WHAT'S NEW IN THE IDE, NOMADS AND TOOLKIT

DireXions 2024

AGENDA

1. **IDE**
- Integrated Development Environment
2. **PROJECTS**
3. **NOMADS PANEL DESIGNERS**
- NOMADS+, Folder Style and Property Sheets
4. **UTILITIES**

IDE

CURRENT IDE

IDE MAIN LAUNCHER

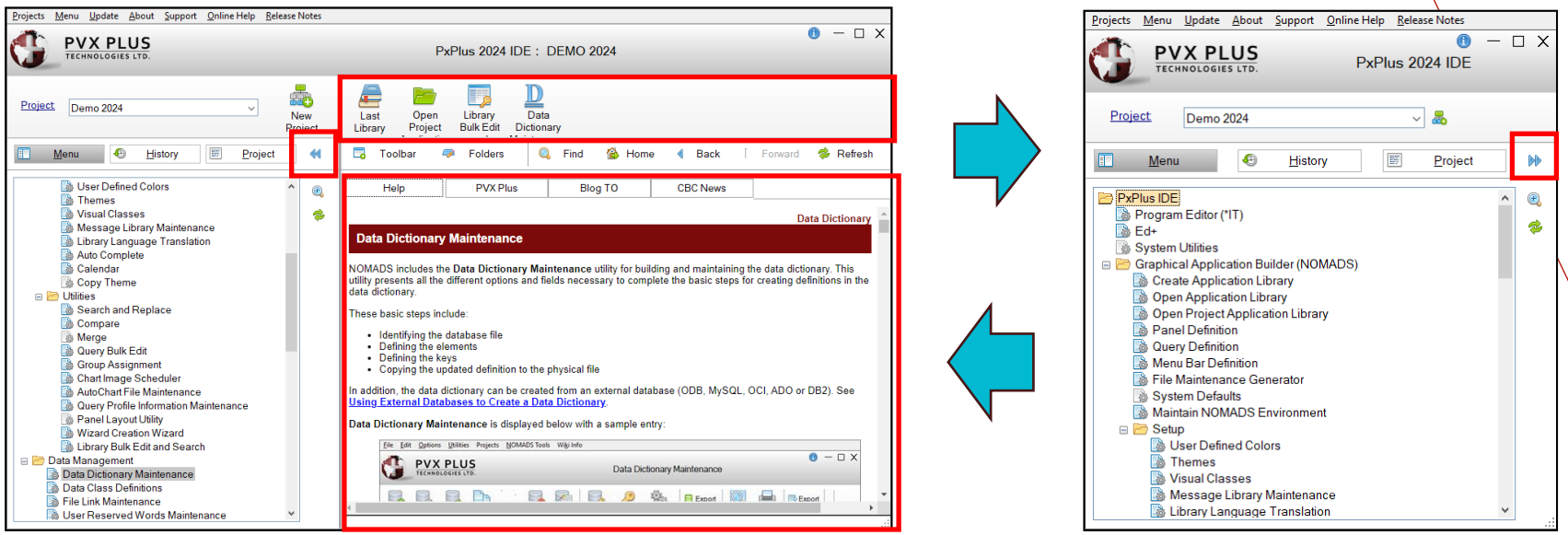
- Switch between ***Enhanced*** and ***Standard*** IDE

ENHANCED IDE

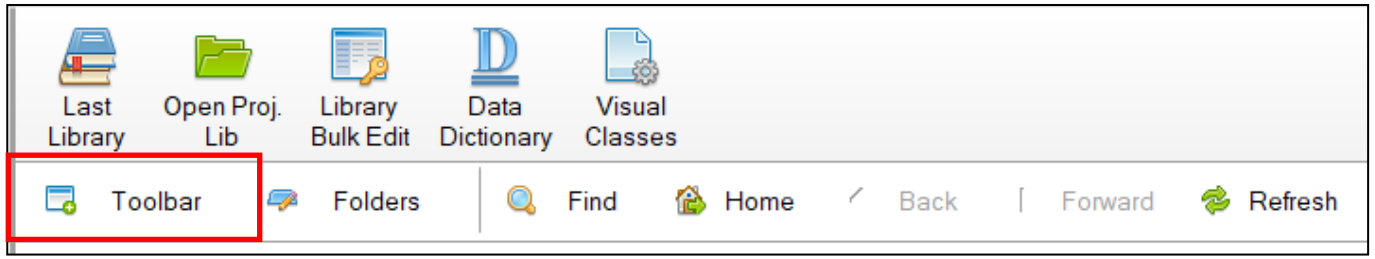
- Online Help
- Configurable Ribbon Toolbar and Folders

STANDARD IDE

- May still be used with no internet connection
- Uses less desktop space

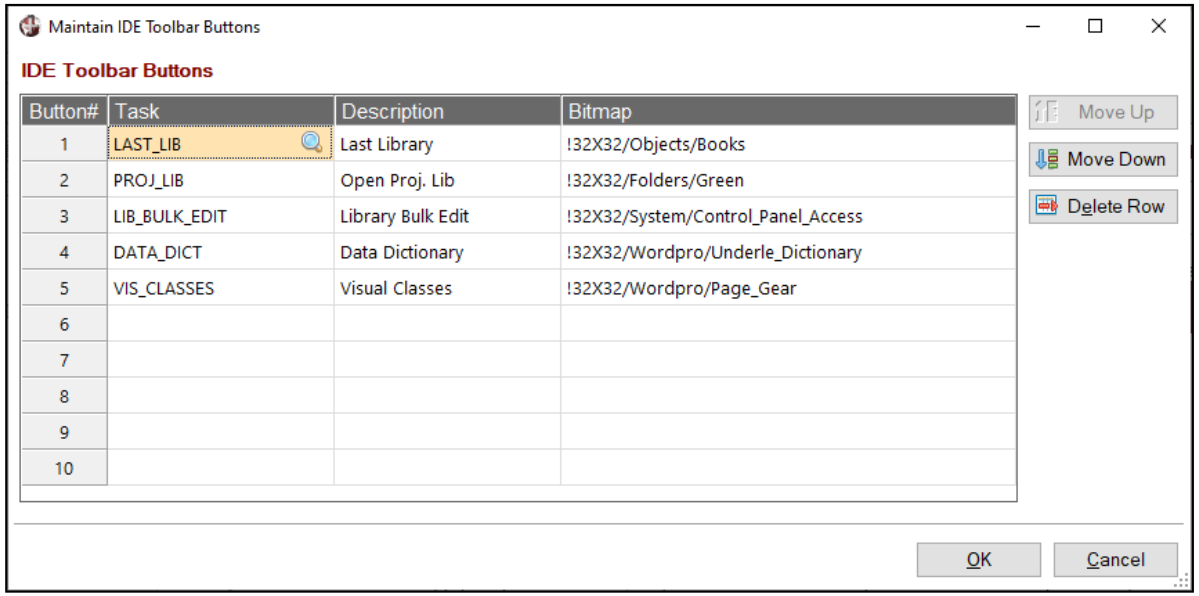


CUSTOMIZABLE RIBBON TOOLBAR

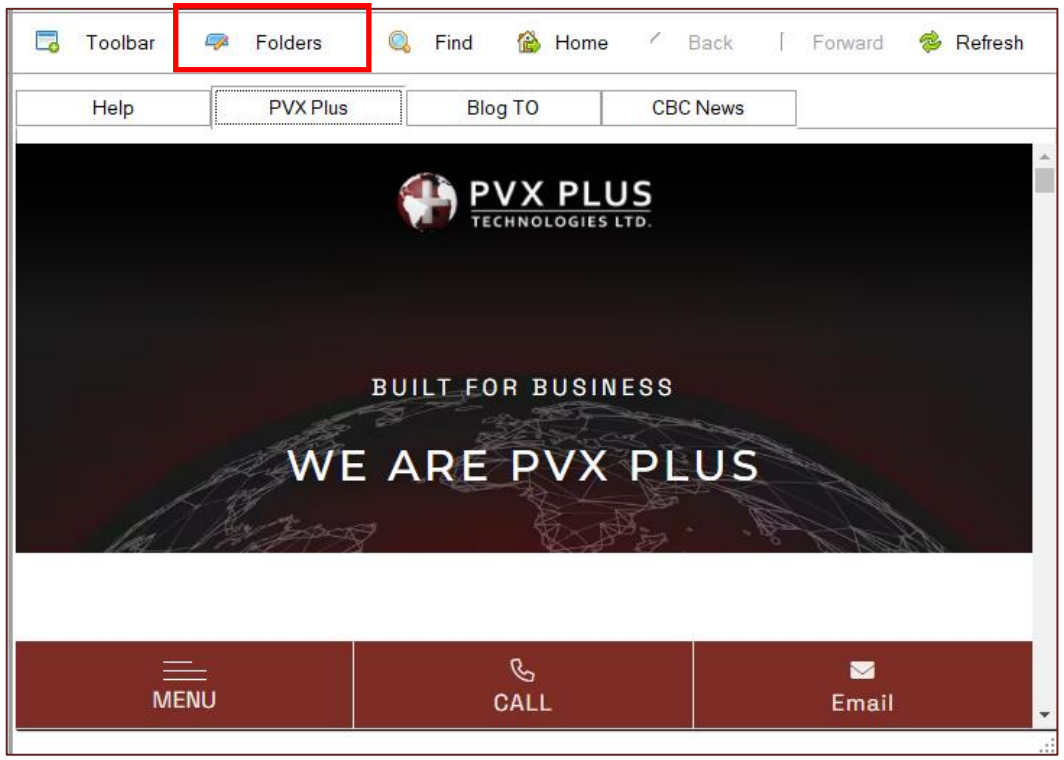


TOOLBAR BUTTONS

- Define up to 10 buttons for commonly accessed tasks
- Drag tasks from IDE Menu or use Toolbar button
- Last Library task present after installation but can be deleted

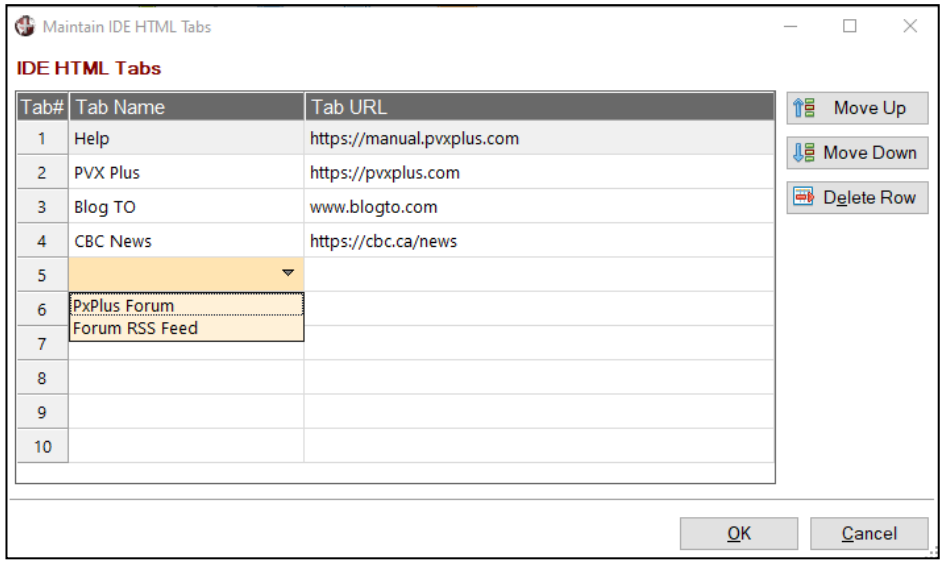


CONFIGURABLE FOLDER TABS

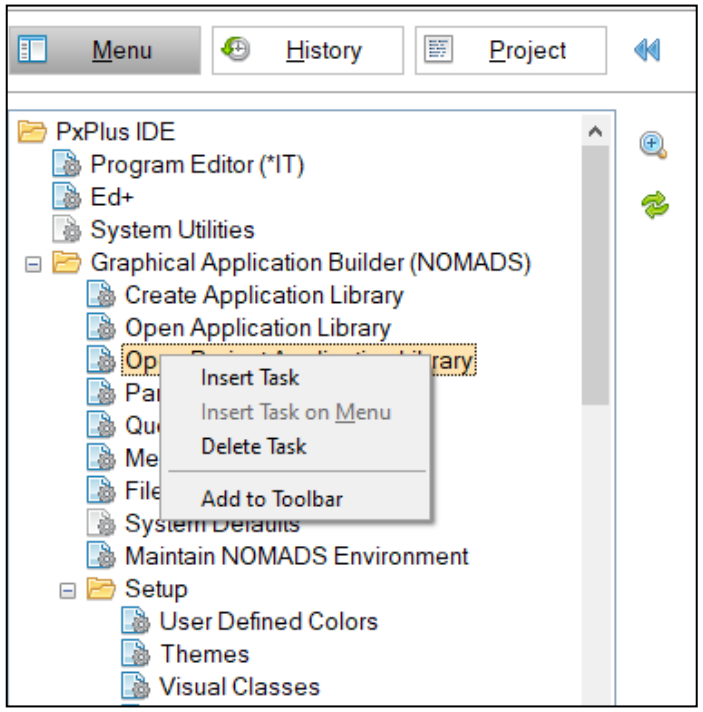


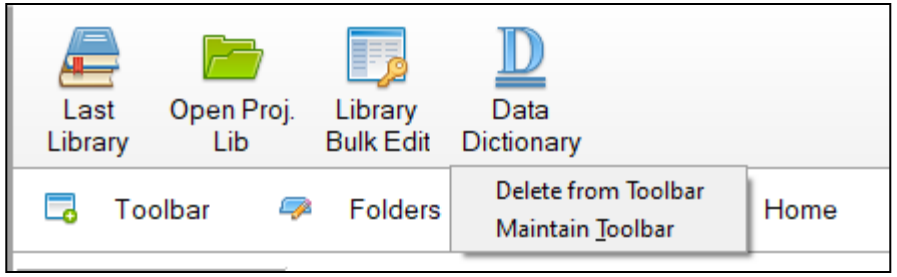
FOLDER TABS

- Help tab cannot be deleted
- Folders button allows up to 9 other tabs to be defined with a Tab Name and a URL
- Chromium Web Browser control



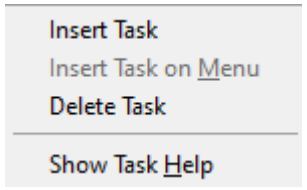
NEW POPUP MENU OPTIONS





POPUP MENU

- Right-click Popup Menu on Menu panel of IDE
- Enhanced IDE has ***Add to Toolbar*** option
- Standard IDE has ***Show Task Help*** option



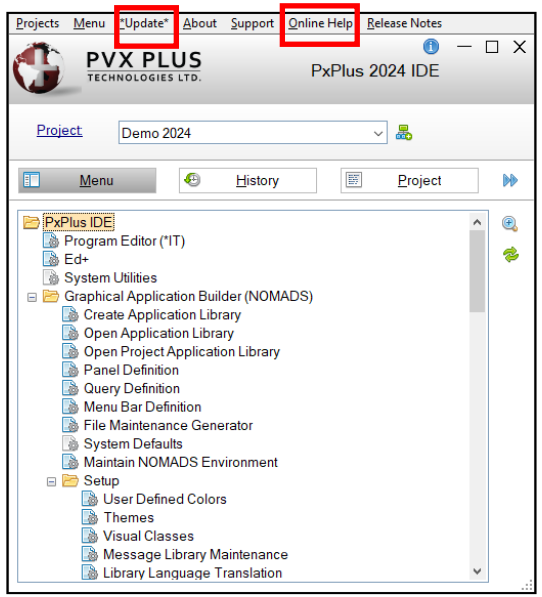
TOOLBAR BUTTONS

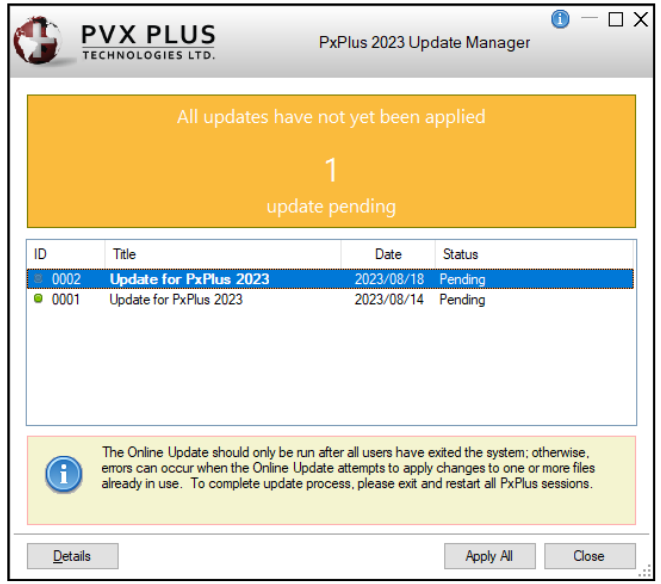
- Right-click Popup Menu on Toolbar Buttons
  - ***Delete from Toolbar***
  - ***Maintain Toolbar***

IDE MENU BAR

ONLINE UPDATES

- In the IDE top menu **Update** changes to ***Update*** when an online update is available for the installed PxPlus version

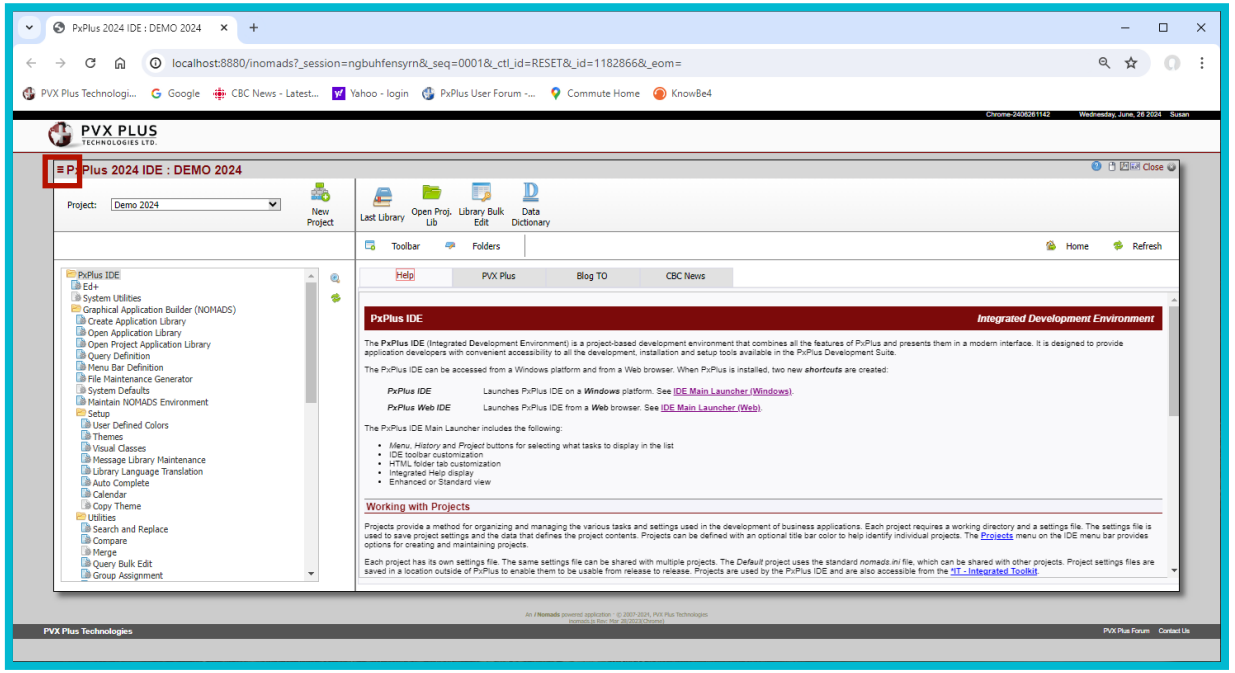




ONLINE HELP

- Launches full online ***PxPlus Reference Manual*** from our website

WEB IDE (iNOMADS)



IDE MAIN LAUNCHER (WEB)

- IDE Launcher now uses the same Enhanced IDE panel
- iNomads Template uses Hamburger menu
- Some tasks that will not function or do not apply to an iNomads environment are suppressed

NEW IDE TASKS

GRAPHICAL APPLICATION BUILDER (NOMADS)

- Open Project Application Library
- Panel Definition (not on Web IDE)
- Query Definition
- Menu Bar Definition
- File Maintenance Generator
- Maintain NOMADS Environment
- **Setup**
  - Copy Theme

DATA MANAGEMENT

- User Reserved Words Maintenance

VIEWS

- Data Source Wizard

SECURITY

- OAuth2 Client Maintenance

INSTALLATION AND SETUP

- System Analysis

WEB DEPLOYMENT

- Install Webster+ (not on Web IDE)
- Launch Webster+ Using EZWeb (not on Web IDE)
- Webster+ Desktop Configuration

PROJECTS

WHAT IS A PROJECT?

