

Graphical Enhancements

DireXions 2026



Control Object Properties

Control Object Properties

- Control Object Properties provide greater control over the appearance and behavior of graphical controls — dynamically at runtime
- Why use them?
  - Modernize existing application interfaces
  - Customize control appearance and behavior
  - Modify control properties without recreating controls
  - Improve application usability
- Supported in both NOMADS and non-NOMADS environments

New Properties

Property	Description	Controls
CBCornerRadius$	Supports rounded corners for standard check boxes	Check Box Tri-State Check Box
CornerRadius$	Supports rounded corners for controls	Button Check Box (image) Drop Box List Box Multi-Line Radio Button (image) Tri-State Check Box (image) Variable Drop Box

New Properties

Property	Description	Controls
FieldHeight	Controls the height of the drop box input and drop list area in pixels	Drop Box Variable Drop Box
FocusRect	Suppress or display the dotted focus rectangle on controls	Button Check Box Drop Box List Box Radio Button Tri-State Check Box

Corner Radius Property

- New CornerRadius property sets the corner radius for applicable controls
- Works only in 4D mode
- Buttons are flat
- Various property values are available for each control type
  - Null - Property is not set
  - Round - Sets the default radius of 3 for round corners
  - Square - Sets the default radius of 0 for square corners
  - Value - Enter a value from 0 to 255 inclusive. Depends on control type

Note: Corner rounding is limited based on the control type and/or the control size

Corner Radius Property

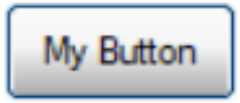
Supported Controls

Control	Supported Range	Property Name
Button	0 to 255 inclusive	CornerRadius$
Check Box, Tri-State Check Box Standard	0 to 255 inclusive	CBCornerRadius$
Check Box Tri-State Check Box with Image	0 to 255 inclusive	CornerRadius$
Drop Box, Variable Drop Box	0 to 3 inclusive	CornerRadius$
List Box	0 to 8 inclusive	CornerRadius$
Multi-Line	0 to 7 inclusive	CornerRadius$
Radio Button with Image	0 to 255 inclusive	CornerRadius$

- All controls set to Round will have a default round radius of 3

Corner Radius Example - Button

print '4D'
x=100
Button x, @(10, 10, 12, 2)="My Button"



x'cornerradius$="round"



x'cornerradius$="30"



x'cornerradius$="square"



z=101
Button z,@(10.10,6.3)="{!X}"



z'cornerradius$="round"



z'cornerradius$="30"



Corner Radius Example – Standard Check Box

print '4D'
x=100
Check Box x, @(10, 10, 15, 1)="My Check Box"



x'cbcornerradius$="round"



x'cbcornerradius$="10"



x'cbcornerradius$="square"



Focus Rectangle Property

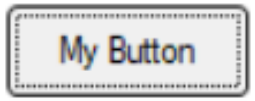
- New FocusRect property controls whether the focus rectangle is displayed when a control has focus
- Can be shown or suppressed for a cleaner, more modern interface
- Provides greater control over the visual appearance of focused controls
- Can be configured for individual controls
- Supported across a variety of graphical controls

Focus Rectangle Example – Button/Check Box

print '4D'
x=100
Button x, @(10, 10, 12, 2)="My Button"



x'cornerradius$="round"



x'focusrect=0



print '4D'
x=100
check_box x,@(10,10,15,1)="My Checkbox"



x'focusrect=0



x'CBcornerradius$="round"

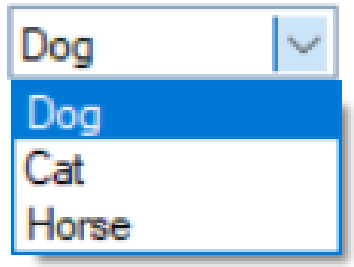


Field Height Property

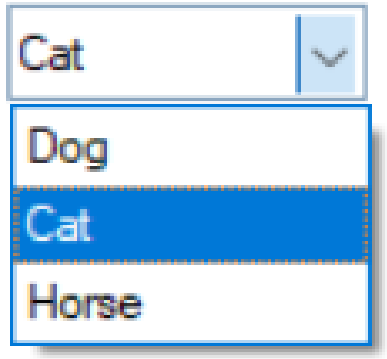
- New FieldHeight property for Drop Box and Variable Drop Box controls
- Controls the height of the input area and drop-down entries in pixels
- Applies the same height to each line in the drop-down section
- Vertically centers text within the control
- Provides greater flexibility for creating larger, cleaner, and more modern controls

