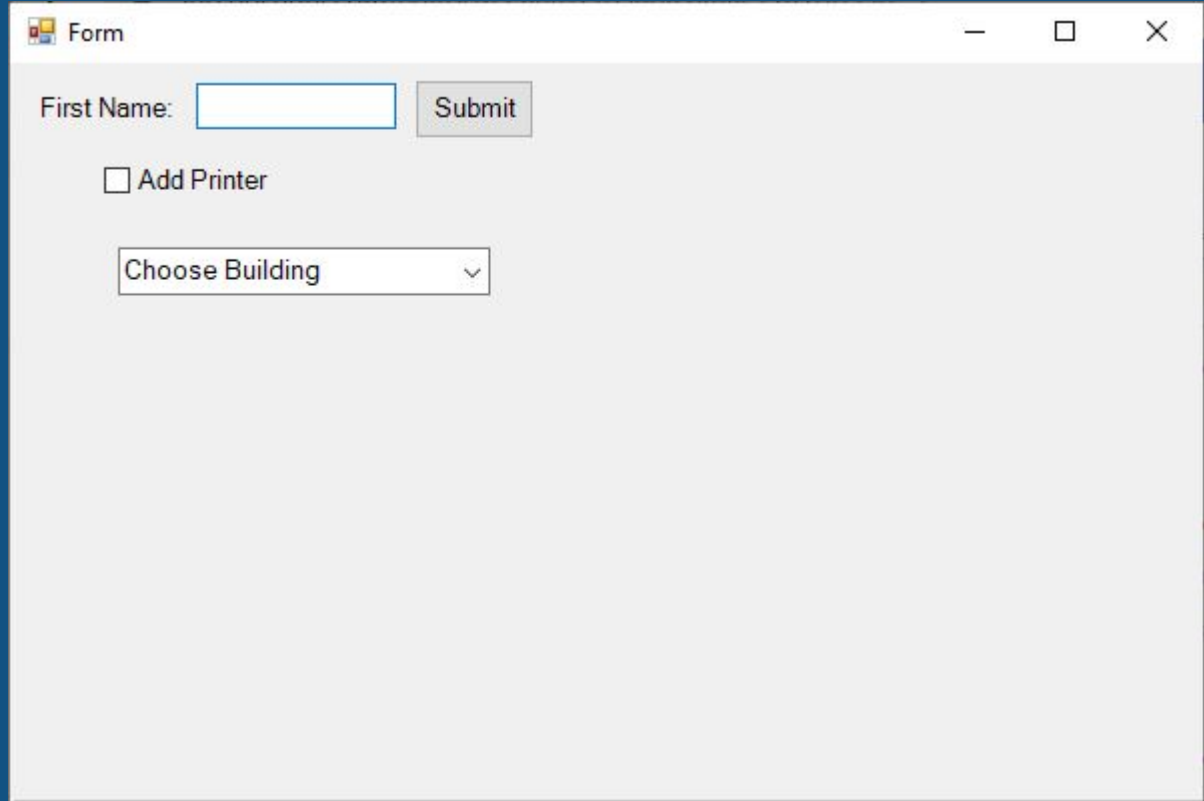
First Name:

☐ Add Printer

Combo Box

```
$ChooseBuildingComboBox          = New-Object  
system.Windows.Forms.ComboBox  
$ChooseBuildingComboBox.text     = "Choose Building"  
$ChooseBuildingComboBox.width    = 186  
$ChooseBuildingComboBox.height   = 20  
$ChooseBuildingComboBox.location = New-Object  
System.Drawing.Point(54,92)  
$ChooseBuildingComboBox.Font      = New-Object  
System.Drawing.Font('Microsoft Sans Serif',10)
```

Combo Box



A screenshot of a Windows application window titled "Form". The window contains the following elements:

- A text label "First Name:" followed by a text input box.
- A "Submit" button to the right of the text input box.
- A checkbox labeled "Add Printer" below the text input box.
- A combo box labeled "Choose Building" with a dropdown arrow on the right.