PROJECT OVERVIEW

- A method for organizing and managing the various tasks used in the development of business applications
- Defined by a project Directory

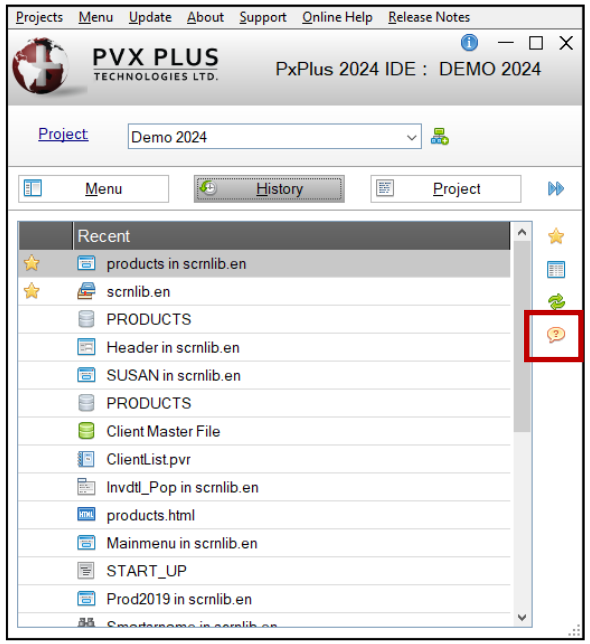
WHY USE PROJECTS?

1. Always in the proper environment
   - IDE tasks change to the project Directory and attempt to run a start_up program before spawning the task
2. Provides easy access to tasks (programs, panels, etc.) via the IDE History or Project tabs
   - Adding Tasks to Projects
   - Project Maintenance Utility

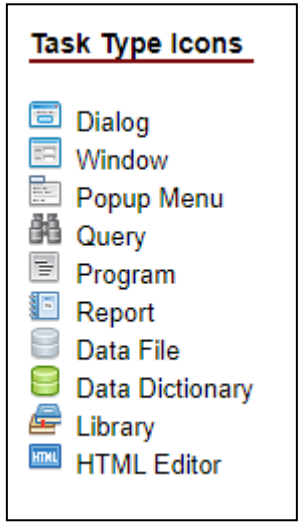
IDE TABS

HISTORY

- Rolling list of the last 25 tasks
- Favorites at the top

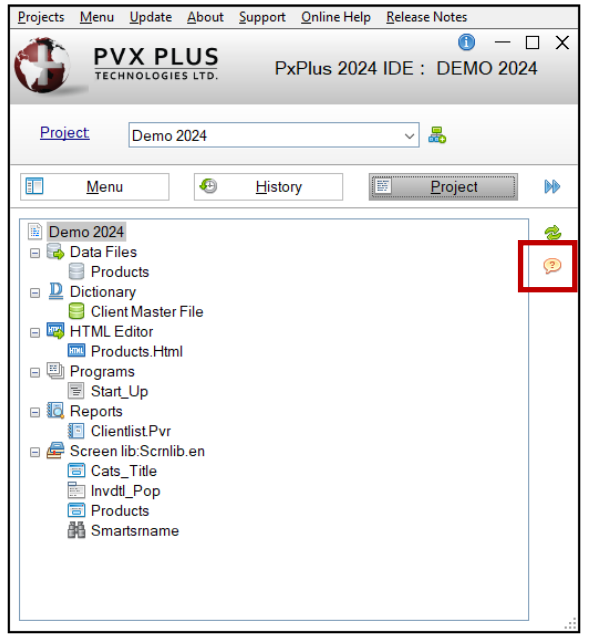


Tool Tip



PROJECT

- Tasks added to project organized by type for easy access



PROJECTS NOW SURVIVE UPDATES

PRIOR TO PXPLUS 2023

- Project data was stored in PxPlus data files in *plus/proj directory
  - ***WKIDS.DAT*** (Project data)
  - ***WKSEQ.DAT*** (Project contents)
- Project data was lost each time a new version of PxPlus was installed
- ***Project Location*** panel was developed to move the files to an alternate location and replace original files with **link** files

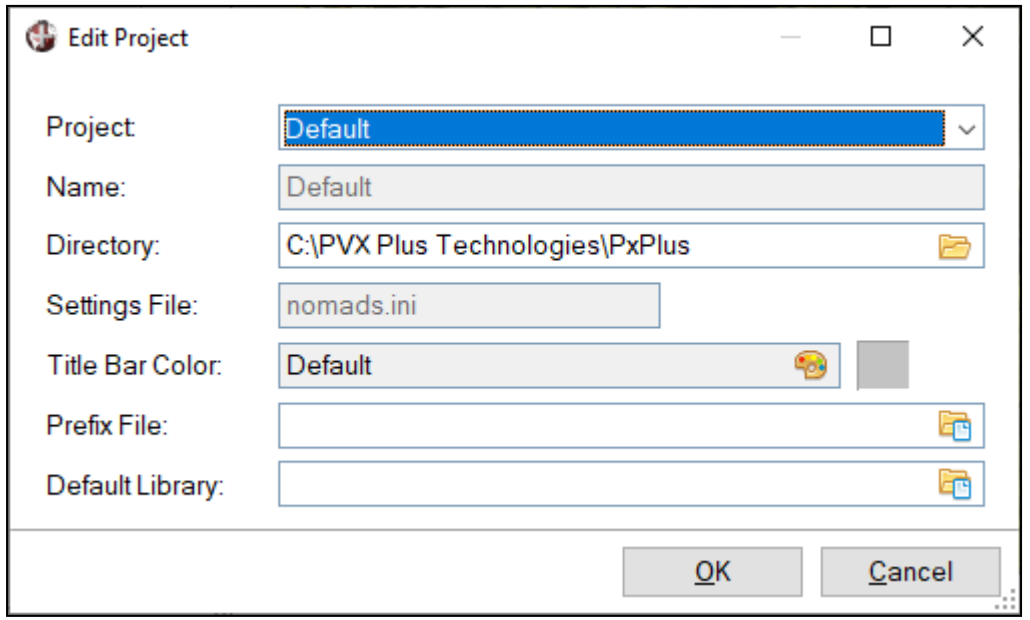
SINCE PXPLUS 2023

- Project data now stored by user in .ini text files outside of the PxPlus installation
  - projects.ini (Project data)
  - Individual settings (.prj) files (Project contents)
- Project data is now unaffected by a new PxPlus install
- Different settings may now be defined for each project

DEFAULT PROJECT

DEFAULT PROJECT

- Created the first time the IDE is run if it does not already exist
- Cannot be deleted
- Uses the current PxPlus directory as the project Directory
- Can be the only project defined
- Uses nomads.ini as Settings File



May need updating after a new version is installed now that Project information survives updates

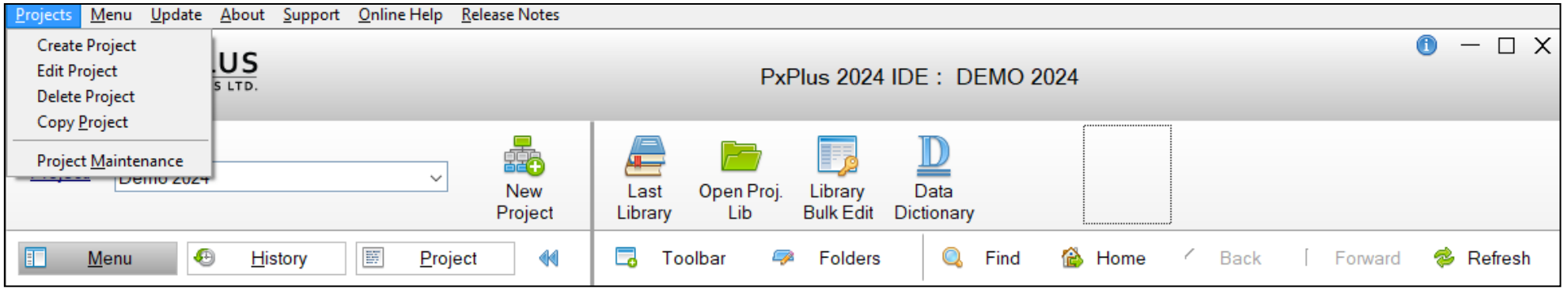
SETTINGS BY PROJECT

SETTINGS SAVED BY PROJECT

- IDE
- NOMADS System Defaults
- Library Object Selection
- NOMADS Panel Designer
- *IT (Integrated Toolkit) & Ed+ Editor
- HTML Editor
- Report Designer
- Port Numbers
  - EZWeb Server
  - Webster+ Installation
- Database Information
  - Bulk Database Export Utility
  - Database Import Utility

- Copying a project will also copy the settings

IDE MENU

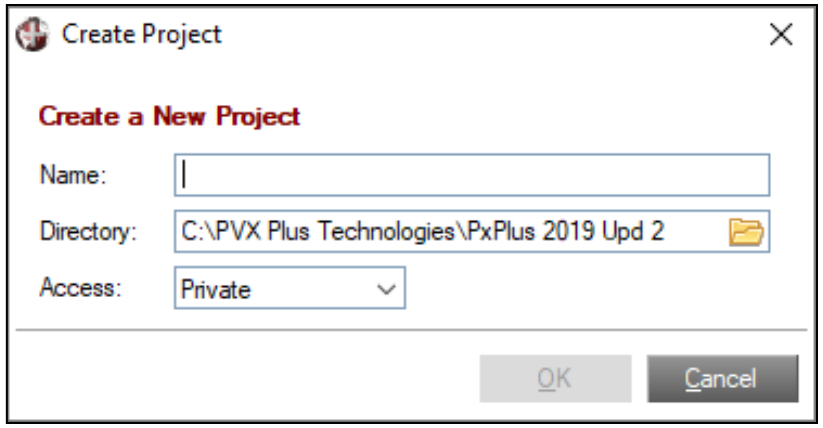


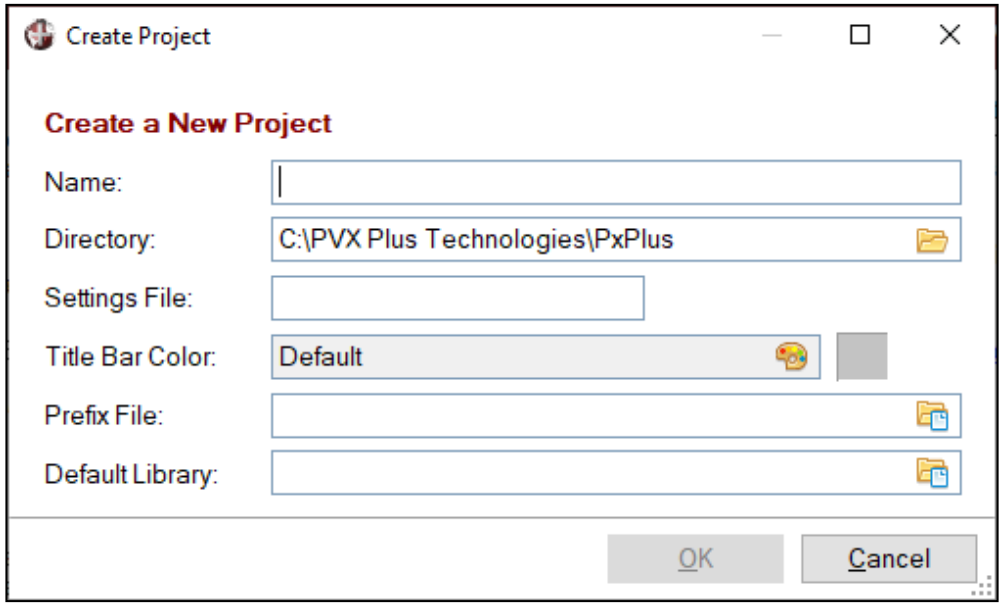
IDE MENU OPTIONS

- Create Project (or New Project button)
- Edit Project (or Project hyperlink)
- Delete Project
- Copy Project
- Project Maintenance Utility
- Project Location removed

CREATE PROJECT (2019 VS. NOW)

CREATE PROJECT DIALOG



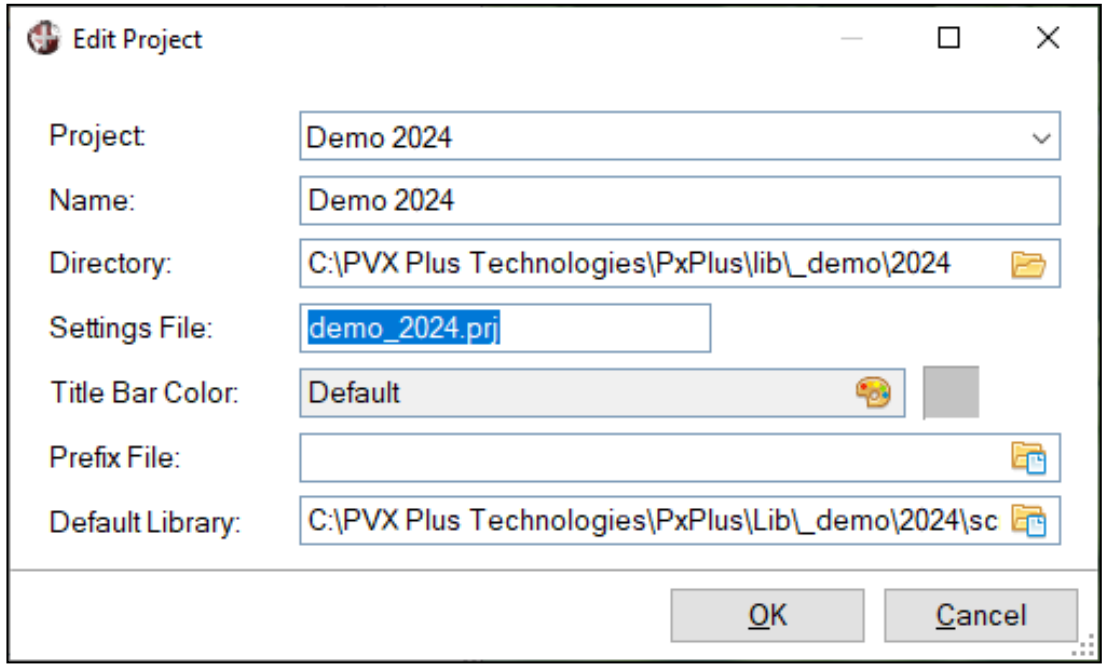


- Added ***Settings File, Title Bar Color, Prefix File*** and ***Default Library*** options
- Removed ***Access*** drop box

THE SETTINGS FILE

SETTINGS FILE

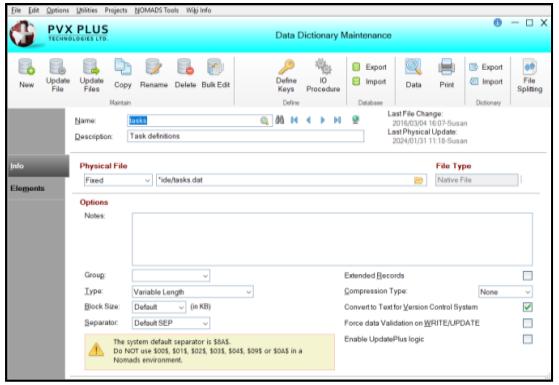
- Used to store project contents and project specific settings
- Defaults to Project Name + ".prj" but can be changed
- Can be shared between projects (i.e. nomads.ini)