Field Height Example – Drop Box

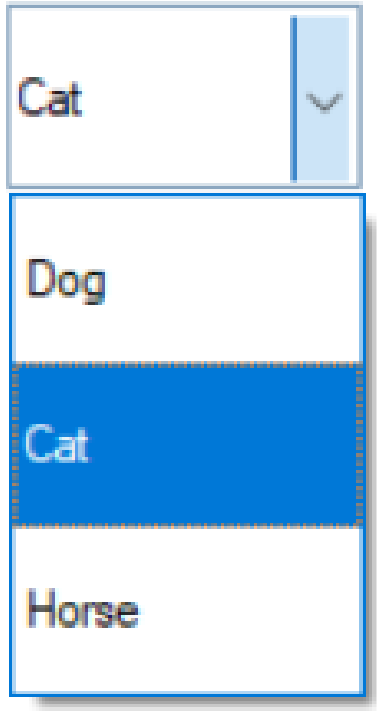
x=100
drop_box x,@(10,10,12,6)
drop_box load x,"Dog/Cat/Horse"



fieldheight=20



fieldheight=40



‘Option’ Mnemonics

- ‘Option’ Mnemonics allow for specific PxPlus environment properties to be set or changed
- Set from a START_UP program, application code, or INI entries
- Changes can be made on the fly within the current PxPlus session
- Dynamically adjust settings when needed rather than requiring a restart or permanent configuration change
- Standardize application behavior and appearance
- 'OPTION' environment property can be retrieved using FIN(0, keyword$) function
- Supported in both NOMADS and non-NOMADS environments
- Added three new Option Mnemonics
  - Corner Radius
  - Focus Rectangle
  - Tab Close Button

‘Option’ Mnemonics – Corner Radius

Corner Radius options for creating round controls

Property	Description
CornerRadBtn	Option to set the corner radius for all Button controls
CornerRadCB	Option to set the corner radius for all standard Check Box and Tri-State Check Box controls
CornerRadCBImg	Option to set the corner radius for all Check Box controls with an image
CornerRadDB	Option to set the corner radius for all Drop Box and Variable Drop Box controls

‘Option’ Mnemonics – Corner Radius

Corner Radius options for creating round controls

Property	Description
CornerRadLB	Option to set the corner radius for all types of List Box controls except Report View and Variable List Boxes
CornerRadML	Option to set the corner radius for all Multi-Line controls
CornerRadRBImg	Option to set the corner radius for all Radio Button controls with an image

‘Option’ Mnemonics – Focus Rectangle

Focus Rectangle options for suppressing or displaying the dotted focus rectangle on controls

Property	Description
FocusRectBtn	Option to suppress or display the focus rectangle for Button controls
FocusRectCB	Option to suppress or display the focus rectangle for Check Box controls and Tri-State Check Box controls (with and without an image)
FocusRectDB	Option to suppress or display the focus rectangle for Drop Box controls except Variable Drop Boxes
FocusRectLB	Option to suppress or display the focus rectangle for List Box controls except Variable List Boxes

‘Option’ Mnemonics – Focus Rectangle

Focus Rectangle options for suppressing or displaying the dotted focus rectangle on controls

Property	Description
FocusRectRB	Option to suppress or display the focus rectangle for Radio Button controls (with and without an image)

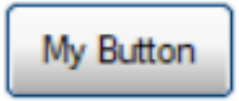
‘Option’ Mnemonics – Tab Close Button

Tab Button Close options for customizing the tab close icon

Property	Description
TabBtnCloseHoverIcon	Option to set the path of an icon to use when hovering over the close button on a Button, a Check Box (with an image), or a Radio Button (with an image) where OPT="x" is set
TabBtnCloseIcon	Option to set the path of an icon to use when hovering over a Button, a Check Box (with an image), or a Radio Button (with an image) where OPT="x" is set

‘Option’ Mnemonic Example – Button Corner Radius

```
print ‘4D’
button 100, @(10, 10, 12, 2)=“My Button”
```




```
print ‘OPTION’(“CornerRadBtn”,”Round”)
button 101,@(10,15,12,2)=“My Button”
```




```
x$=fin(0,”CornerRadBtn”)
Print x$
>Round
```

‘Option’ Mnemonic Example – Check Box Corner Radius

print ‘4D’
Check Box 100, @(10, 10, 15, 1)=“My Check Box”



print ”OPTION’(“CornerRadCB”,”5”)
Check Box 101, @(10, 10, 15, 1)=“My Check Box”



x$=fin(0,”CornerRadCB”)
Print x$
>5

‘Option’ Mnemonic Example – Tab Close Button

button 100, @(10, 10, 20, 2)=“My Button”,opt=“x”



print ‘OPTION’(“TabBtnCloseIcon”,”c:\icons\close.ico”)
button 101, @(10, 10, 20, 2)=“My Button”,opt=“x”



print ”OPTION”(“TabBtnCloseHoverIcon”,”c:\icons\hover.ico”)
button 102, @(10, 10, 20, 2)=“My Button”,opt=“x”





IDE and NOMADS Enhancements

Overview

- Added new attributes to NOMADS controls
- New properties for Themes and Visual Classes
- New attributes added to applicable Data Class control types
- Refreshed the Dark and Light mode Toolkit Themes using the new properties
- Updated the Light mode interface
- Added rounded corners to all Toolkit dialogs. Not inclusive to Light or Dark mode themes.
- Improved rendering of rounded Rectangle Shapes with GDI+ support
- Updated the Progress Bar to use the rounded Rectangle Shape

Screen Designers

Controls with New Attributes – Added to all three designers

Control	Attribute
Button	Corner Radius
Check Box	Corner Radius
Drop Box	Corner Radius
List Box	Corner Radius. Except for Report View, Variable List Box

Screen Designers

Controls with New Attributes – Added to all three designers

Control	Attribute
Multi-Line	Corner Radius Vertically Center Text
Radio Button	Corner Radius
External Control - .NET	Browse System DLLs Button DLL Name Dropbox – Fixed/Expression