Picture Box


```
$PictureBox1 = New-Object system.Windows.Forms.PictureBox
$PictureBox1.width = 192
$PictureBox1.height = 167
$PictureBox1.location = New-Object
System.Drawing.Point(340,28)
$PictureBox1.imageLocation =
"https://upload.wikimedia.org/wikipedia/commons/a/af/PowerShell_Core_6.0_icon.png"
$PictureBox1.SizeMode =
[System.Windows.Forms.PictureBoxSizeMode]::zoom
```

Picture Box

Form

First Name:

☐ Add Printer



Show/Hide Console

```
# .Net methods for hiding/showing the console in the  
background  
  
Add-Type -Name Window -Namespace Console  
-MemberDefinition ' [DllImport("Kernel32.dll")] public  
static extern IntPtr GetConsoleWindow();  
[DllImport("user32.dll")] public static extern bool  
ShowWindow(IntPtr hWnd, Int32 nCmdShow); '
```

Active Directory User Add Form



Windows Forms

Making Windows Forms Applications with ChatGPT



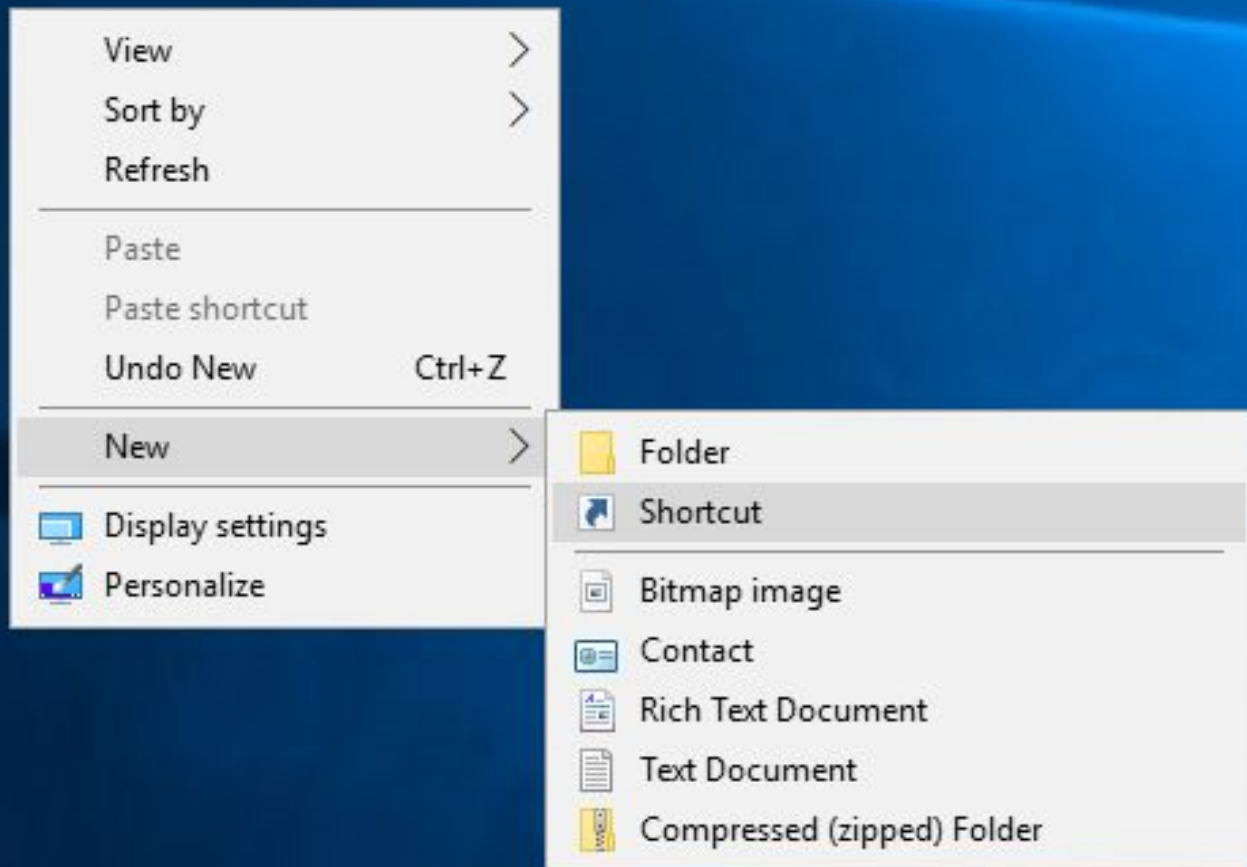
Show/Hide Console

```
function Show-Console {  
  
    $consolePtr = [Console.Window]::GetConsoleWindow()  
  
    # Hide = 0,  
    # ShowNormal = 1,  
    # ShowMinimized = 2,  
    # ShowMaximized = 3,  
    # Maximize = 3,  
    # ShowNormalNoActivate = 4,  
    # Show = 5,  
    # Minimize = 6,  
    # ShowMinNoActivate = 7,  
    # ShowNoActivate = 8,  
    # Restore = 9,  
    # ShowDefault = 10,  
    # ForceMinimized = 11  
  
    [Console.Window]::ShowWindow($consolePtr, 4)  
  
}
```