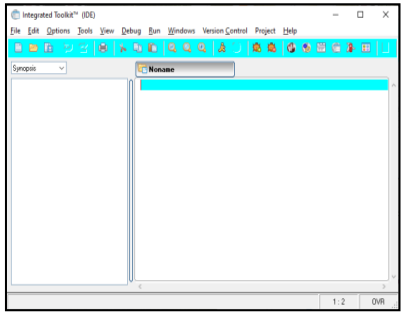


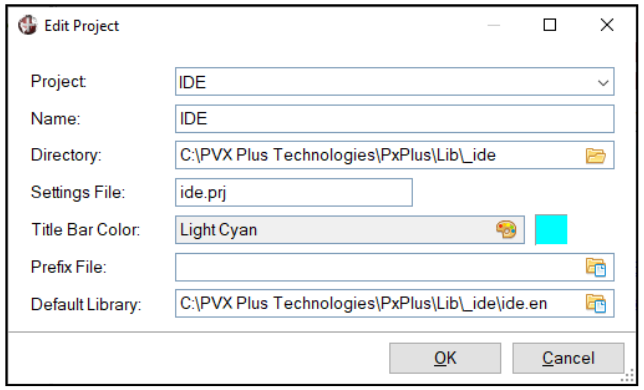
TITLE BAR COLOR

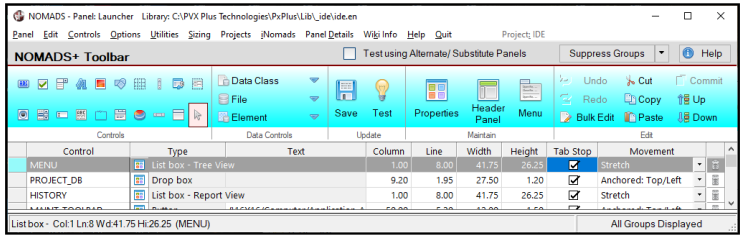
TITLE BAR COLOR

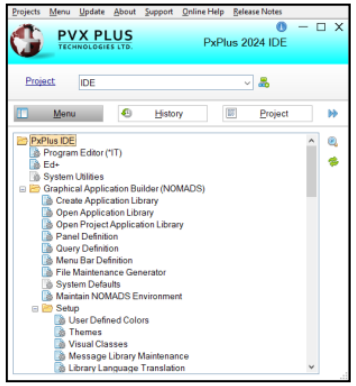
- Helps to identify the current project
- Default is Light Gray

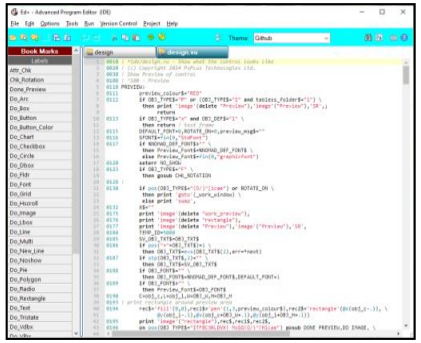


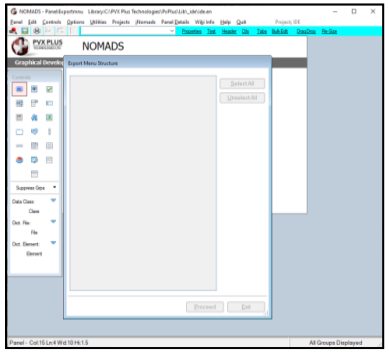












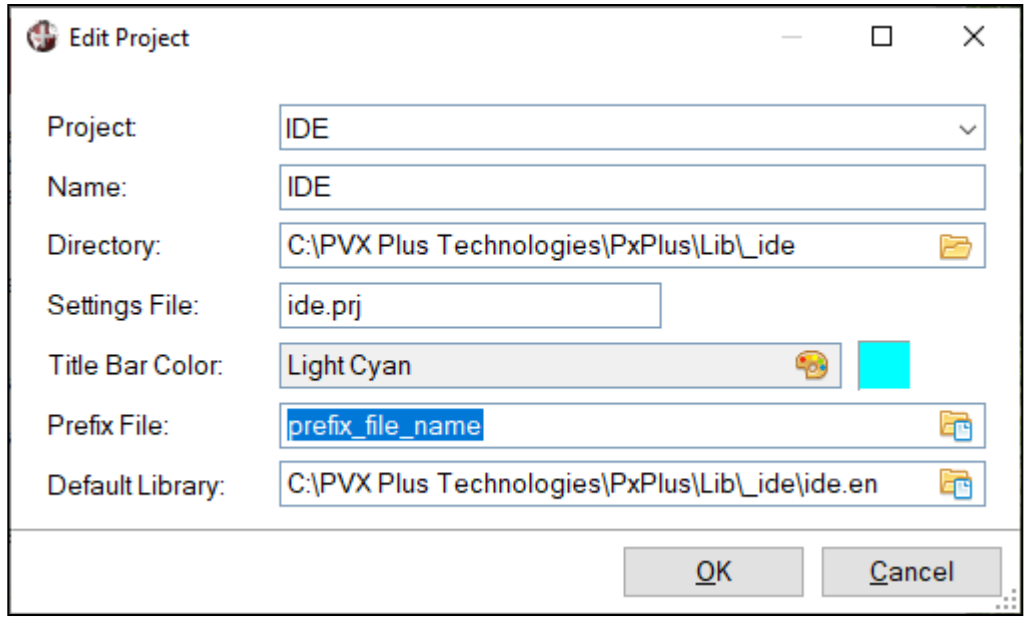
THE PREFIX FILE

OPTIONAL PREFIX FILE

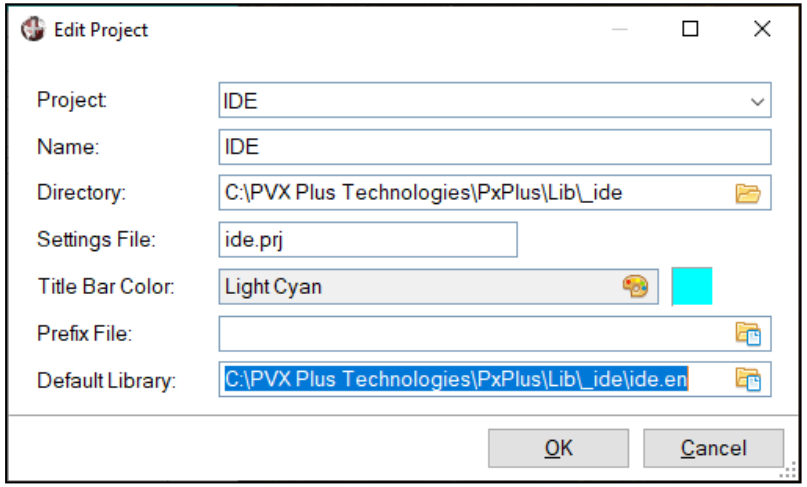
- Specify Search rules in keyed file
  - PREFIX Directive
  - Creating the Prefix File (databases)

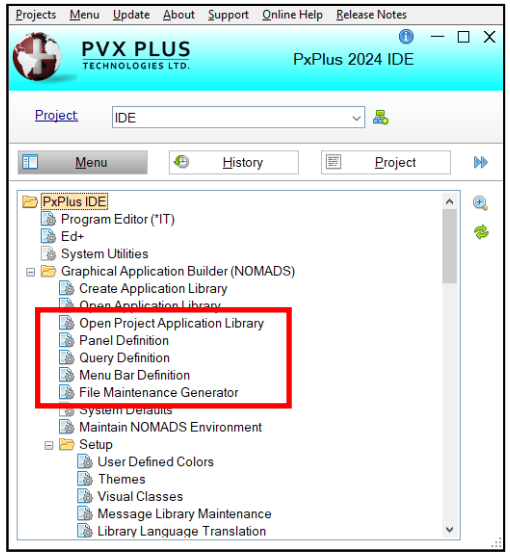
- If a prefix file is defined and not set in the start_up program, code executes PREFIX FILE command when any task is spawned

```
PREFIX FILE prefix_file$
```



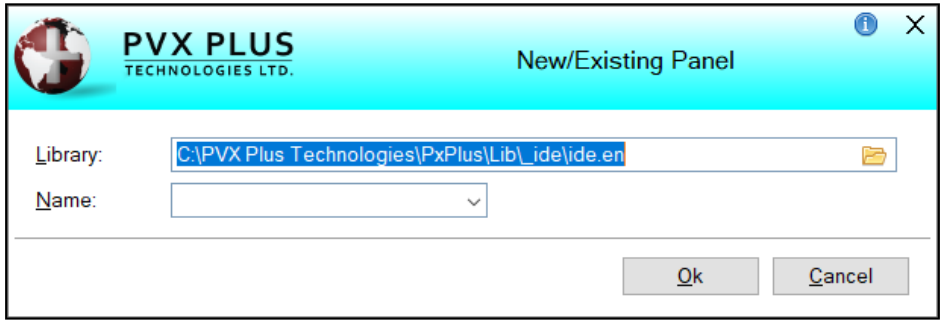
DEFAULT LIBRARY





OPTIONAL DEFAULT LIBRARY

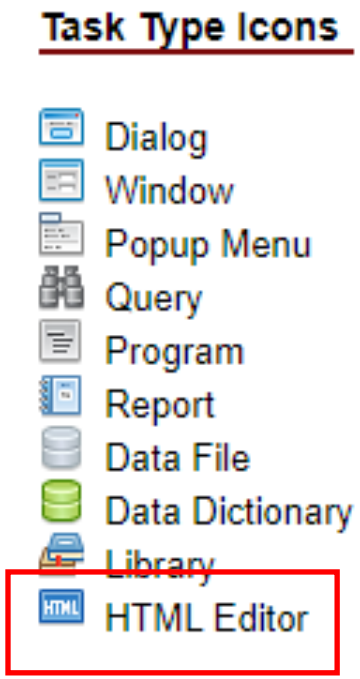
- Defines the library to be opened in Library Object Selection when using the new Open Project Application Library task
- Other new tasks added to IDE all default to using the project Default Library
  - Panel Definition
  - Query Definition
  - Menu Bar Definition
  - File Maintenance Generator

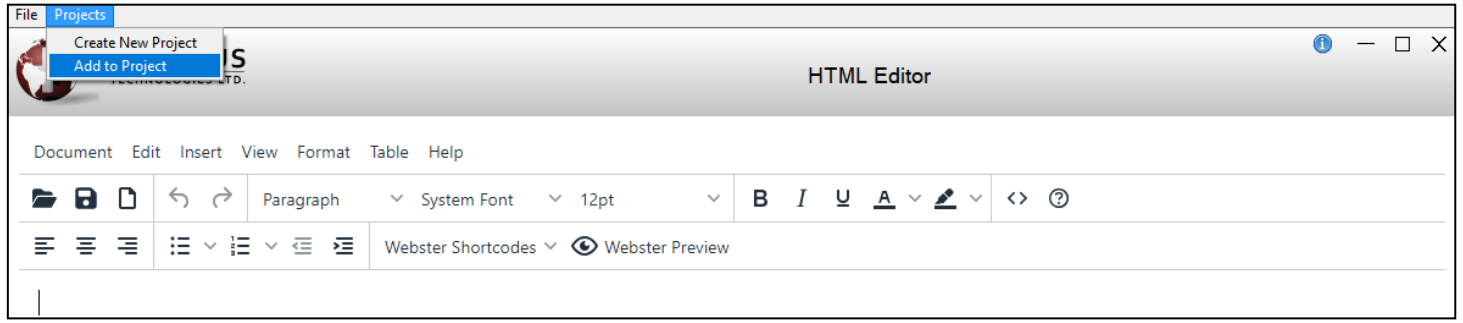


NEW HTML TASK TYPE

HTML TASK TYPE

- Added HTML Editor task type for the History and Project tabs
- HTML pages can now be added to projects from the Project Maintenance Utility, Popup Menu on IDE History tab or the HTML Editor IDE task

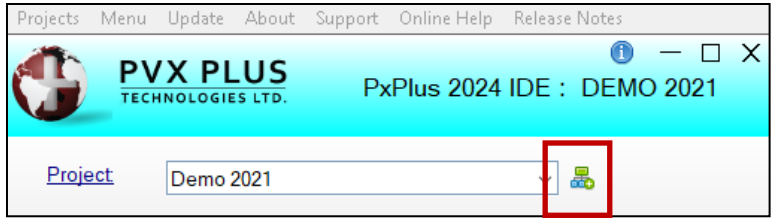




OTHER PROJECT ENHANCEMENTS

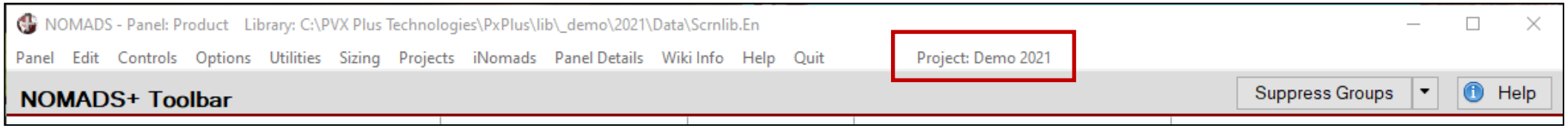
CREATE NEW PROJECT BUTTON

- Added to IDE



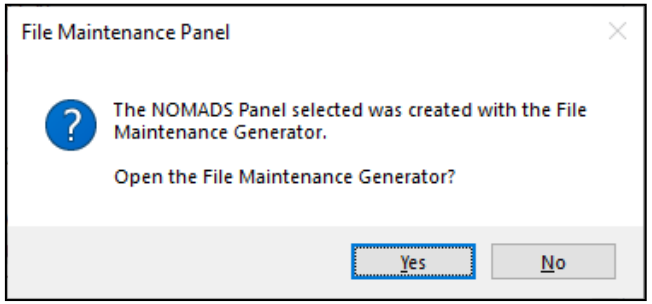
NOMADS PANEL DESIGNERS

- Project displayed in all designers (if set)



ACCESS TO FILE MAINTENANCE GENERATOR

- Accessing a NOMADS File Maintenance generated panel from History or Project tabs can also launch the Generator

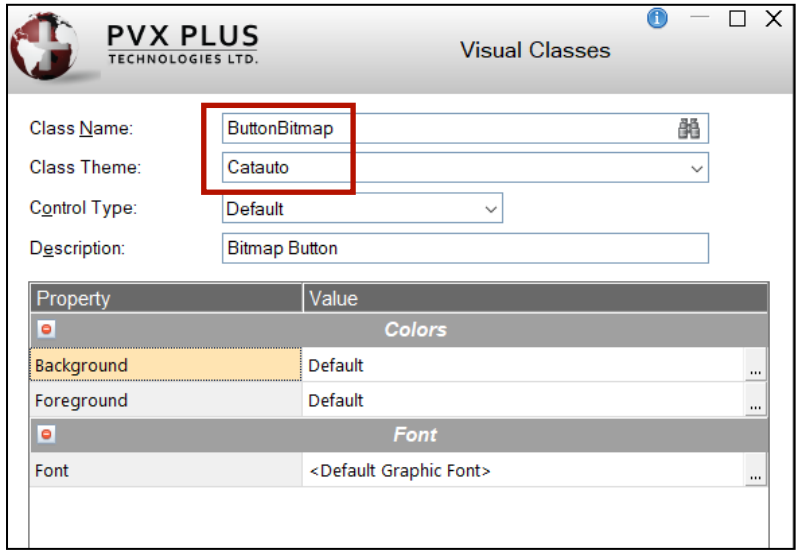


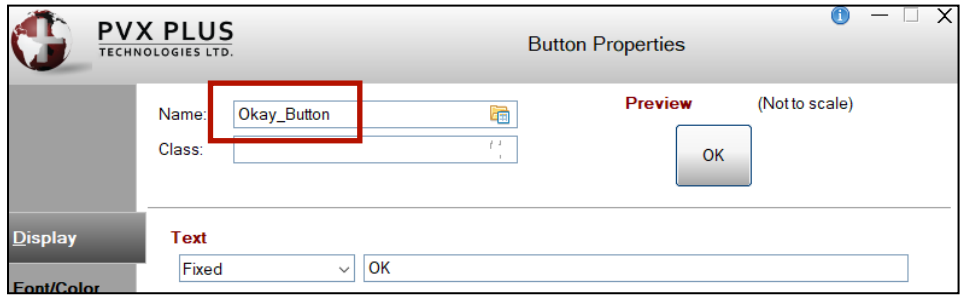
NOMADS PANEL DESIGNERS

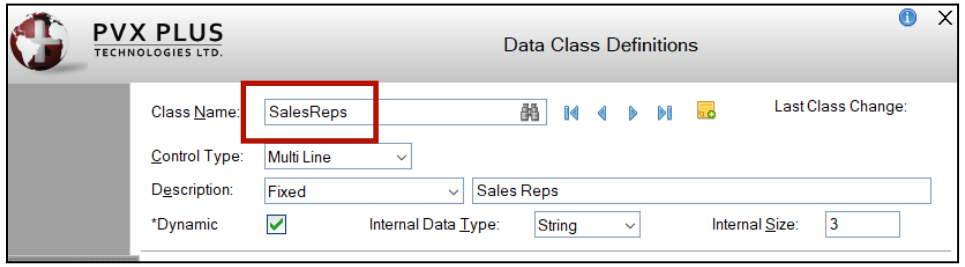
MIXED CASE CHARACTERS (2020)

MIXED CASE CHARACTERS

- Mixed Case characters can now be used when defining controls/records in all panel designers and utilities
  - Many previously enforced all CAPS
  - Case insensitive