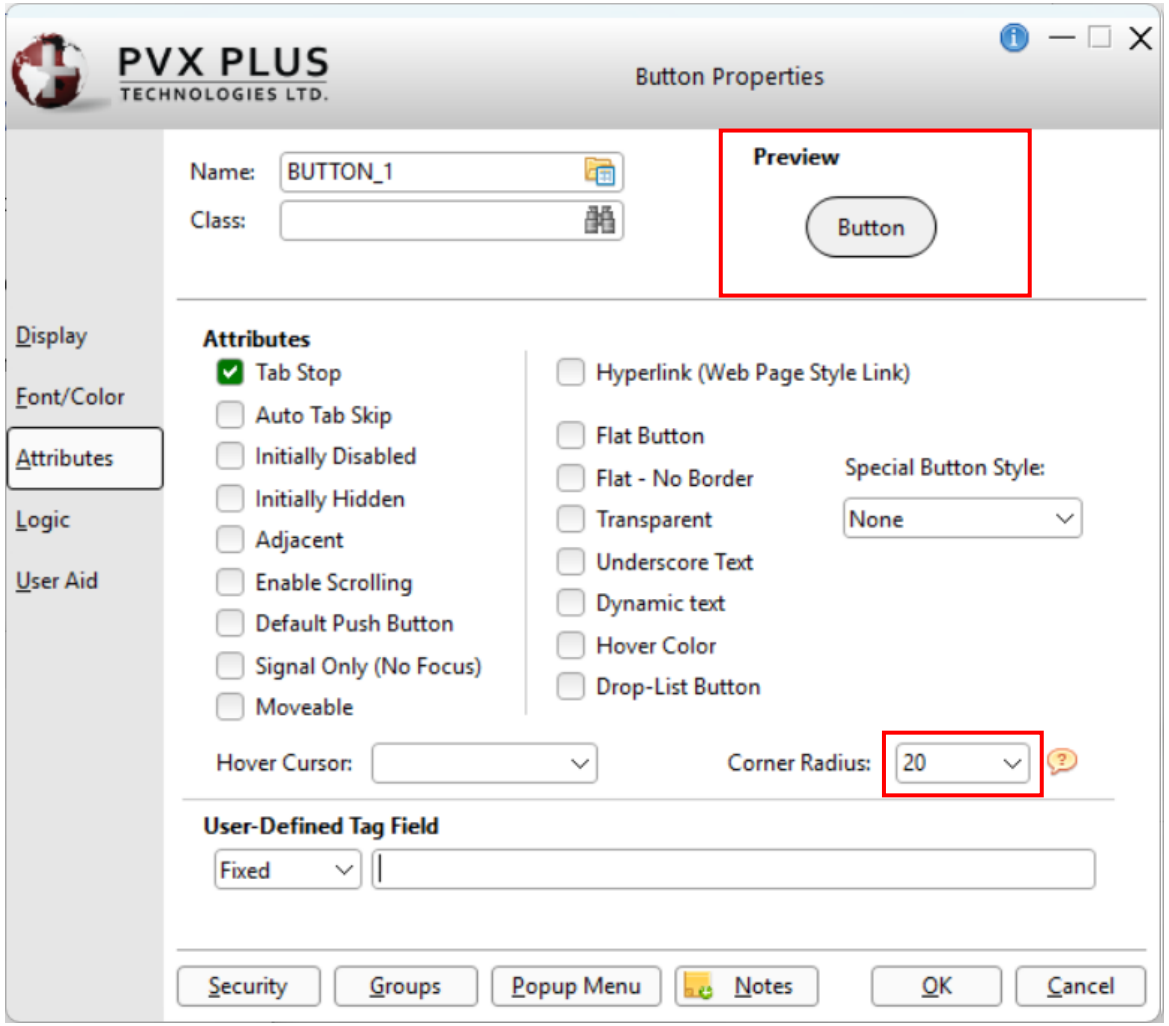
Screen Designers - Corner Radius

- New Variable Drop Box attribute added to the attributes tab for each applicable control
- Info tip for each control
- Works only in 4D mode
- Attribute values are available for each control type
    - Null - Property is not set
    - Value - Enter a value from 0 to 255 inclusive. Depends on control type
    - Round - Sets the default radius of 3 for round corners
    - Square - Sets the default radius of 0 for square corners

Note: Corner rounding is limited based on the control type and/or the control size