Show/Hide Console

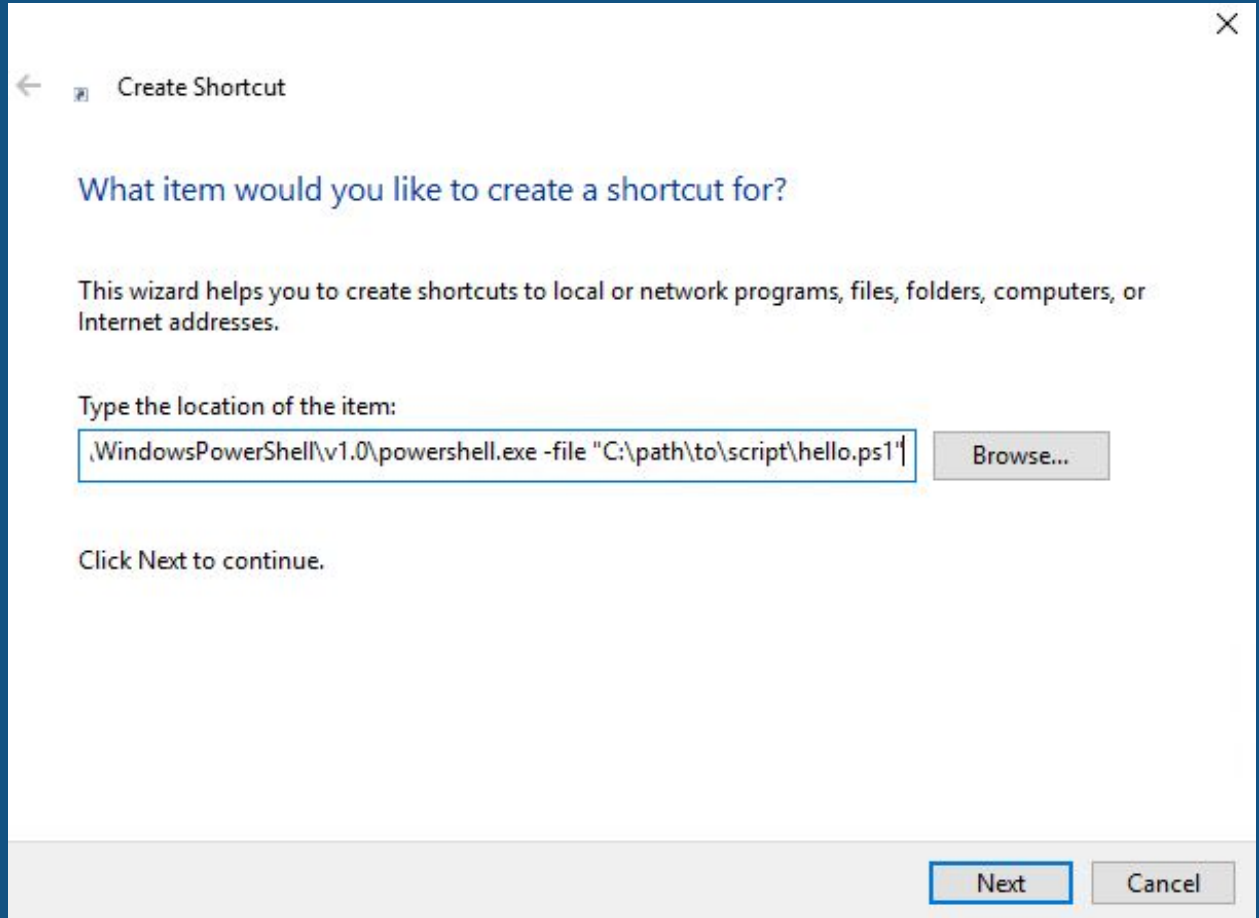
```
function Hide-Console {  
    $consolePtr = [Console.Window]::GetConsoleWindow()  
    #0 hide  
    [Console.Window]::ShowWindow($consolePtr, 0)  
}  
  
Hide-Console
```