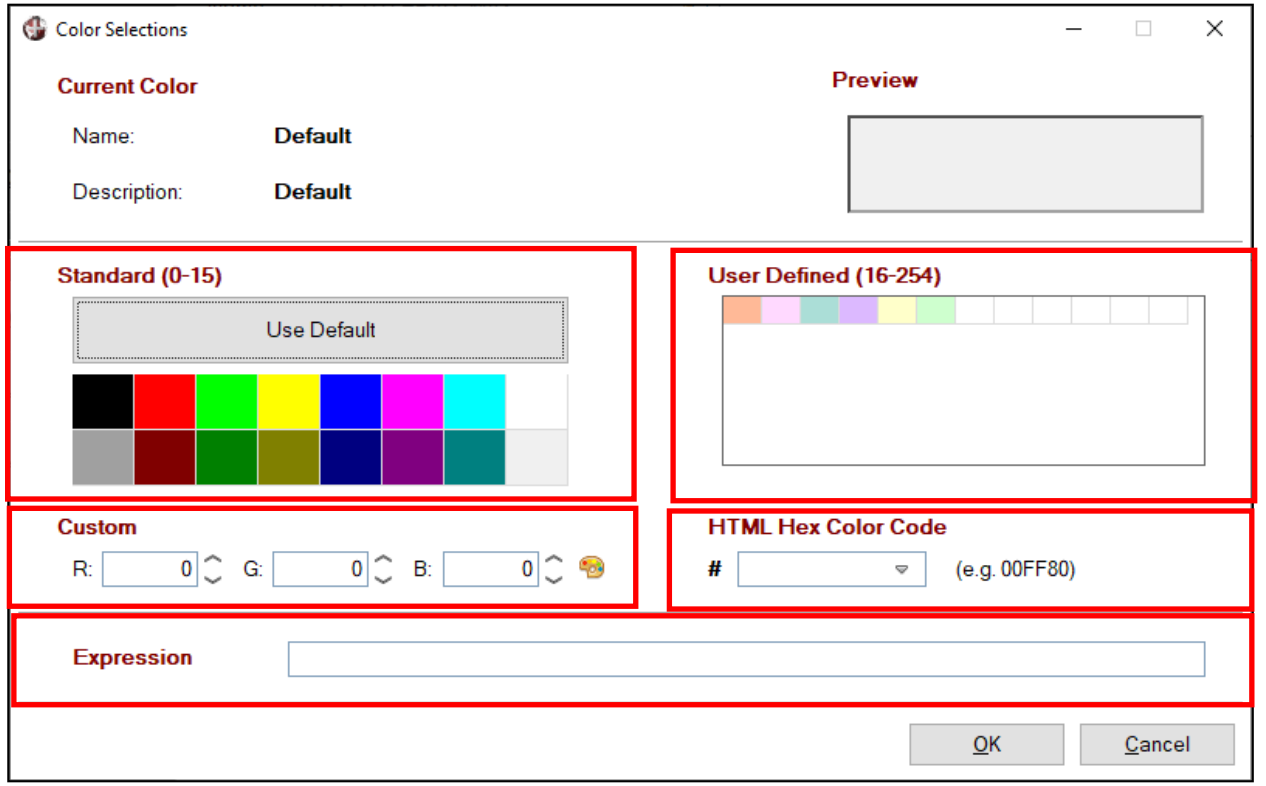


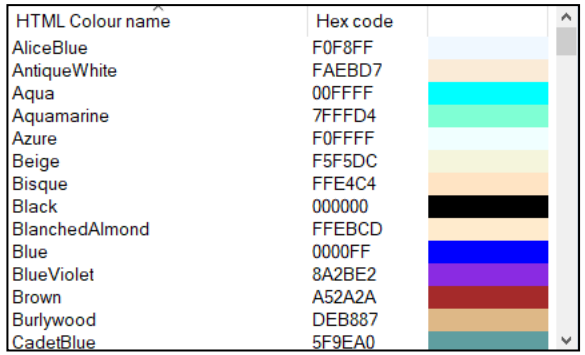


COLOR SELECTION (2020)

COLOR SELECTION DIALOG

- Standardized the Color Selection dialog for color lookups in all panel designers and utilities
  - Standard Colors
  - RGB Colors
  - User Defined Colors
  - Expressions
  - HTML Hex Color Code (PxPlus 2023)

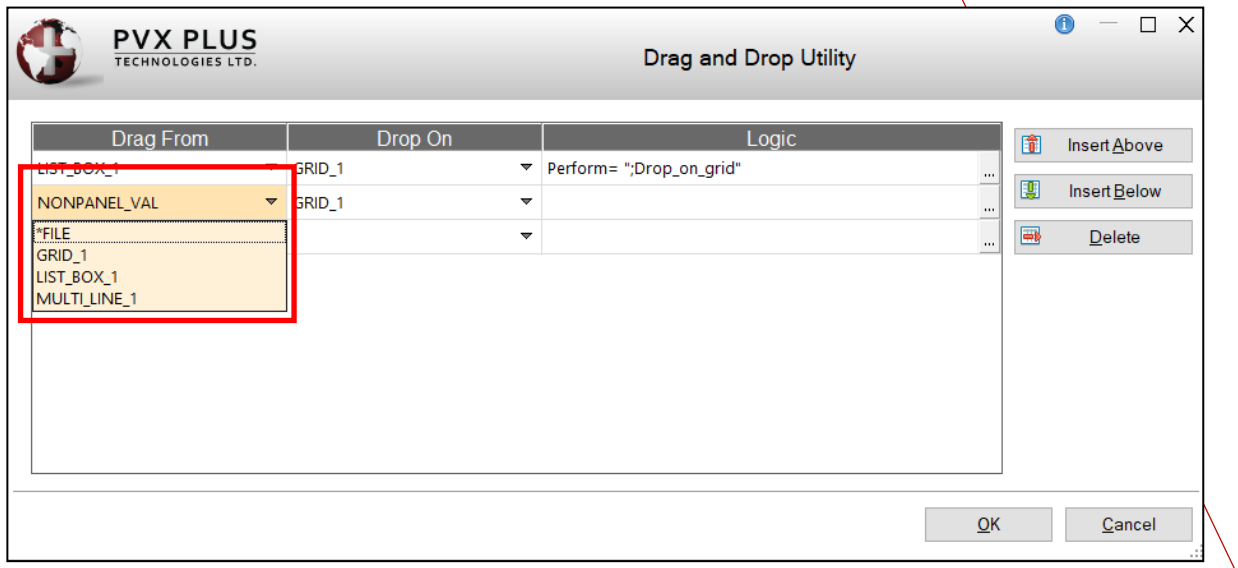




DRAG AND DROP UTILITY (2020)

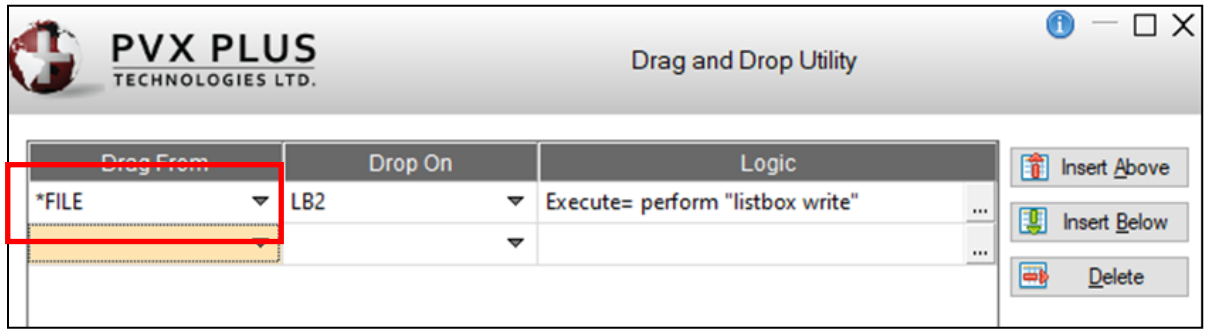
CONCURRENT PANELS

- Ability to define Drag and Drop settings for variables on concurrent panels
  - Drag From and Drop On inputs are now variable drop boxes to allow controls from concurrent panels to be entered



DRAG FROM *FILE (not supported in iNomads)

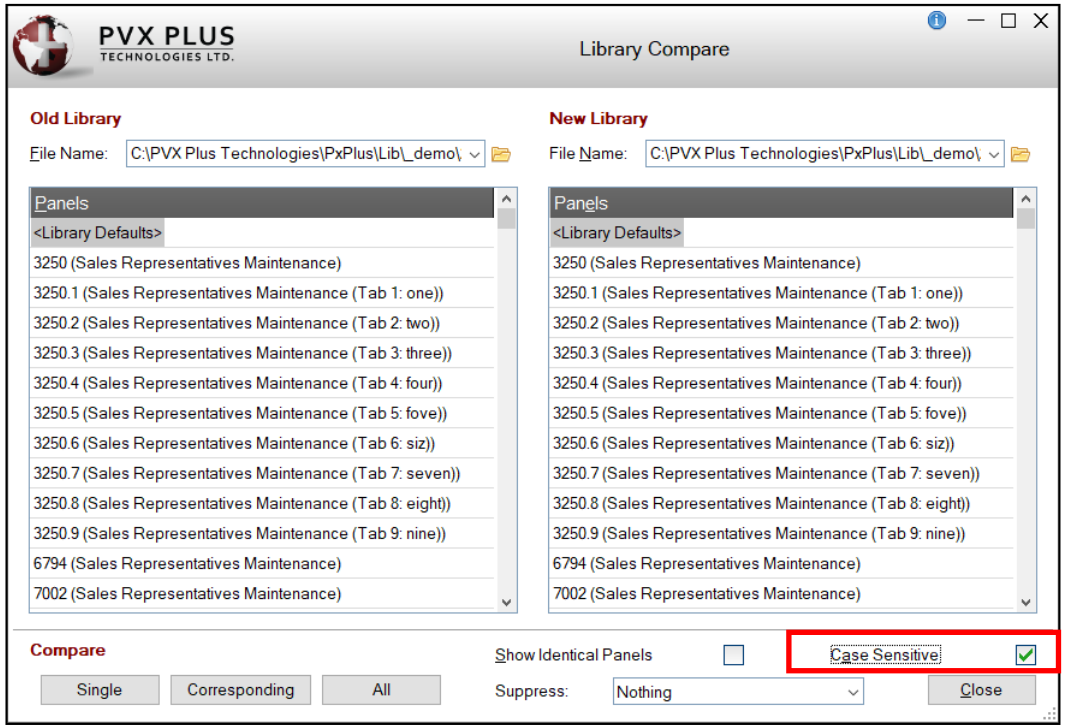
- Use *FILE to allow files from external applications (such as Windows Explorer) to be dropped onto a destination input control.



LIBRARY COMPARE (2020)

LIBRARY COMPARE DIALOG

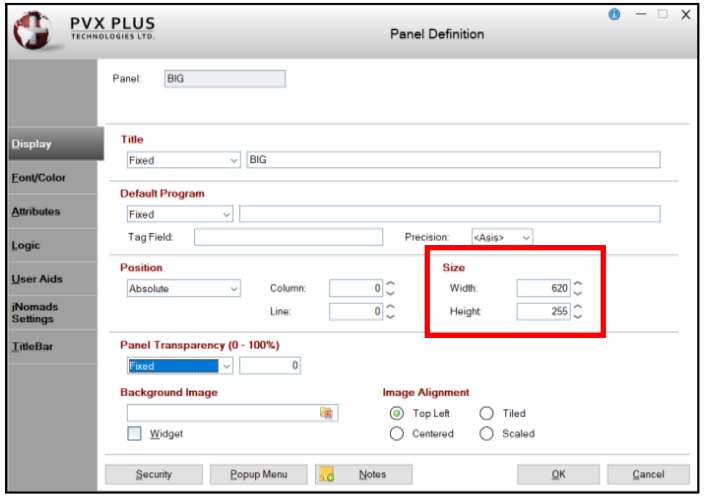
- Added ***Case Sensitive*** check box to NOMADS [Library Compare Utility]



SCREEN MAXIMUMS (2021)

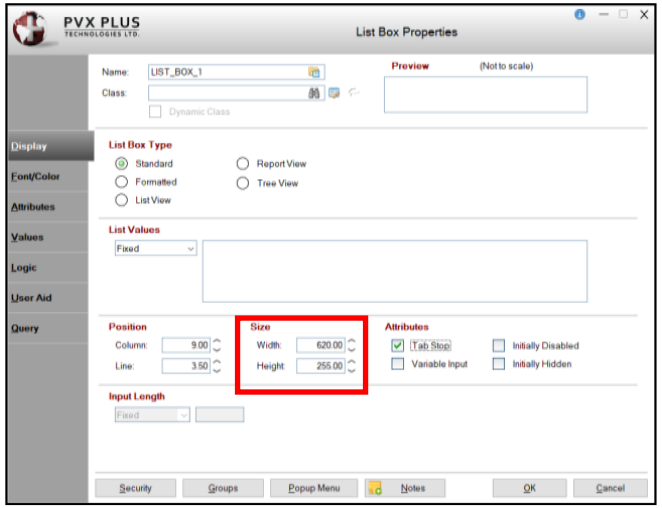
LARGER PANELS

- Support larger NOMADS panels in all designers
  - 620 wide x 255 high (was 255 wide x 240 high)

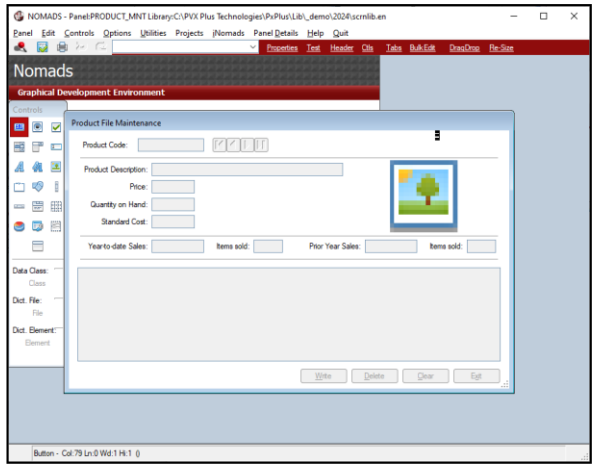


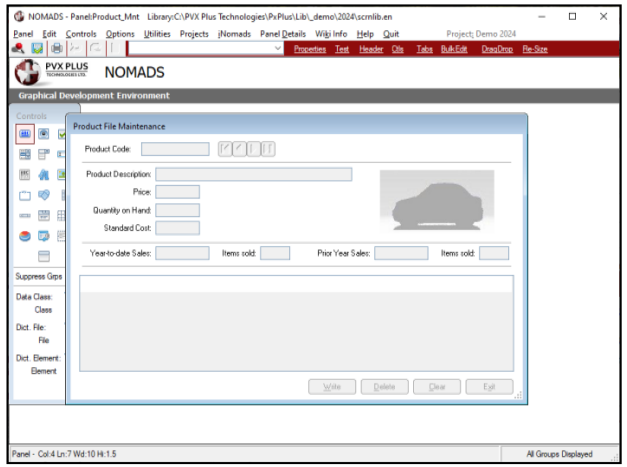
MORE CONTROLS

- Increased maximum number of controls on a panel from 200 to 999
  - Some special considerations for folders, concurrent panels and embedded panels



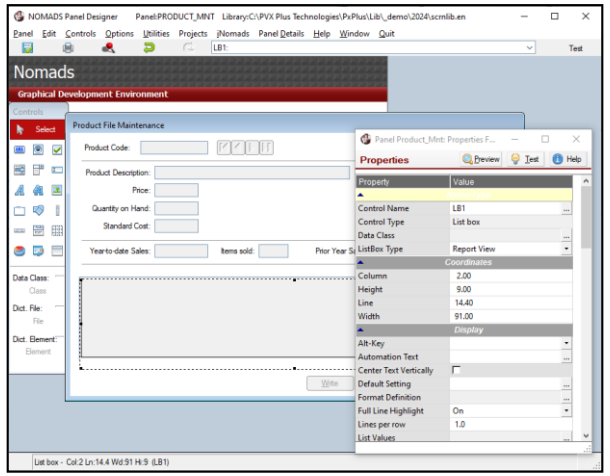
DESIGNER UI UPDATES (2021)

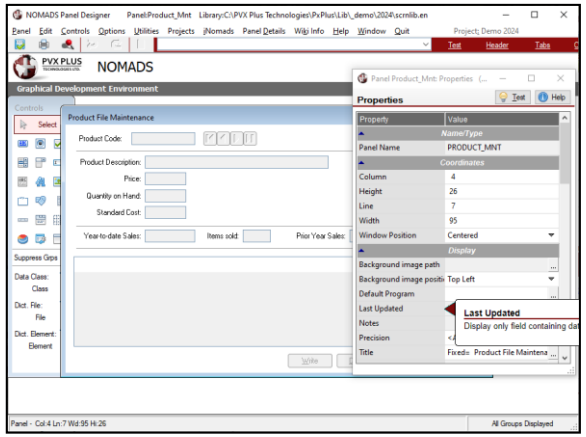




FOLDER STYLE / PROPERTY SHEETS

- UI updates to remove outdated NOMADS title bar

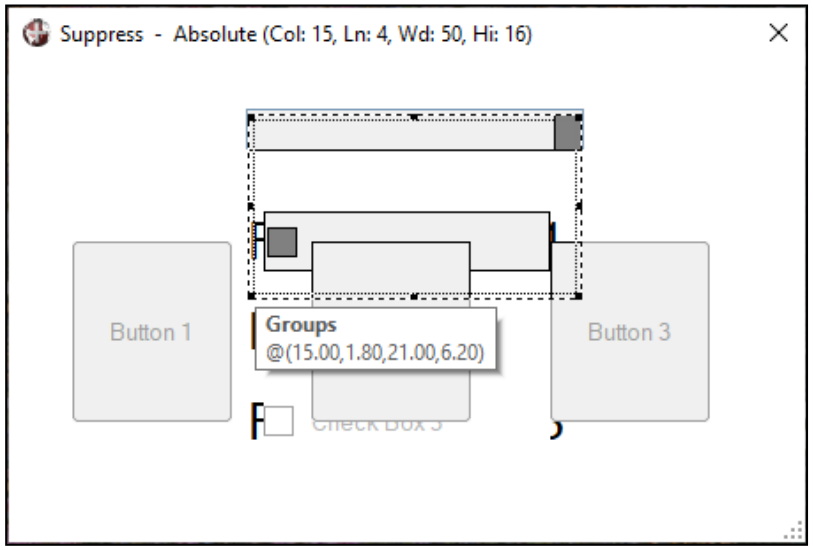


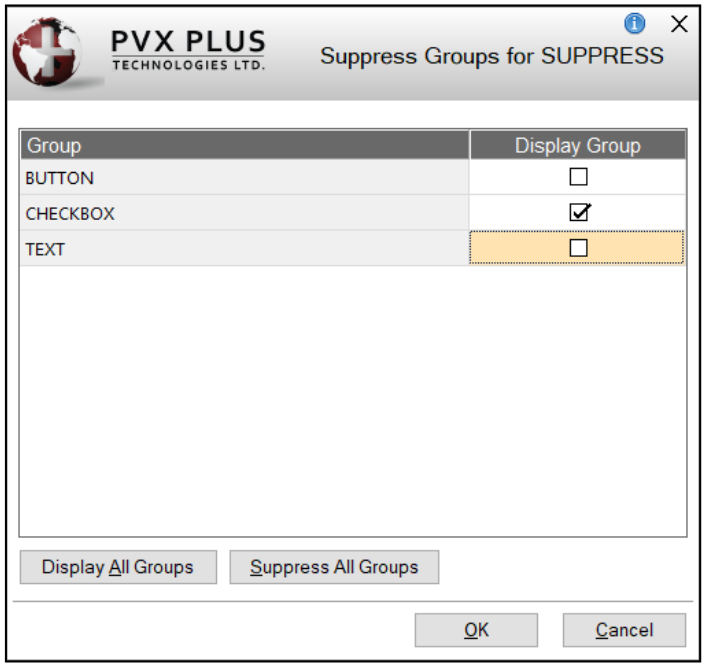


SUPPRESS GROUPS (2021)