Button Control

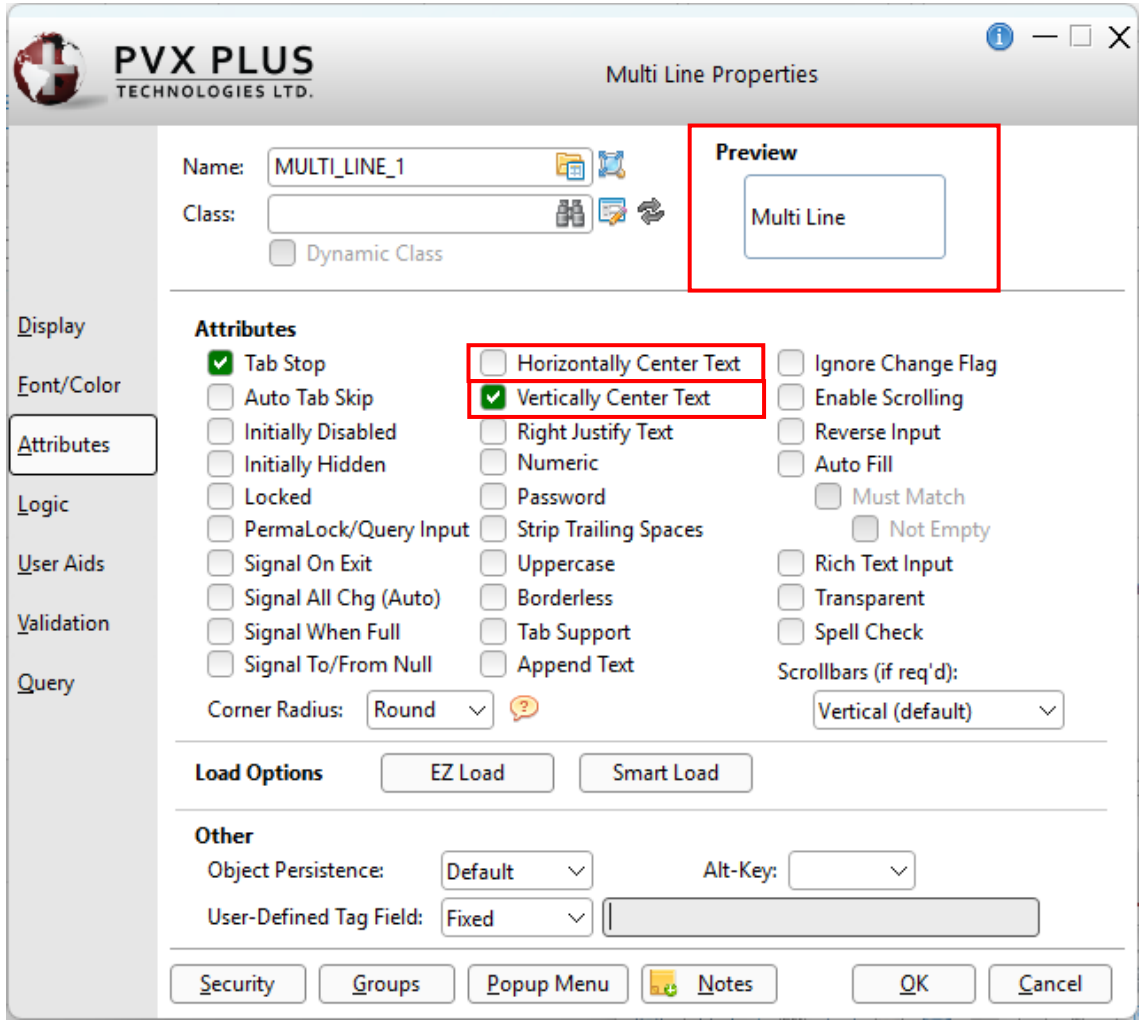
- New corner radius Variable Drop Box added to attributes tab
- Variable Drop Box has 4 selections – square, round and a null value
- A value can also be entered
- Preview will display the corner radius set