One-Click Run Script

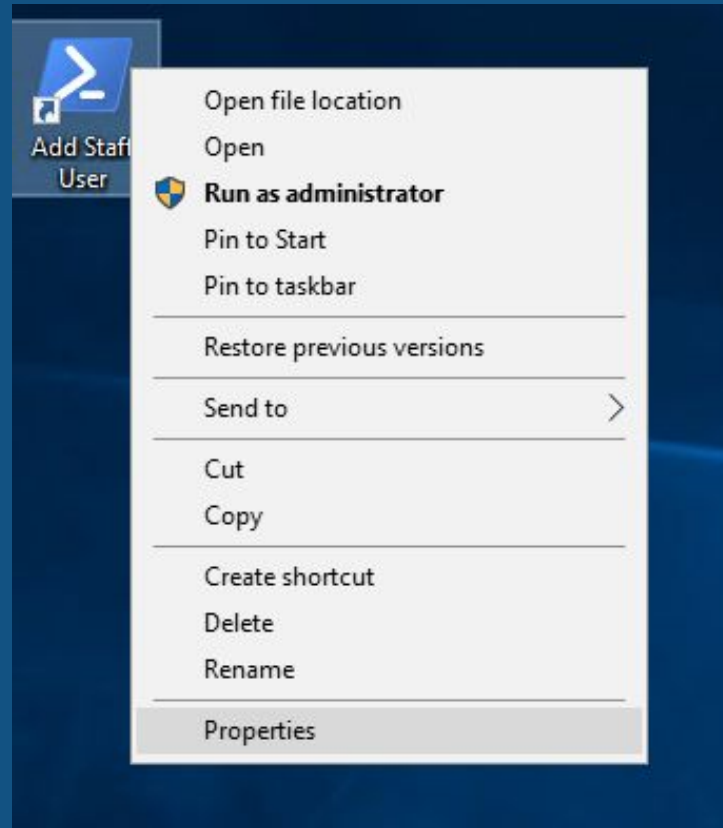


One-Click Run Script

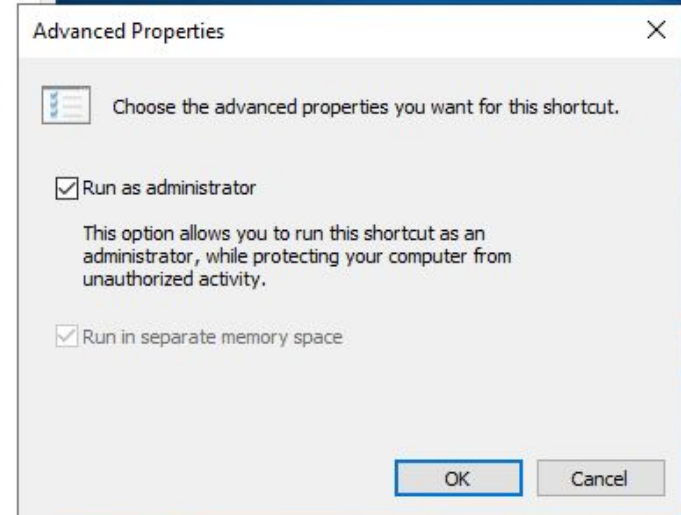
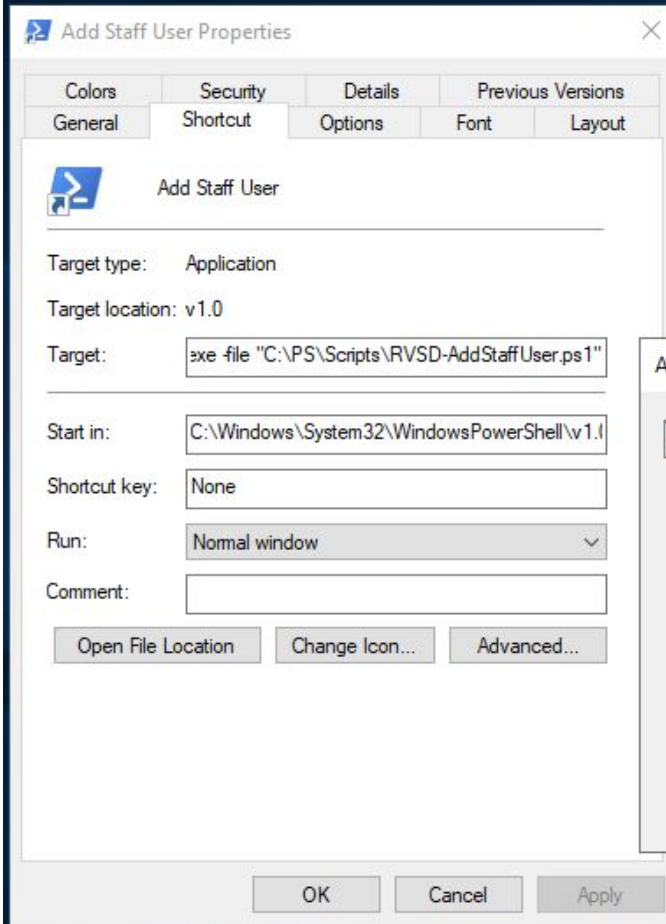
```
C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe  
-file "C:\path\to\script\hello.ps1"
```



Run As Administrator



Run As Administrator



Questions?



Windows Forms

Install-Module ps2exe



Windows Forms





Auf Wiedersehen

YouTube

<https://youtube.com/@PowerShellEngineer>

LinkedIn:

<https://linkedin.com/in/jamestyler>