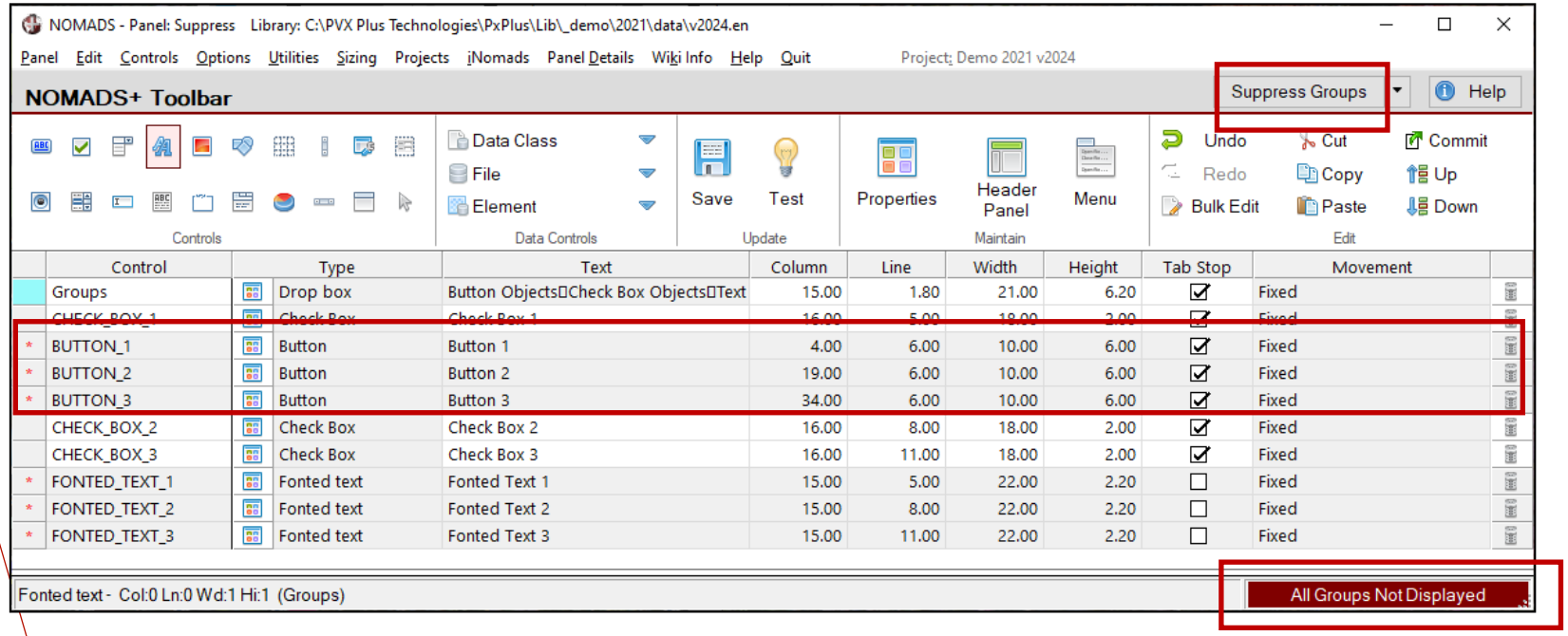
SUPPRESS GROUPS FUNCTIONALITY

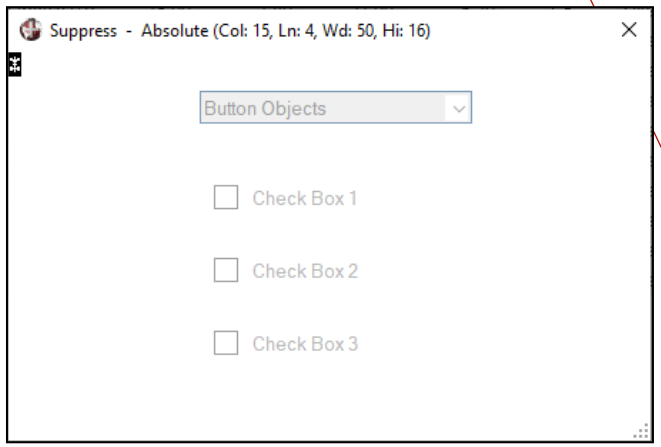
- Suppress Groups button allows controls to be suppressed by group when designing a panel
  - Controls no longer display in 'work' window
  - Useful when working with a lot of overlapping controls





GROUPS SUPPRESSED





SMART CONTROLS (2021)

NEW OPTIONS FOR SMART CONTROLS

All Smart Controls

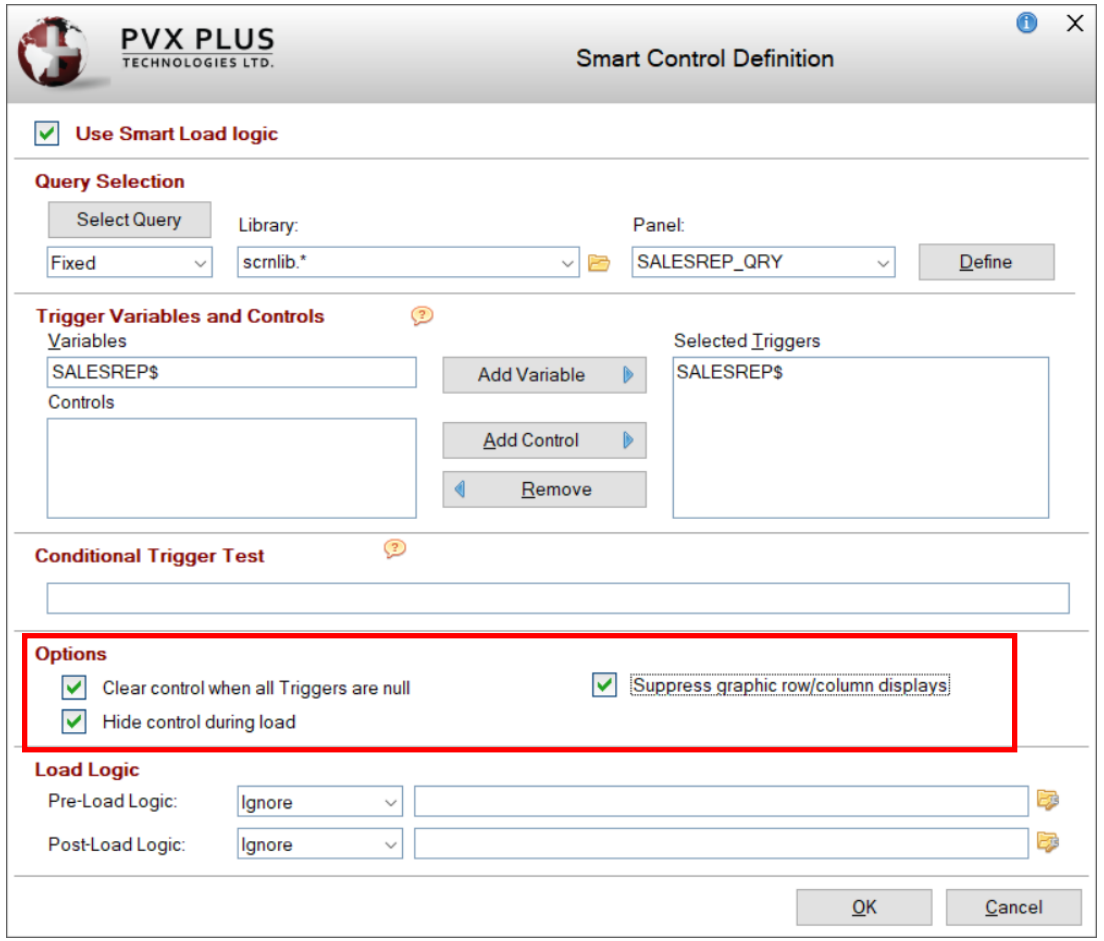
- Clear control when all triggers are null

All except Smart Multi-Lines

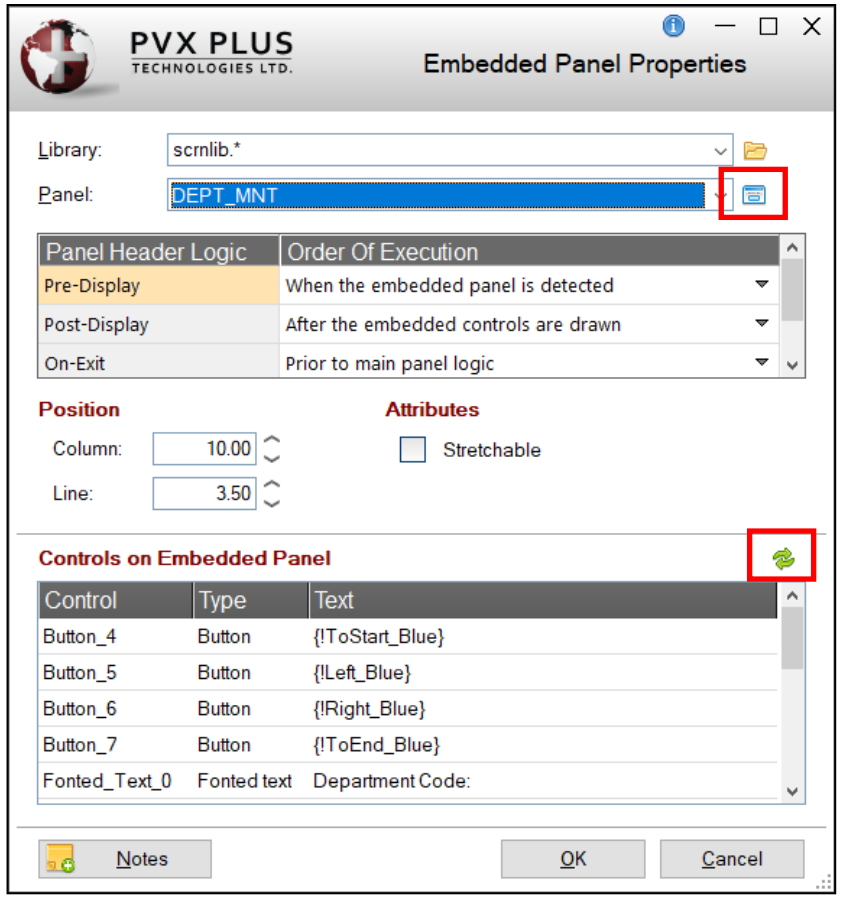
- Hide control during load (speeds up loading)

Report View List Boxes and Grids

- Suppress graphic row/column displays



EMBEDDED PANELS (2021)



EMBEDDED PANEL PROPERTIES

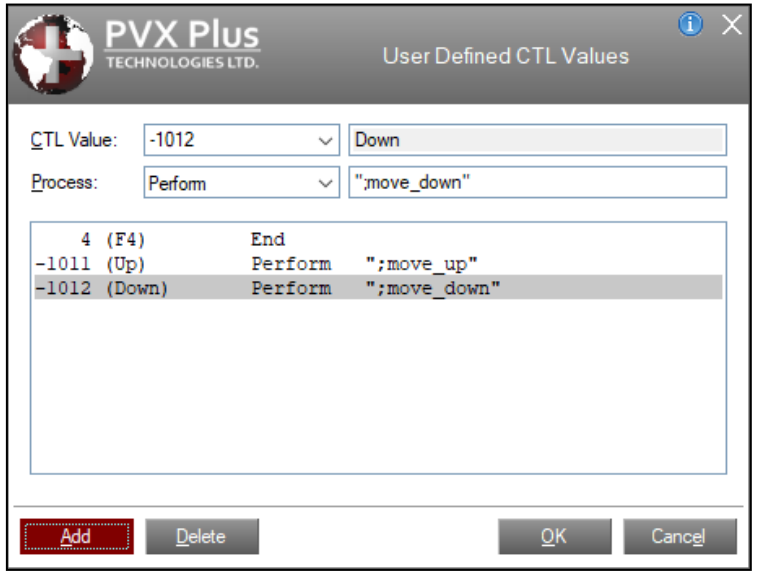
- New ***Display Embedded Panel in NOMADS*** button
  - Allows panel being embedded to be viewed/edited

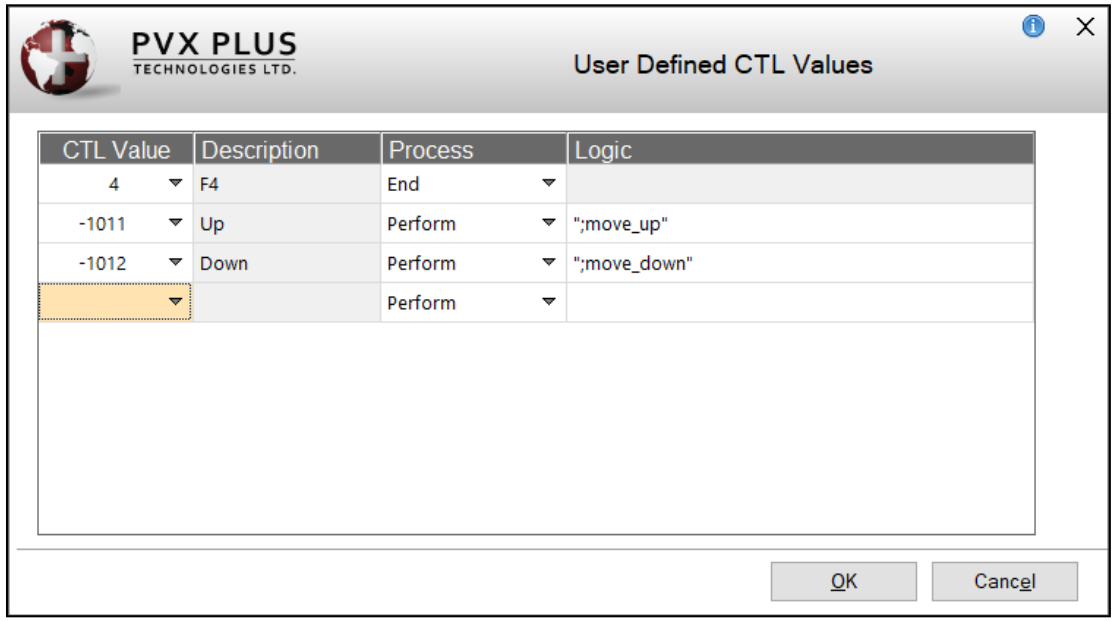
- New ***Refresh*** button

USER DEFINED CTL VALUES (2021)

USER DEFINED CTL VALUES DIALOG

- Usability enhancements to User Defined CTL Values dialog
- Replaced old inputs and list box with a grid control to simplify input

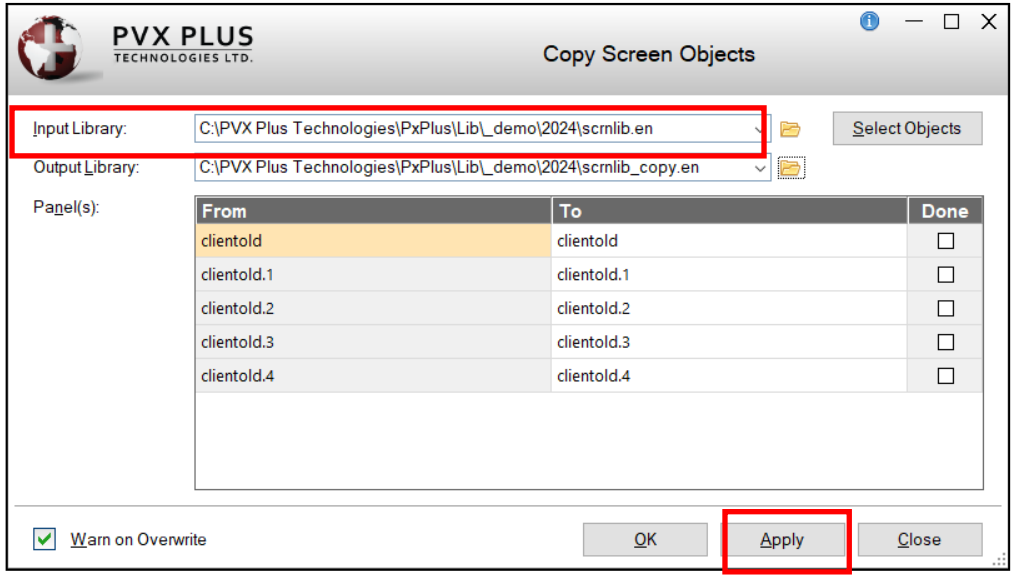




COPY LIBRARY OBJECTS (2021)