Using NOMADS+ / Folder Style screen designer – Light Mode

Multi-Line Control

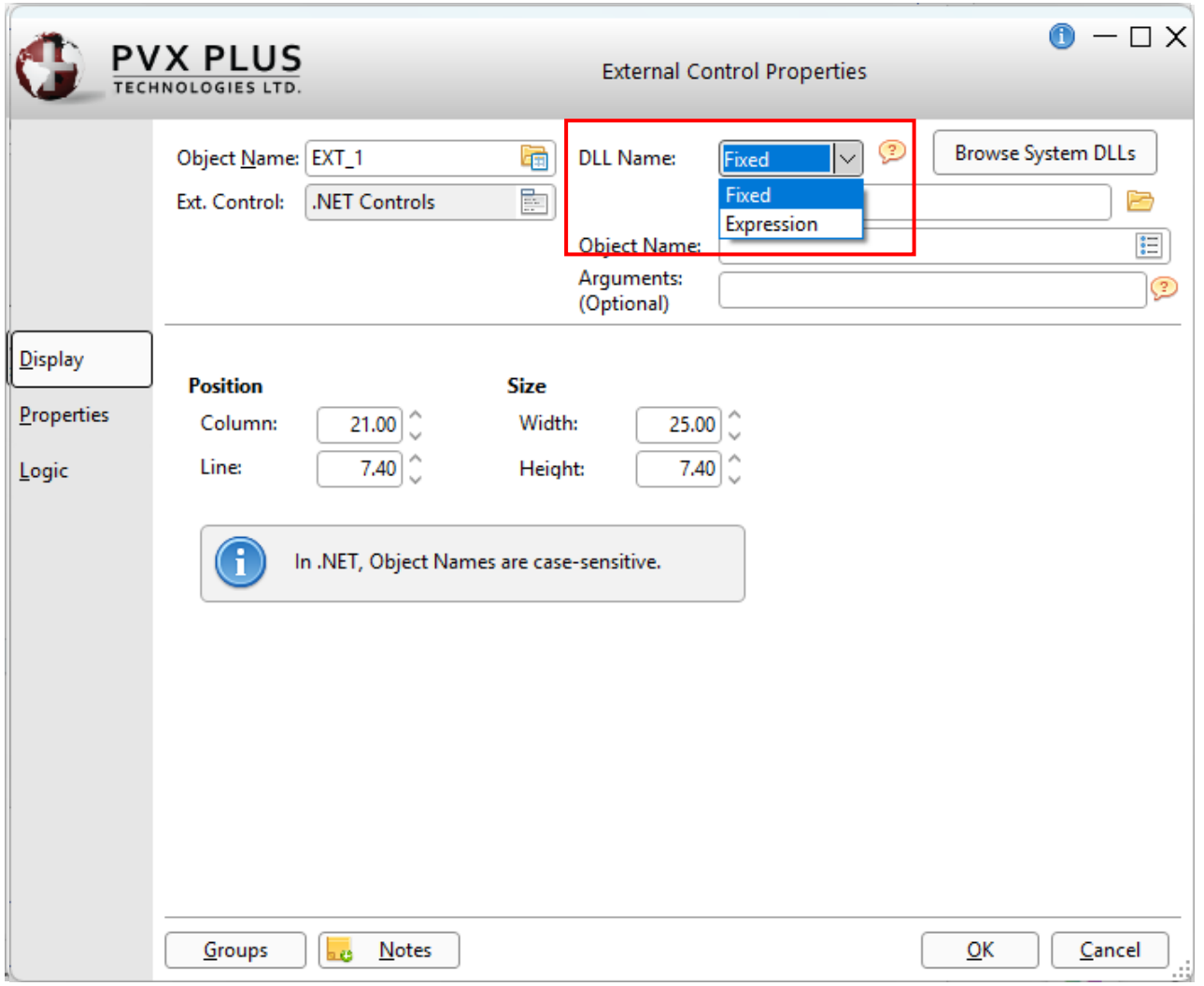
- New corner radius Variable Drop Box added to attributes tab
- Added Vertically Center Text check box
- When checked it will center the text within the Multi-Line
- Preview will display the centered text
- Renamed Center Text check box to Horizontally Center Text



Using NOMADS+ / Folder Style screen designer – Light Mode

External Control

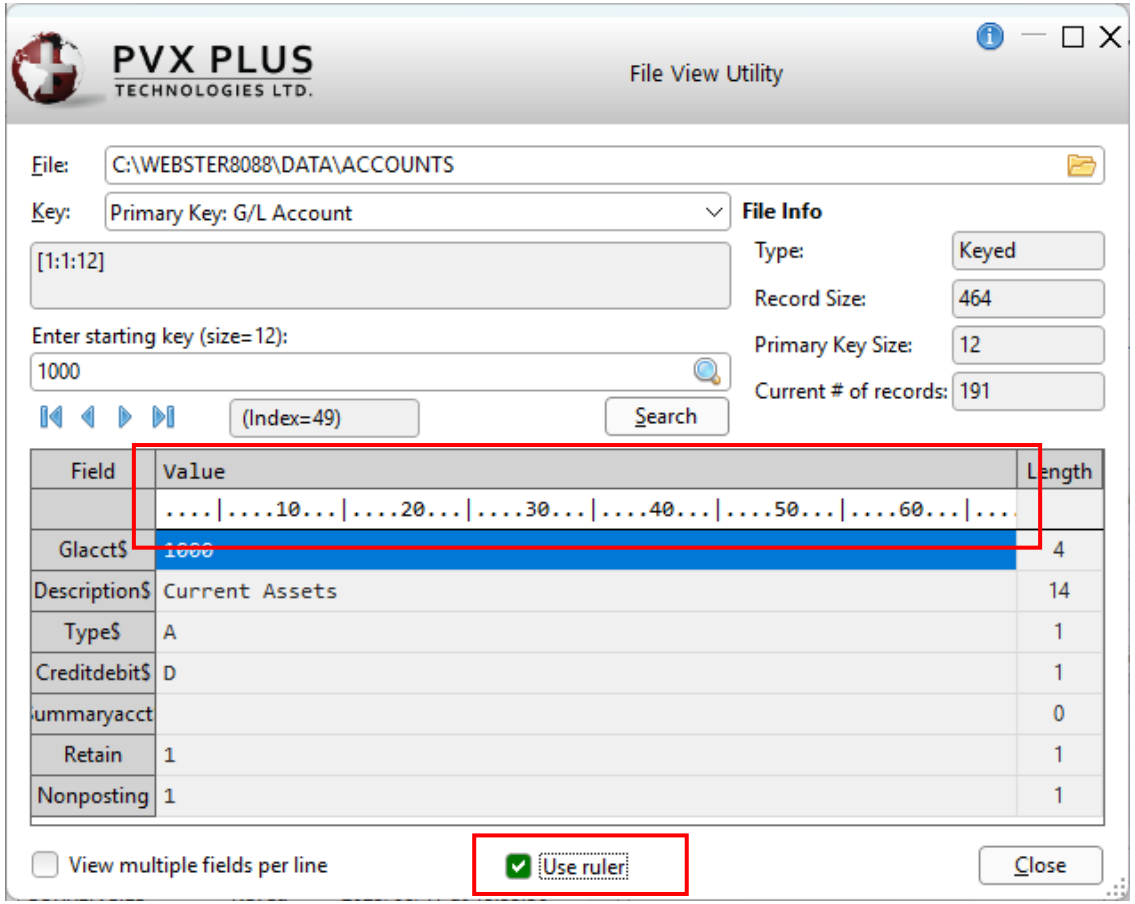
- New features for .NET Controls
  - Added a Browse System DLLs button
  - When selected it can be used to select a System DLL and object
  - Ability to enter an expression for both the DLL name and Object name