COPY SCREEN OBJECTS DIALOG

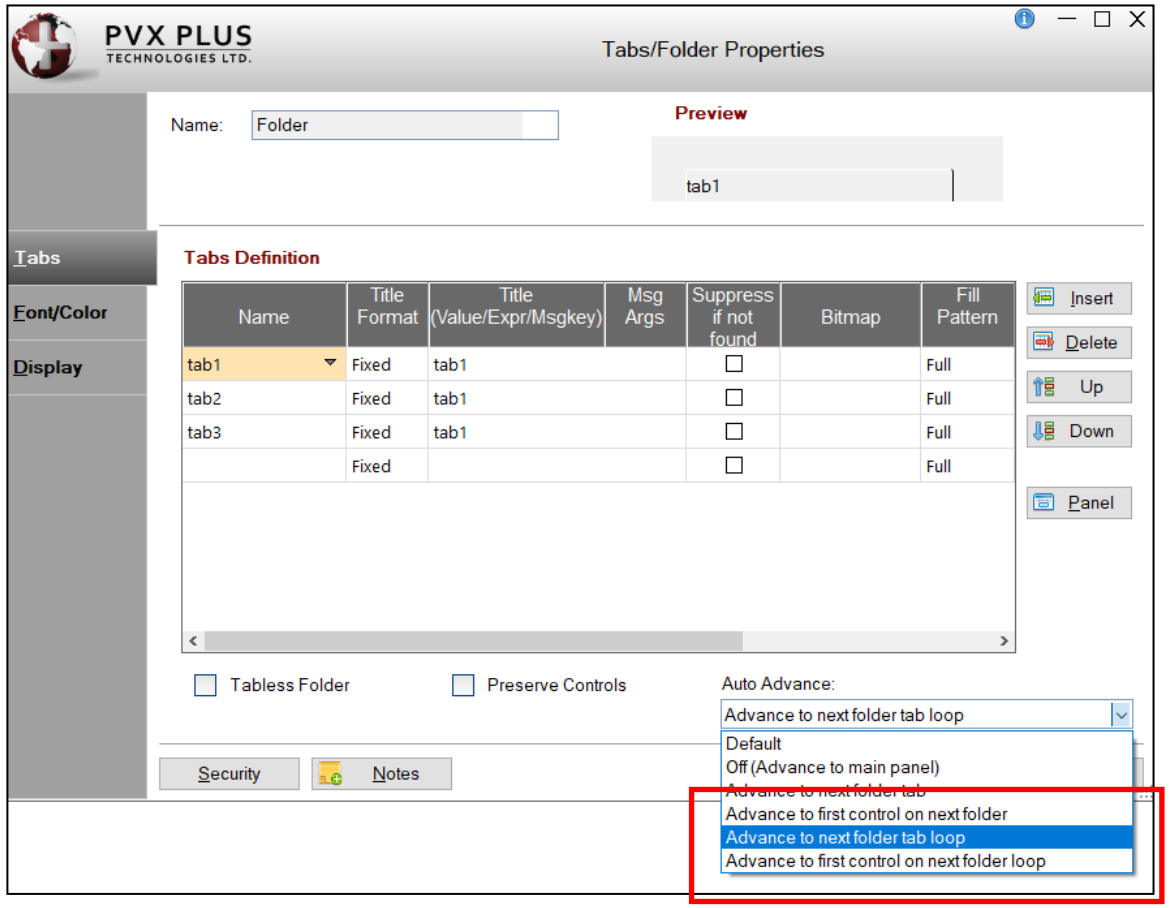
- Copy Screen Objects dialog accessed from Library Object Selection
  - Ability to specify different Input Libraries (multi-line was previously locked)
  - New ***Apply*** button allows consecutive copy operations without exiting



FOLDER ADVANCE OPTIONS (2021)

NEW OPTIONS

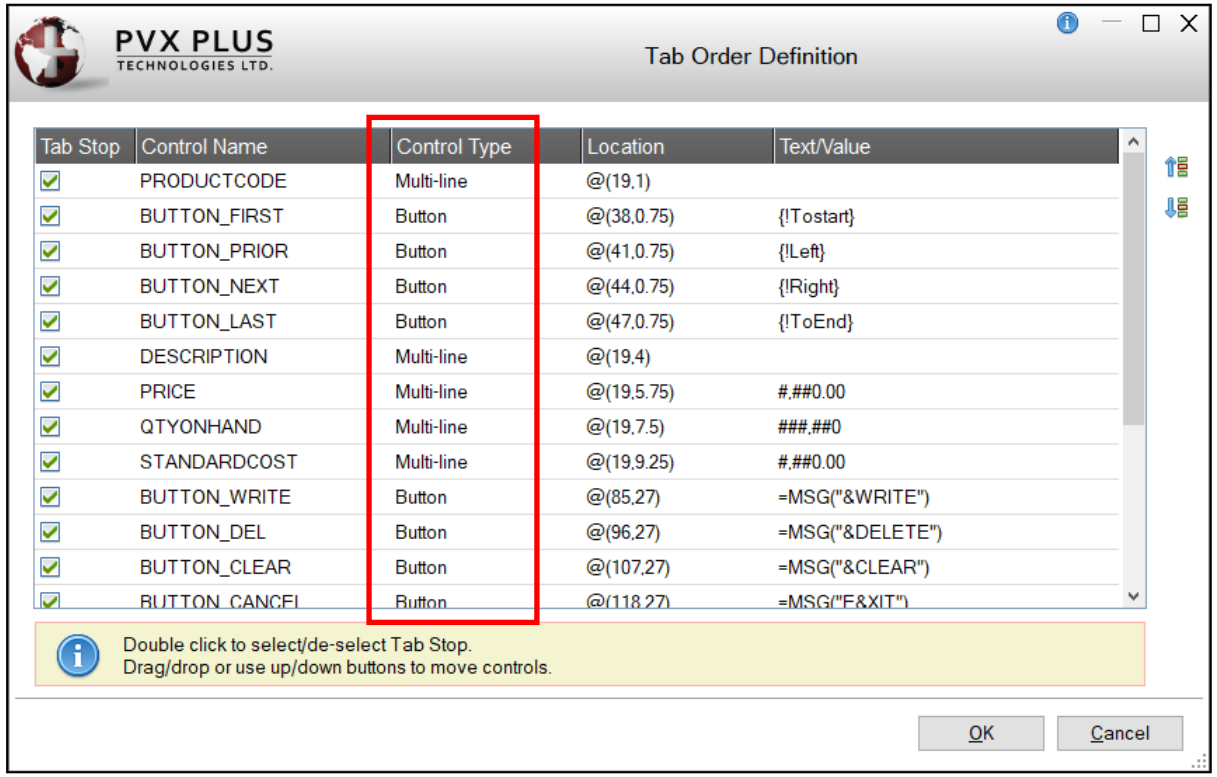
- 2 new ***Auto Advance*** options for Folder Properties tabbing behavior
  - Advance to next folder tab loop
  - Advance to first control on next folder tab loop



TAB ORDER DEFINITION (2023)

TAB ORDER DEFINITION

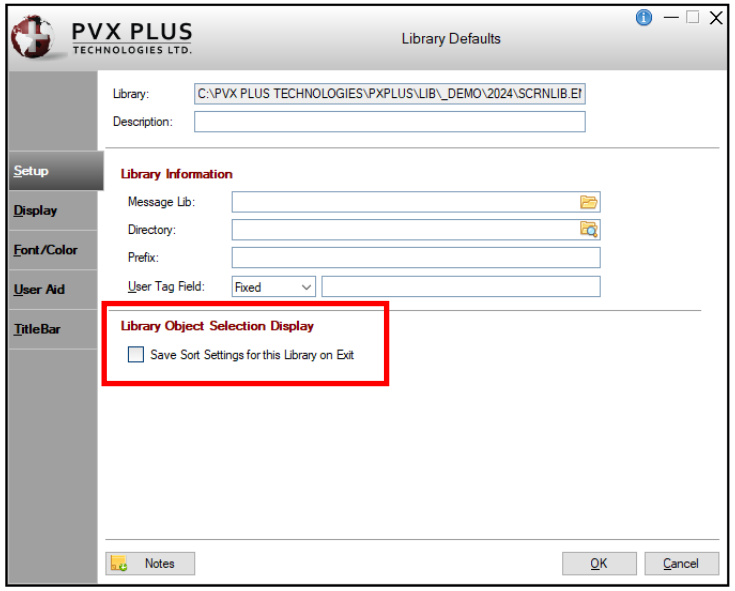
- ***Control Type*** column added to the Tab Order Definition dialog to help identify controls

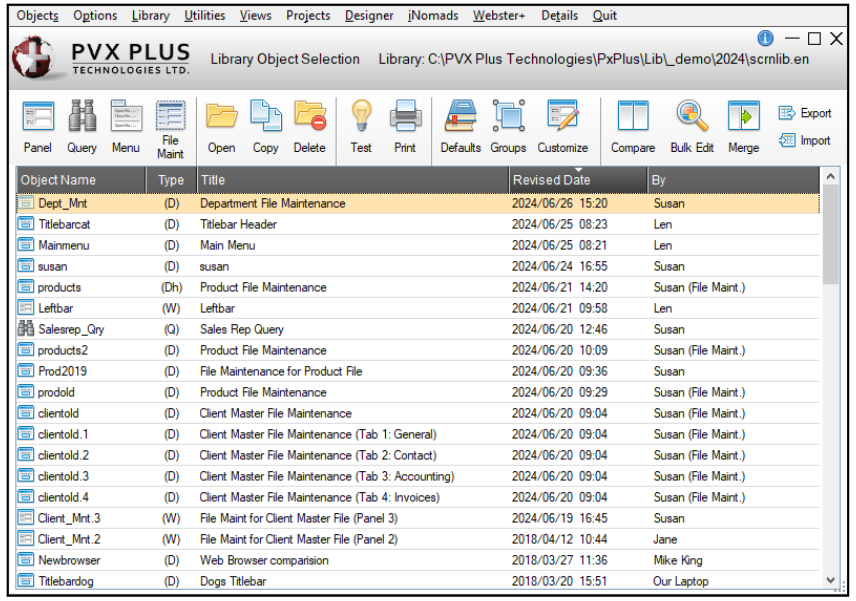


LIBRARY OBJECT SELECTION SORT (2023)

NEW LIBRARY DEFAULTS SETTING

- Save Sort Settings for the Library on Exit check box





- Allows objects to initially appear sorted as they were when Library Object Selection was last exited (rather than by Object Name)
  - Newest changes at the top for example

NOMADS WIKI HELP (2023)

PXPLUS WIKI APPLICATION DOCUMENTATION SYSTEM

- Web-based documentation system

NOMADS WIKI HELP

- The Wiki Help option in NOMADS generates Help documentation directly from a panel and displays it using the PxPlus Wiki

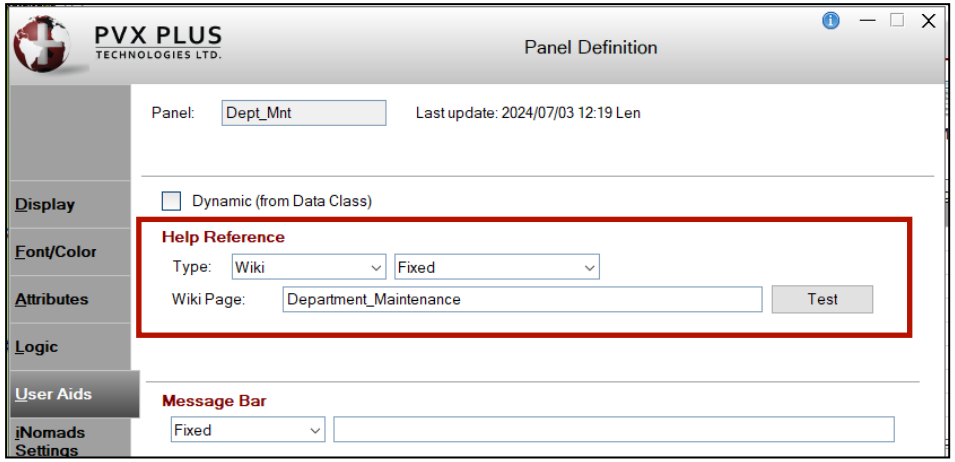
- A Webserver is required and the new NOMADS WikiURL$ property must be set

```
%NOMADS'WikiURL$="localhost:8086"
```

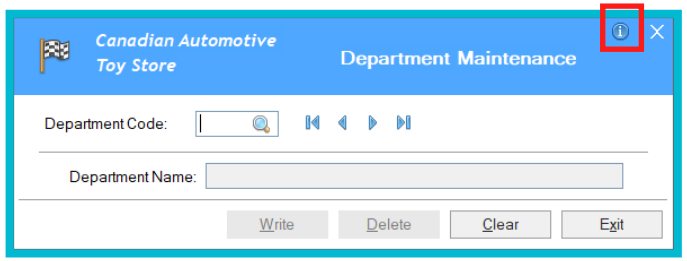
DEFINING WIKI HELP

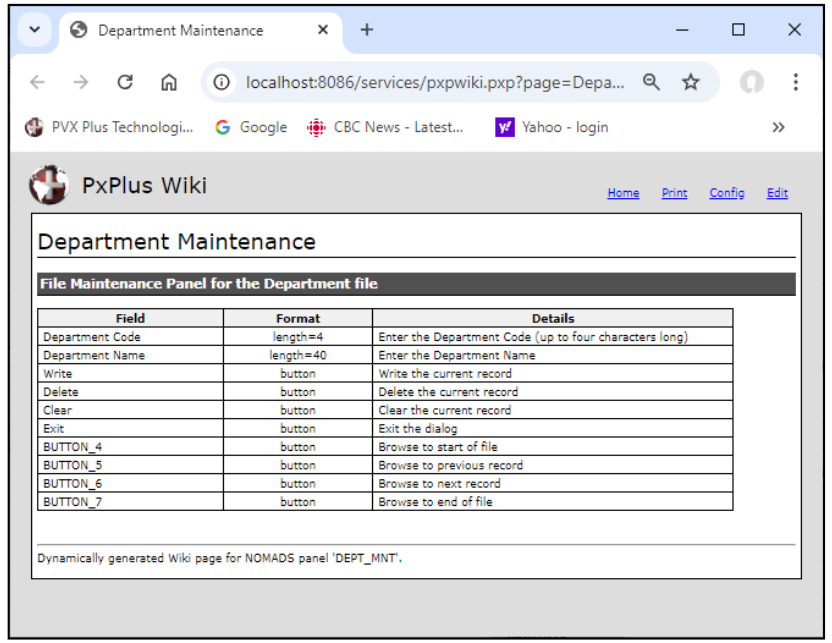
PANEL HEADER, USER AIDS TAB

- Change the Help Reference Type to ***Wiki***
  - Wiki Page will default to the Panel Name (but can be changed)



- When panel is processed, invoke Help as usual by pressing the F1 key or by clicking the Help button (if applicable)

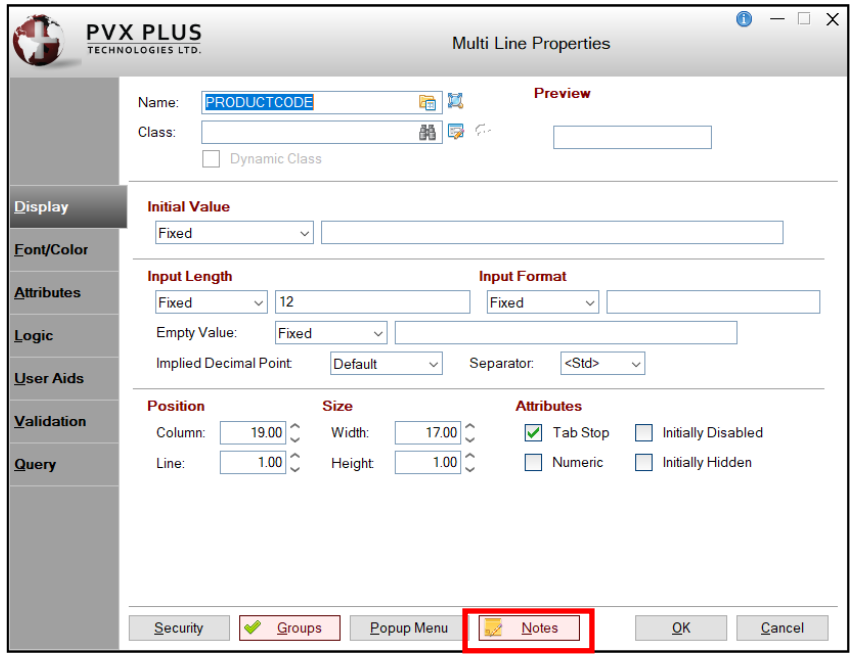


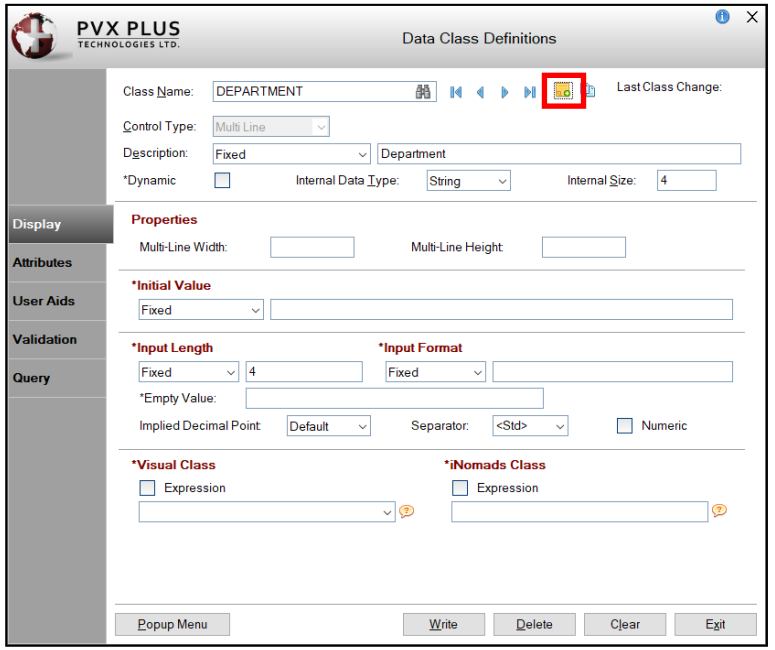


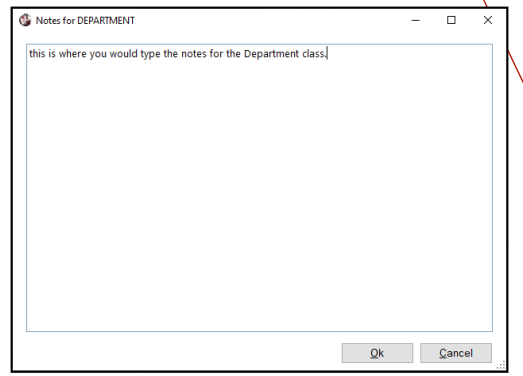
NOMADS WIKI HELP NOTES

NOTE INPUTS

- NOMADS Wiki uses ***Notes*** (when available) for panel and control details
- Notes options were therefore added to all NOMADS controls and Data Classes



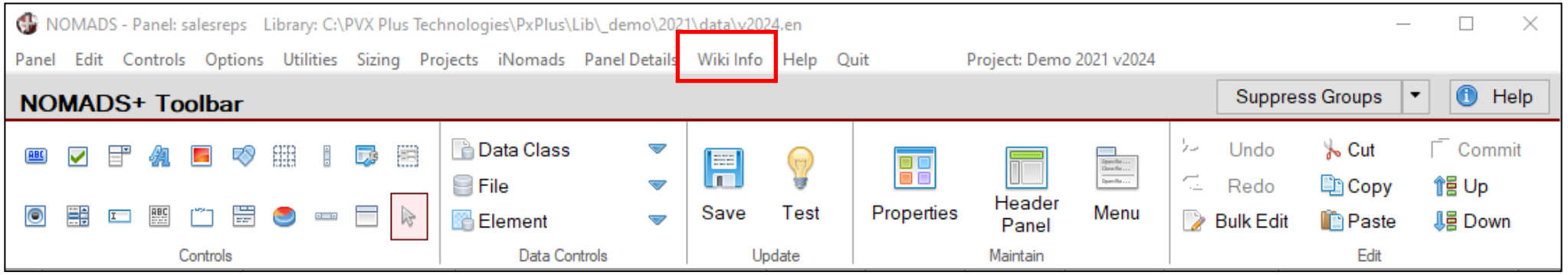




NOMADS WIKI INFO (2023)

WIKI INFO MENU

- Wiki Info added to panel Designer top Menu

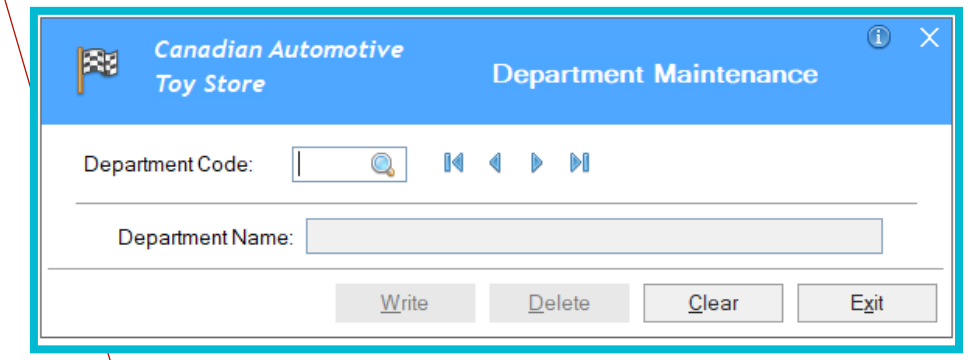


- Spawns EZWeb for the **PxPlus Wiki** using port 47587 (if not already running) and then displays panel information for the current NOMADS panel in a new tab on your default Web browser.