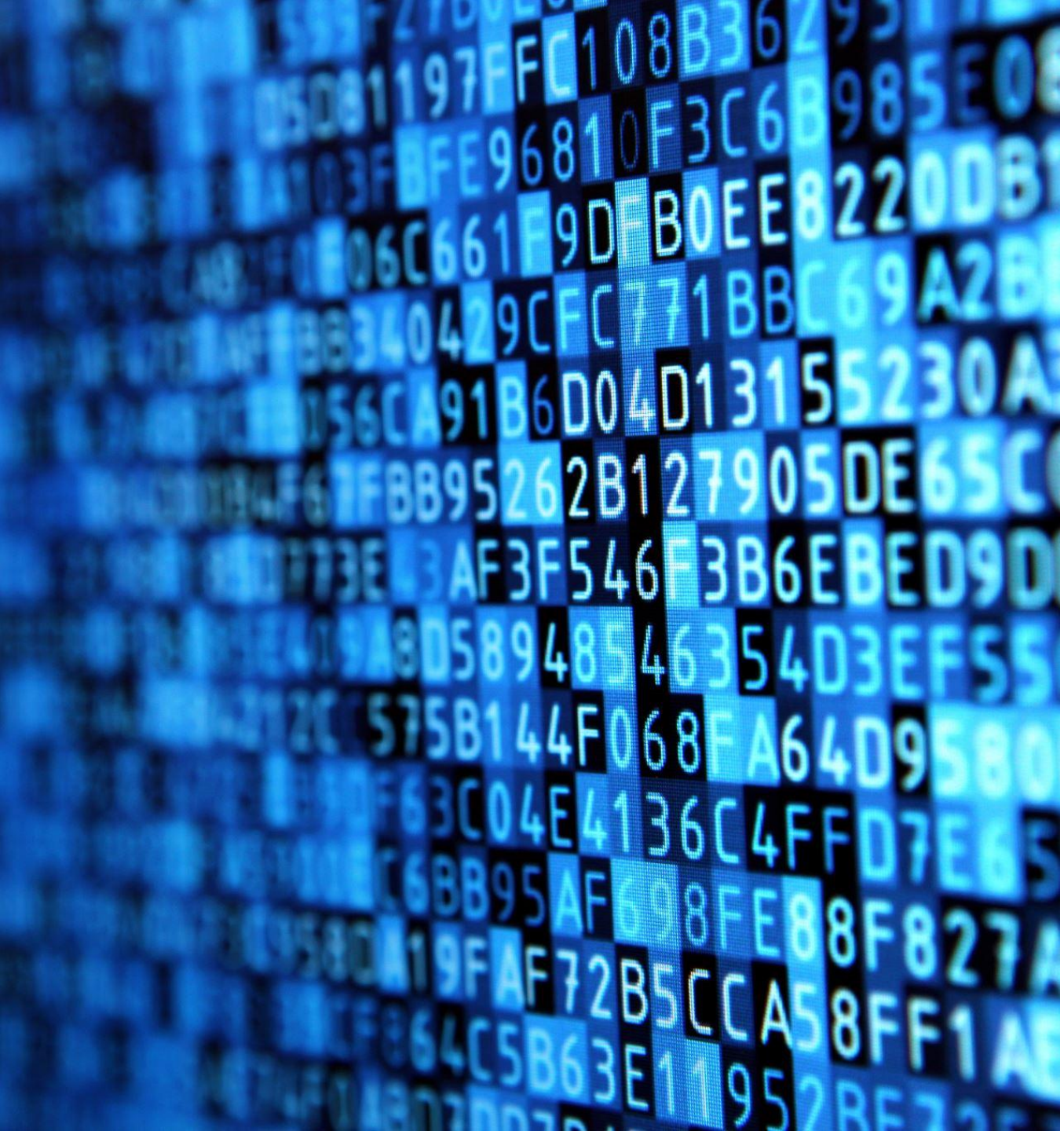


Using NOMADS+ / Folder Style screen designer – Light Mode

File View Utility

- The **File View Utility** is used to view data within a data file
- Two new features were added
  - Ability to copy the data in the grid by double clicking in the Value cell
  - Added a User Ruler checkbox to indicate character positioning with the Value column by adding a ruler and changing font to fixed





Themes and Visual Classes

Themes and Visual Classes

- Themes provide consistent styling across controls of the same type across panels
- Visual Classes provide more specific styling for individual controls
- Visual Classes can override Theme settings
- Working together, they provide a flexible and consistent approach to application modernization
- Copy Theme utility makes it easy to copy existing Themes and Visual Classes for creating and customizing your own application themes
- Use the utility to create your own Dark and Light mode themes based on the PxPlus system Toolkit themes

Themes/Visual Classes

Button Properties

Property	Description
Corner Radius	Sets the corner radius for Button controls
Focus Rectangle	Controls whether a dotted focus rectangle displays around the Button text

Themes/Visual Classes

Check Box Properties

Property	Description
CB Corner Radius	Sets the corner radius for standard Check Box controls
Corner Radius	Sets the corner radius for Check Box controls created as buttons when an image is added
Focus Rectangle	Controls whether a dotted focus rectangle displays around the Check Box text

Themes/Visual Classes

Drop Box Properties

Property	Description
Corner Radius	Sets the corner radius for Drop Box controls
Field Height	Sets the height of the drop box input and drop area (in pixels)
Focus Rectangle	Controls whether a dotted focus rectangle displays around the Drop Box selected text

Themes/Visual Classes

Folder Properties (all types)

Property	Description
Tab Corner Radius	Sets the corner radius for folder tabs
Tab Focus Rectangle	Controls whether a dotted focus rectangle displays around the folder tab

Themes/Visual Classes

List Box Properties

Property	Description
Corner Radius	Sets the corner radius for List Box controls. Except for Report View and Variable List Box
Focus Rectangle	Controls whether a dotted focus rectangle displays around the List Box row. Except for Variable List Box

Themes/Visual Classes

Multi-Line Properties

Property	Description
Corner Radius	Sets the corner radius for Multi-Line controls
Vertically Center Text	Centers text vertically within Multi-Line controls
Horizontally Center Text	Previously named Center Text

Themes/Visual Classes

Radio Button Properties

Property	Description
Corner Radius	Sets the corner radius for Radio Button controls created as buttons when an image is added
Focus Rectangle	Controls whether a dotted focus rectangle displays around the Radio Button text

Themes/Visual Classes

Shape-Rectangle Properties

Property	Description
Rounded Corner Radius	Sets the radius value for rounded corners for a rectangle shape

Themes/Visual Classes

Tri-State Check Box Properties

Property	Description
CB Corner Radius	Sets the corner radius for standard Tri-State Check Box controls
Corner Radius	Sets the corner radius for Tri-State Check Box controls created as buttons when an image is added
Focus Rectangle	Controls whether a dotted focus rectangle displays around the Tri-State Check Box text

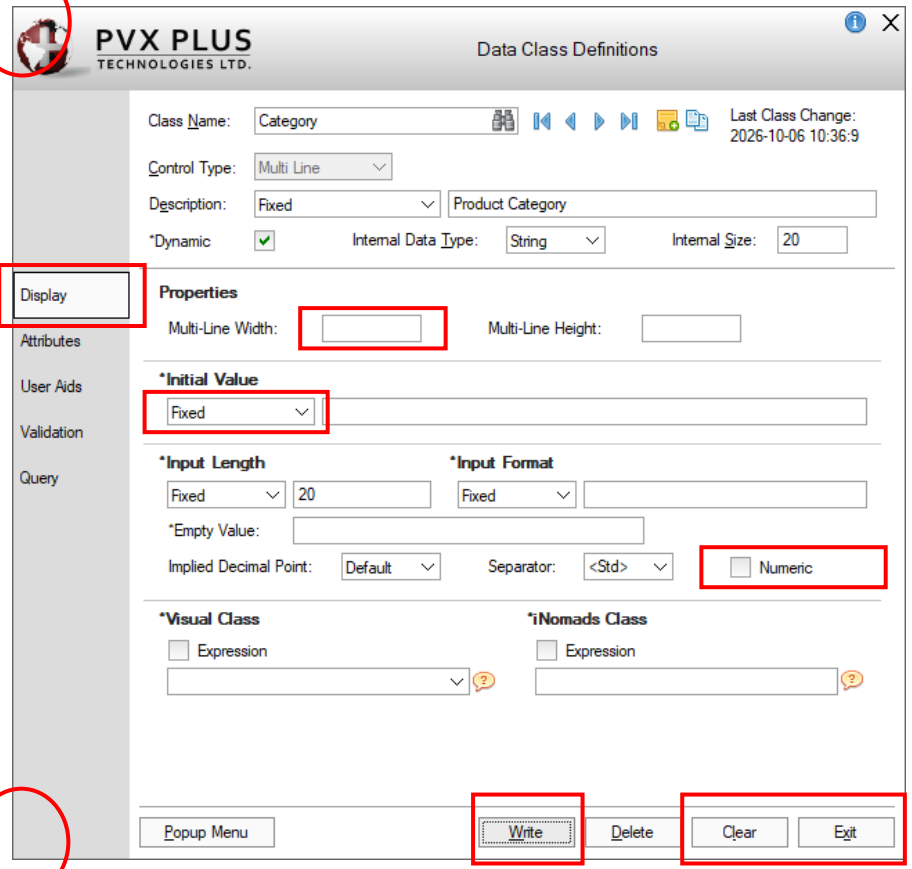
Themes/Visual Classes

Variable Drop Box Properties

Property	Description
Corner Radius	Sets the corner radius for Variable Drop Box controls
Field Height	Sets the height of the drop box input and drop area (in pixels)