WIKI INFO EXAMPLE

EXAMPLE

- Information from NOMADS library file
- Information geared toward developers rather than end users



PxPlus Wiki

Home Print Config Edit

Nomads Panel Library: C:\PVX Plus Technologies\PxPlus\lib_demo\2024\scrnlib.en

Show Library

Panel name: Dept_Mnt

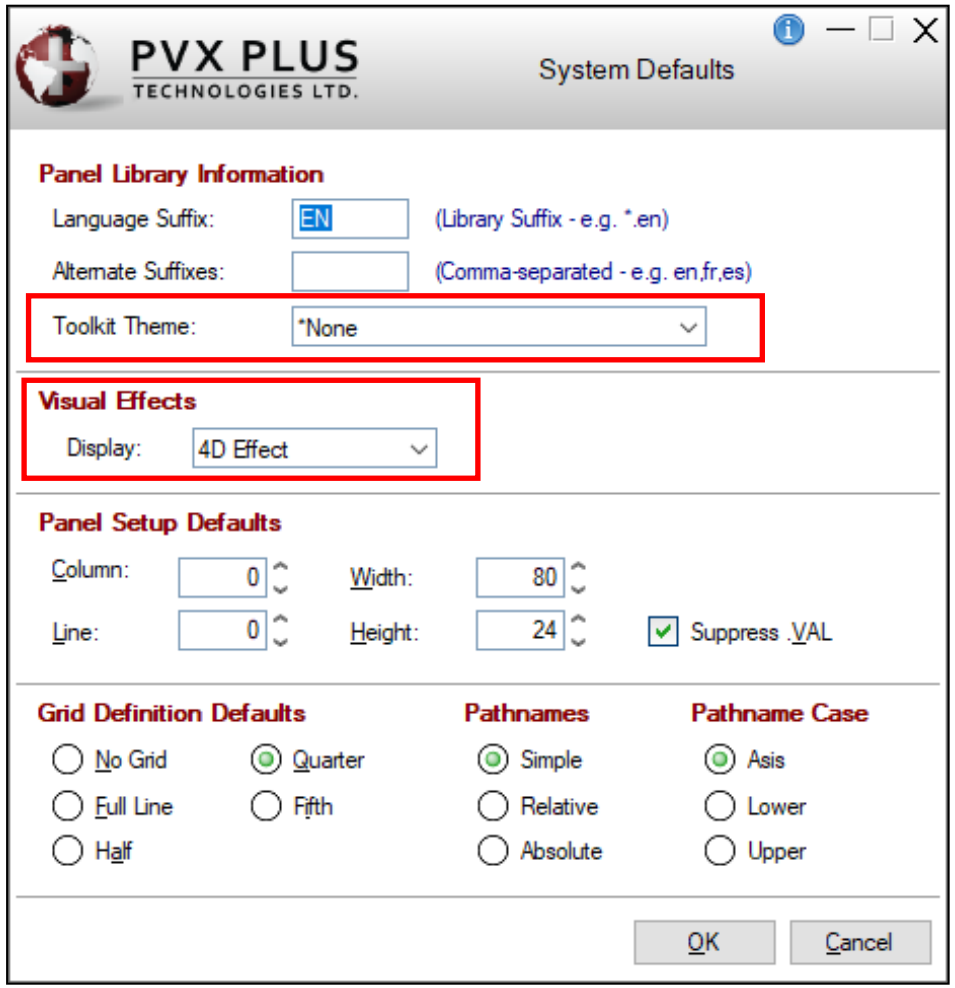
Header Information

Title: **Department Maintenance**
Type: **Dialog**
Position: **Column 6, Line 11**
Size: **Width 65, Height 8**
Notes: **File Maintenance Panel for the Department file**

Panel Controls

Control	Type	Position	Size	Description
BUTTON_4	Button	Column 28, Line 0.75	Width 3, Height 1.5	*Contents:* **{!ToStart_Blue}** *On Press::* **Perform:"*win/flmaint;First_rec"** *Tip:* **=MSG("PRESS_1ST")** *Visual Class:* **BITMAPBUTTON**
BUTTON_5	Button	Column 31, Line 0.75	Width 3, Height 1.5	*Contents:* **{!Left_Blue}** *On Press::* **Perform:"*win/flmaint;Prior_rec"** *Tip:* **=MSG("PRESS_PRE")** *Visual Class:* **BITMAPBUTTON**
BUTTON_6	Button	Column 34, Line 0.75	Width 3, Height 1.5	*Contents:* **{!Right_Blue}** *On Press::* **Perform:"*win/flmaint;Next_rec"** *Tip:* **=MSG("PRESS_NEXT")** *Visual Class:* **BITMAPBUTTON**
BUTTON_7	Button	Column 37, Line 0.75	Width 3, Height 1.5	*Contents:* **{!ToEnd_Blue}** *On Press::* **Perform:"*win/flmaint;Last_rec"** *Tip:* **=MSG("PRESS_LAST")** *Visual Class:* **BITMAPBUTTON**
Fonted_text_0	Fonted Text	Column 3, Line 1	Width 14, Height 1	*Contents:* **Department Code:**
DEPARTMENTCODE	Multi Line	Column 18, Line 1	Width 8, Height 1	*Max length:* **4** *Post Display:* **Execute:_KEYDEF$="DepartmentCode$",_NUMDEF$="",_REQD$="DepartmentName$,",_REQD_PNL$="0"** *On Focus:* **Perform:"*win/flmaint;Check_changes"** *On Change::* **Perform:"*win/flmaint;Find_rec"** *Query panel:* **Dept_qry** in **scrnlib.en**

SYSTEM DEFAULTS (2024)



SYSTEM DEFAULT SETTINGS

- New ***Toolkit Theme*** setting
  - *None
  - *Dark
  - *Light
  - Saved by project

- Visual Effects Display now defaults to ***4D***

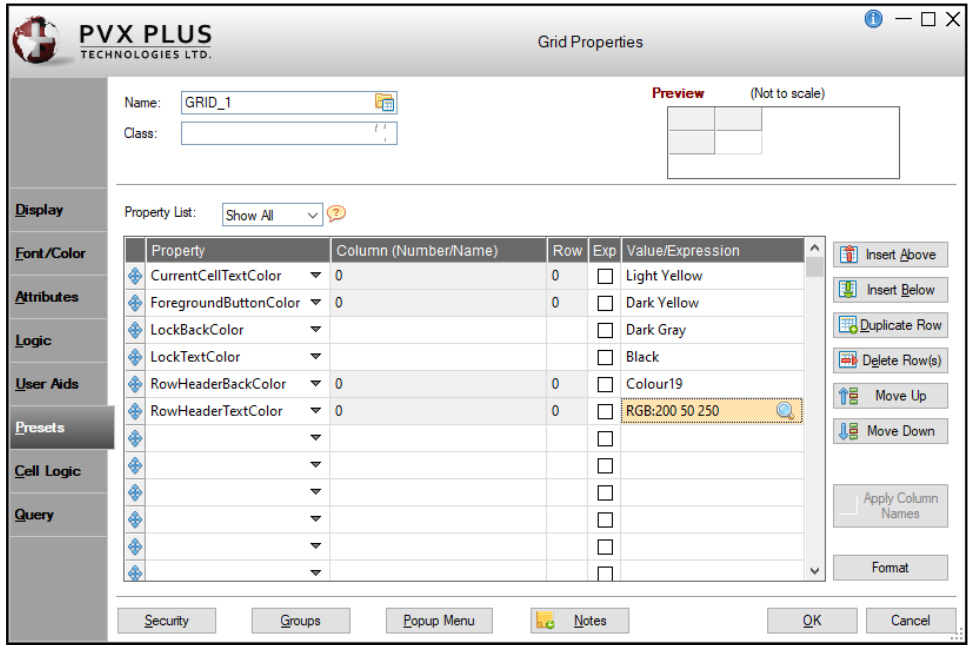
See 'Application Look and Feel' PDF for more details

GRID PRESETS (2024)

GRID PRESETS DIALOG

- 6 New Properties added to Grid Presets to support 'look and feel' changes

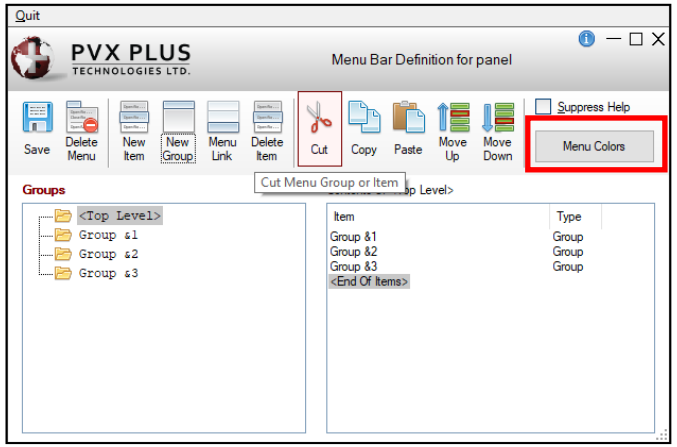
  - CurrentCellTextColor$
  - ForegroundButtonColor$
  - LockBackColor$
  - LockTextColor$
  - RowHeaderBackColor$
  - RowHeaderTextColor$

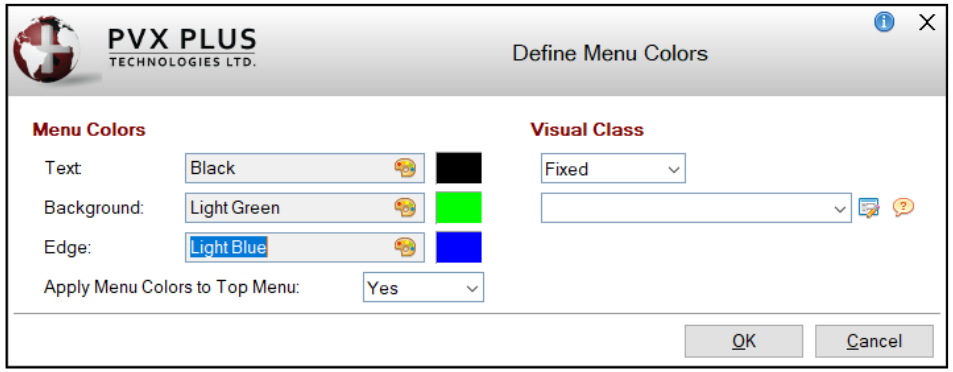


MENU BAR/POPUP MENU (2024)

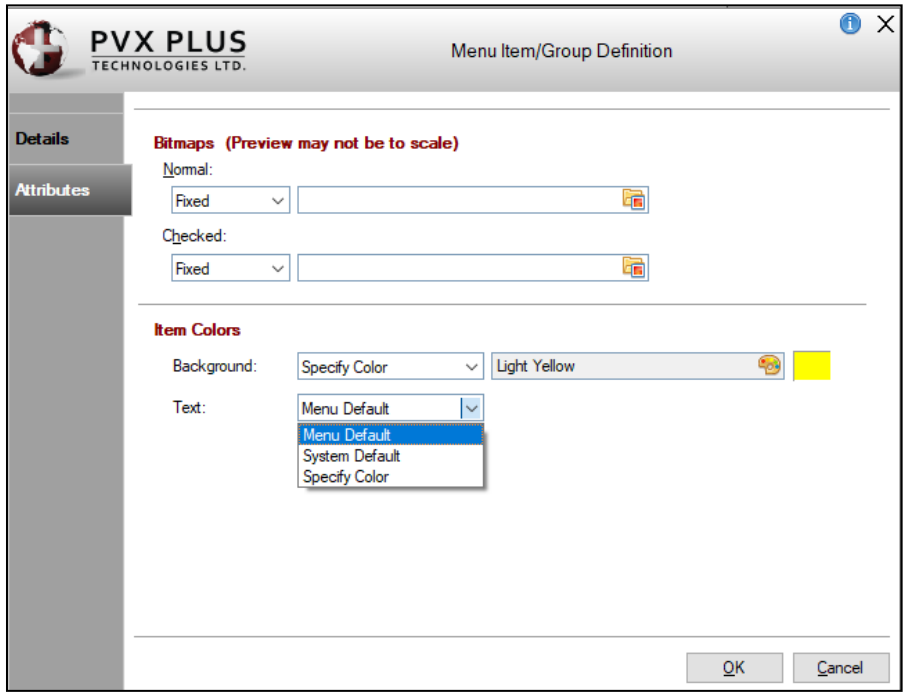
MENU DEFINITIONS

- Enhancements for defining Menu Colors using Menu Bar Definition dialogs
- ***Menu Colors*** button
  - Added ***Text*** color and ***Visual Class***
  - New ***Apply Menu Color to Top Menu*** drop box not available for Popup Menus





MENU ITEM COLORS



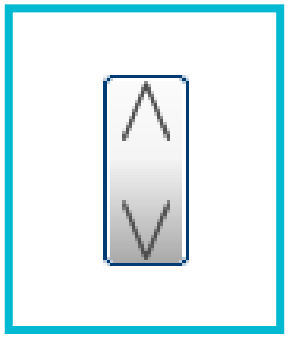
MENU ITEMS

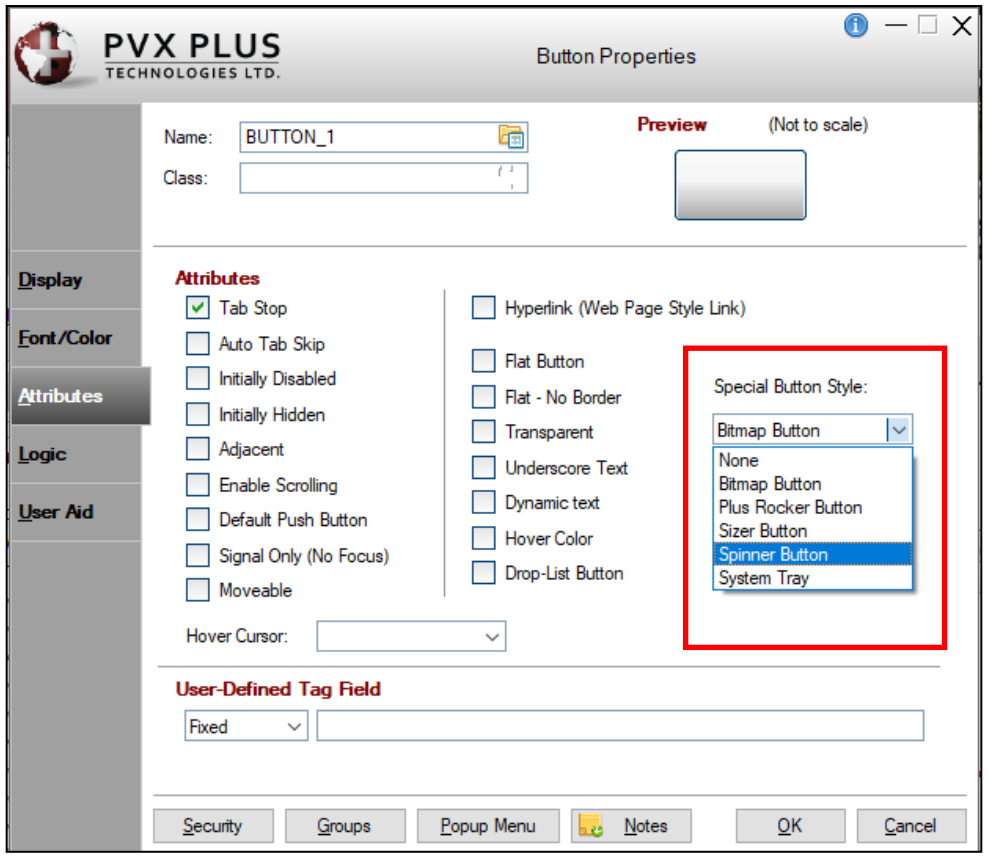
- Individual Menu Items can also be assigned colors if desired
  - Added ***Text*** Item Color

SPINNER BUTTON (2024)

BUTTON PROPERTIES

- Added ***Spinner Button*** Attribute for Button controls
- Re-configured Attributes
  - Created Special Button Style drop box
  - Only 1 should apply