Toolkit Modernization

PxPlus 2025



Rounded corners to all toolkit dialogs

Light & Dark Mode

Rounded Controls

Buttons

Check Boxes

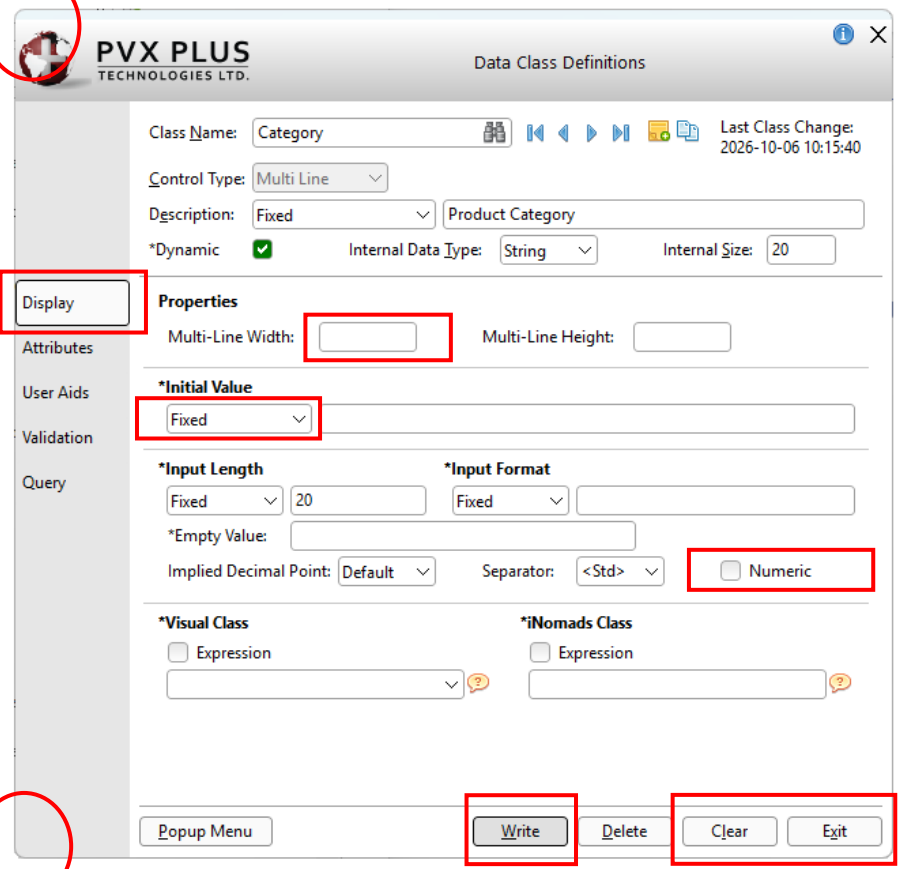
Drop Boxes

Multi-Lines

Folder Tabs

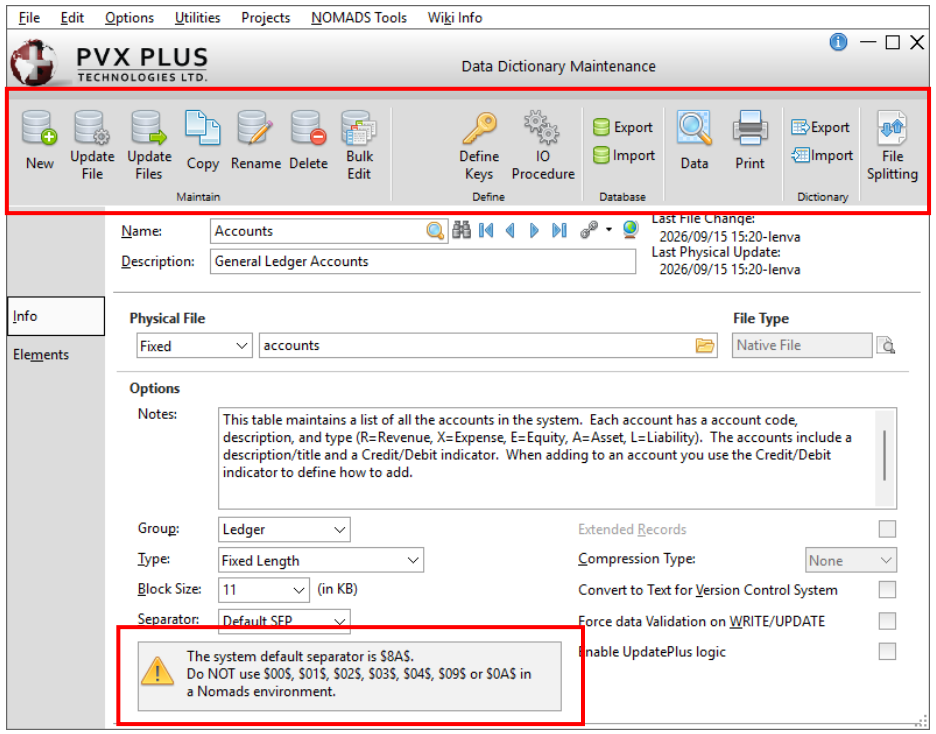
Focus Rectangle

PxPlus 2026



Toolkit Modernization

Data Dictionary PxPlus 2025



Light Mode Theme

Tool Bar

Message Areas

Data Dictionary PxPlus 2026