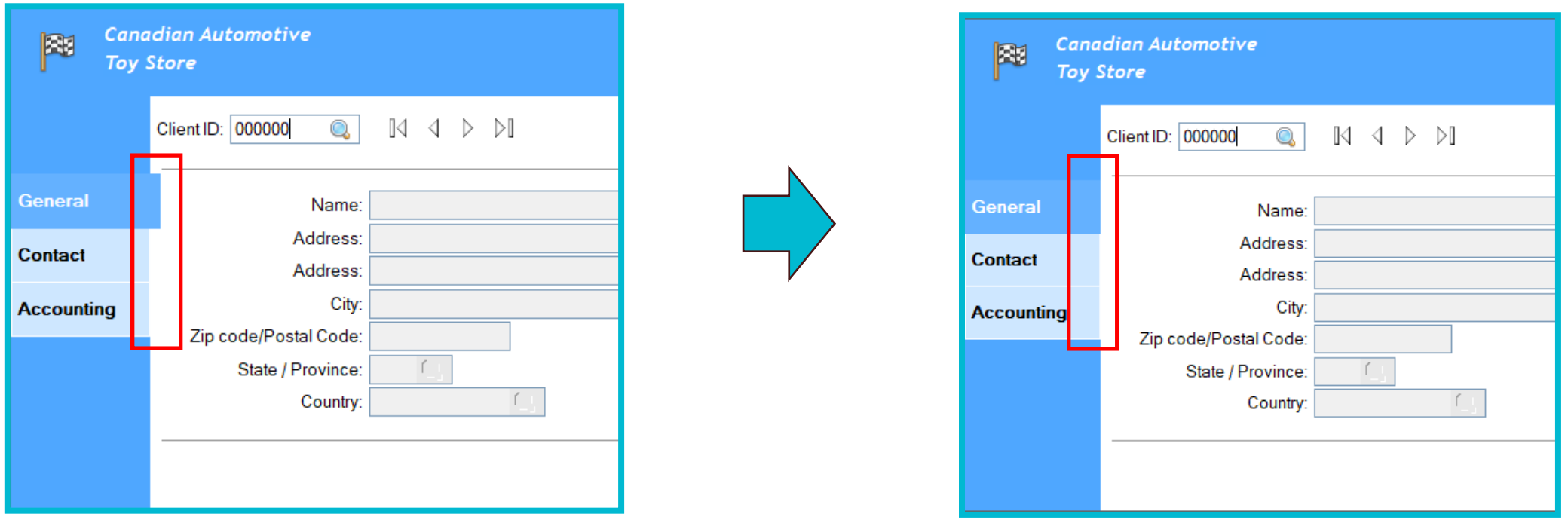




DO NOT EXTEND TAB WIDTH (2024)

FOLDER PROPERTIES / DISPLAY TAB

- New ***Do Not Extend Tab Width When Active*** check box added for Sidebar folders



DYNAMIC BUTTON TEXT (2024)

BUTTON ATTRIBUTES

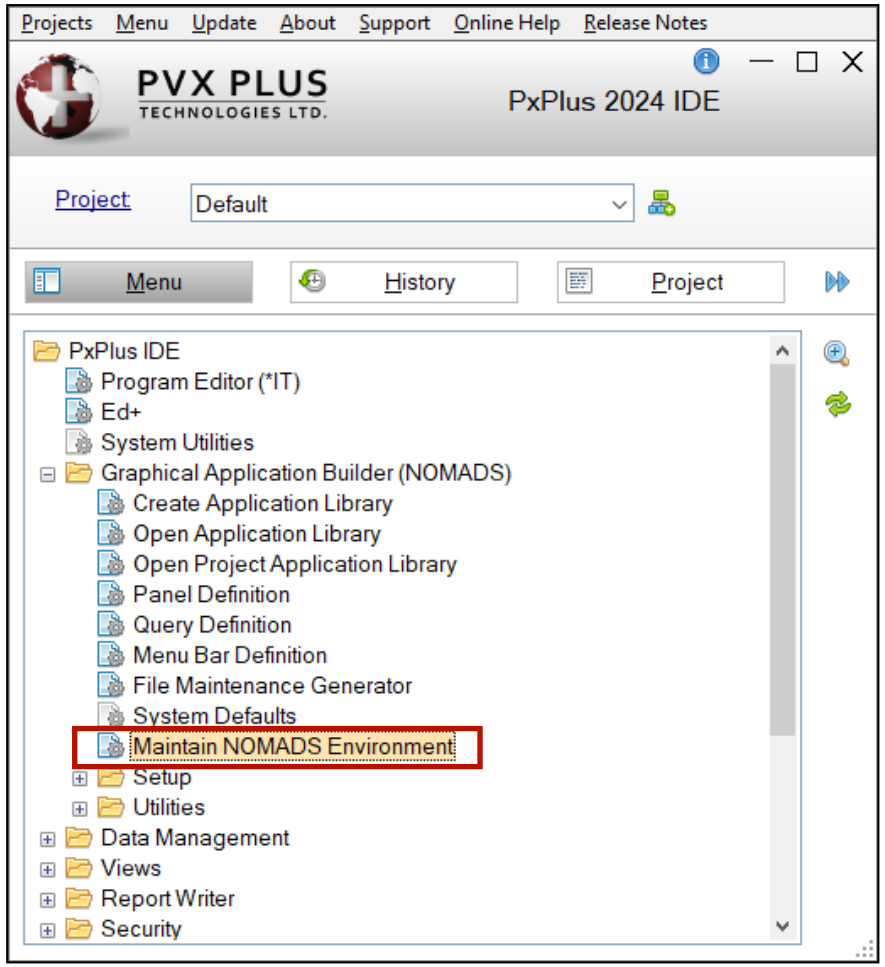
- New ***Dynamic Text*** attribute for Button Controls
  - Control text via control string variable name (such as BUTTON_1$)

BUTTON_1$="NEW BUTTON TEXT"

refresh_flg or Auto Refresh Header attribute **required**

UTILITIES

MAINTAIN NOMADS ENVIRONMENT (2020)



NEW MAINTAIN NOMADS ENVIRONMENT UTILITY

- Accessed from task on IDE Menu or the NOMADS Session Manager
- Central location to display and maintain %NOMADS properties used by the %NOMADS object (*obj/nomads.pvc) to control the NOMADS environment
- Alternative to setting them in the **start_up** program
- Values are set on instantiation of the global %NOMADS object if the settings file exists in the current directory

MAINTAIN NOMADS ENVIRONMENT

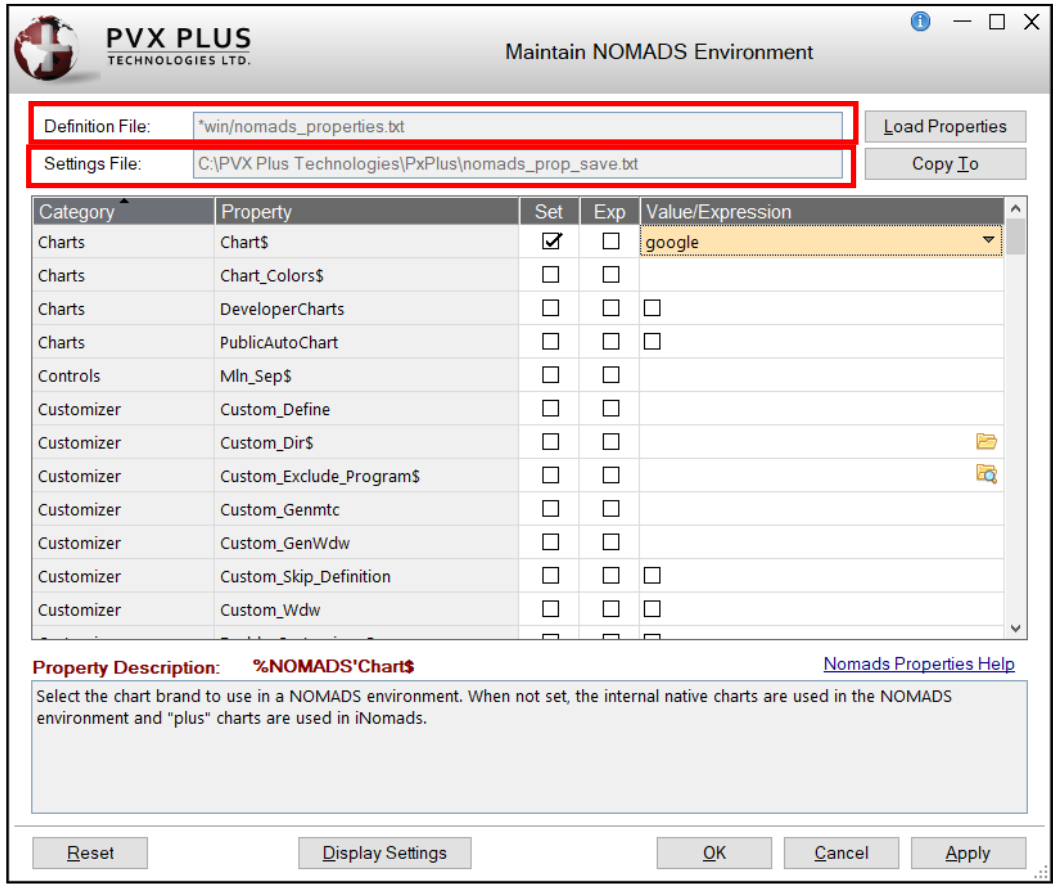
- Properties displayed in a grid
- Descriptions for selected individual properties are shown below

DEFINITION FILE

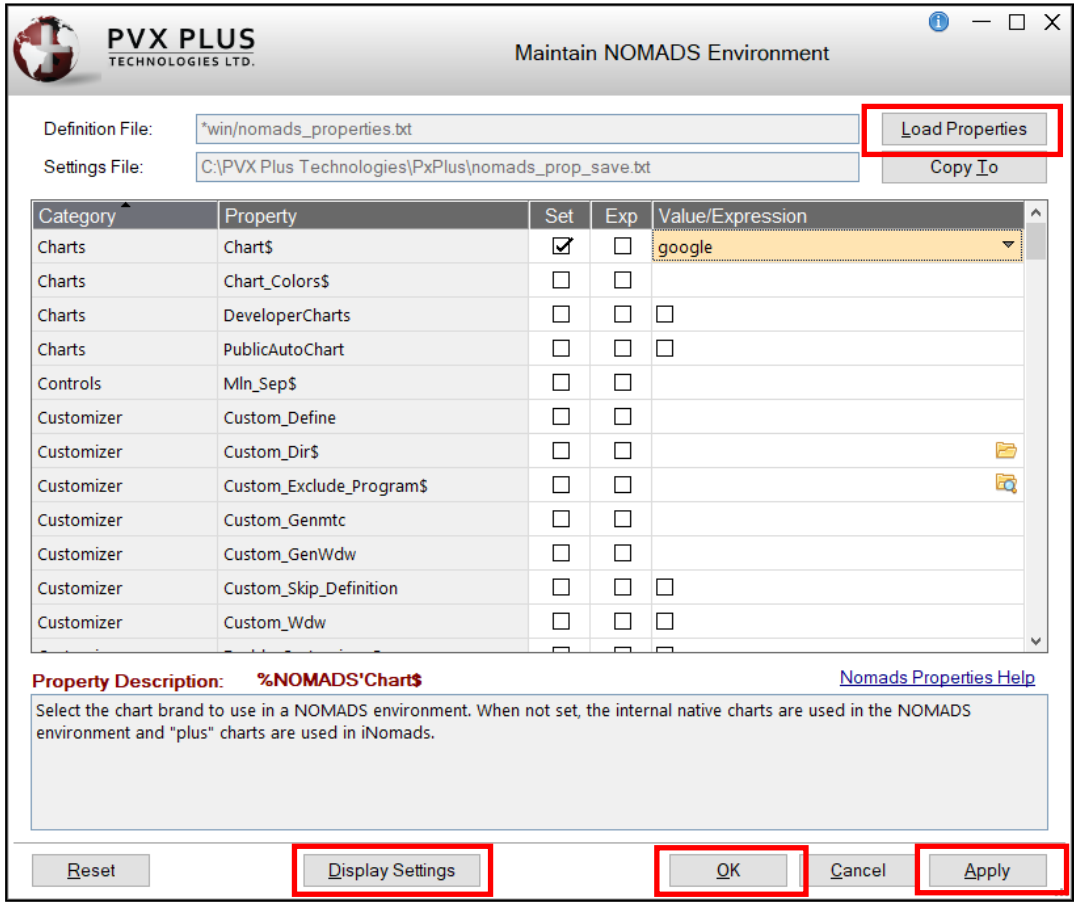
- Values to be set are read from a Definition File
  - ***win/nomads_properties.txt**

SETTINGS FILE

- Values saved in a text Settings File
  - **nomads_prop_save.txt**



NOMADS ENVIRONMENT BUTTONS



LOAD PROPERTIES BUTTON

- Populates the grid with current values for the %NOMADS properties

DISPLAY SETTINGS BUTTON

- Shows contents of the Settings File as of last save

OK & APPLY BUTTONS

- Save the values to be set in the Settings text file

PROPERTY MAINTENANCE UTILITY

PROPERTY MAINTENANCE UTILITY

- Basic architecture can be used to maintain properties for any object
  - Property Maintenance Utility (*win/propset)

```
CALL "*win/propset;maint",def_file$,settings_file$
```

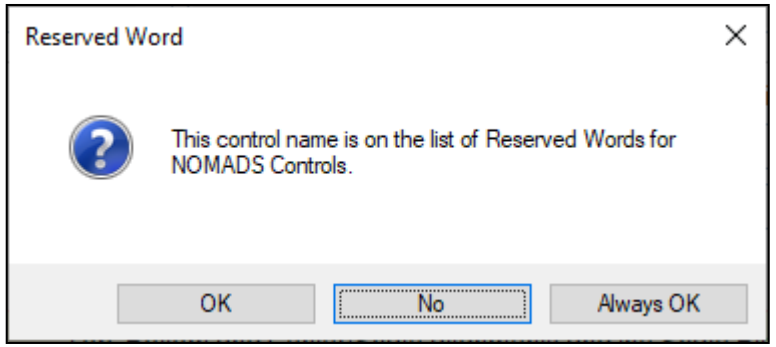
WHERE	EXPLANATION
def_file$	Pathname of the developer-defined Object Definition File that contains the properties definitions
settings_file$	Pathname of the user-defined Settings File that contains the properties and their values to be set

USER RESERVED WORDS (2020)

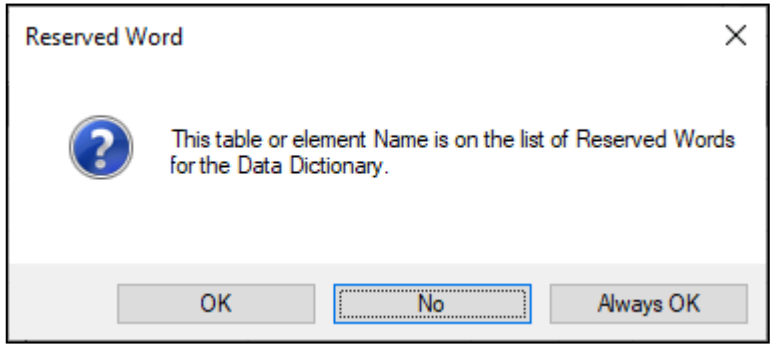
NEW RESERVED WORDS MAINTENANCE UTILITY

- Maintain a list of "reserved" words that cannot be used for Data Dictionary tables and element names or NOMADS control names or both

NOMADS Control



Data Dictionary Element



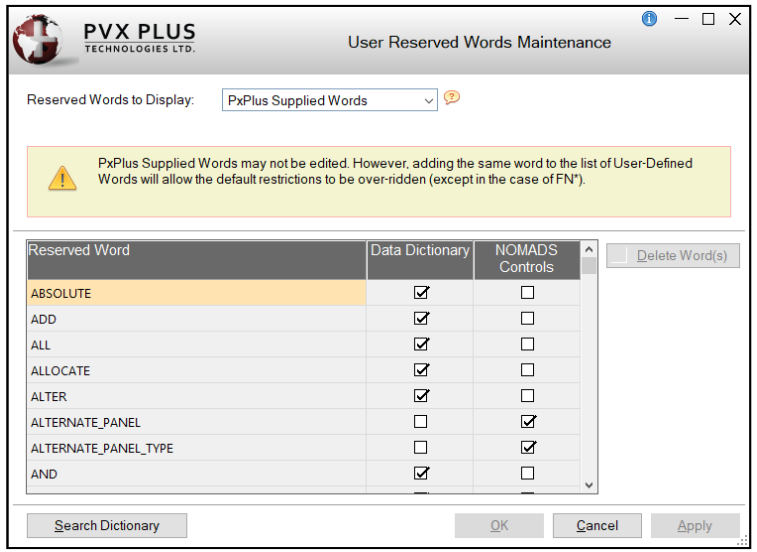
TWO LISTS OF WORDS

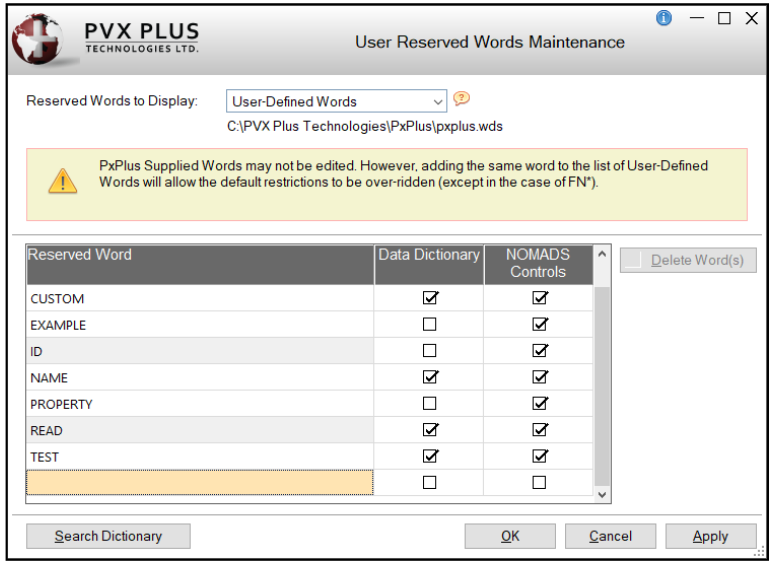
PXPLUS SUPPLIED WORDS

- Predefined list which cannot be edited
  - Words restricted from Data Dictionary or NOMADS controls or both

USER DEFINED WORDS

- New words may be restricted from use in the Data Dictionary or as NOMADS controls (or both)
- Entering a PxPlus Supplied word as a User-Defined word will override default behavior

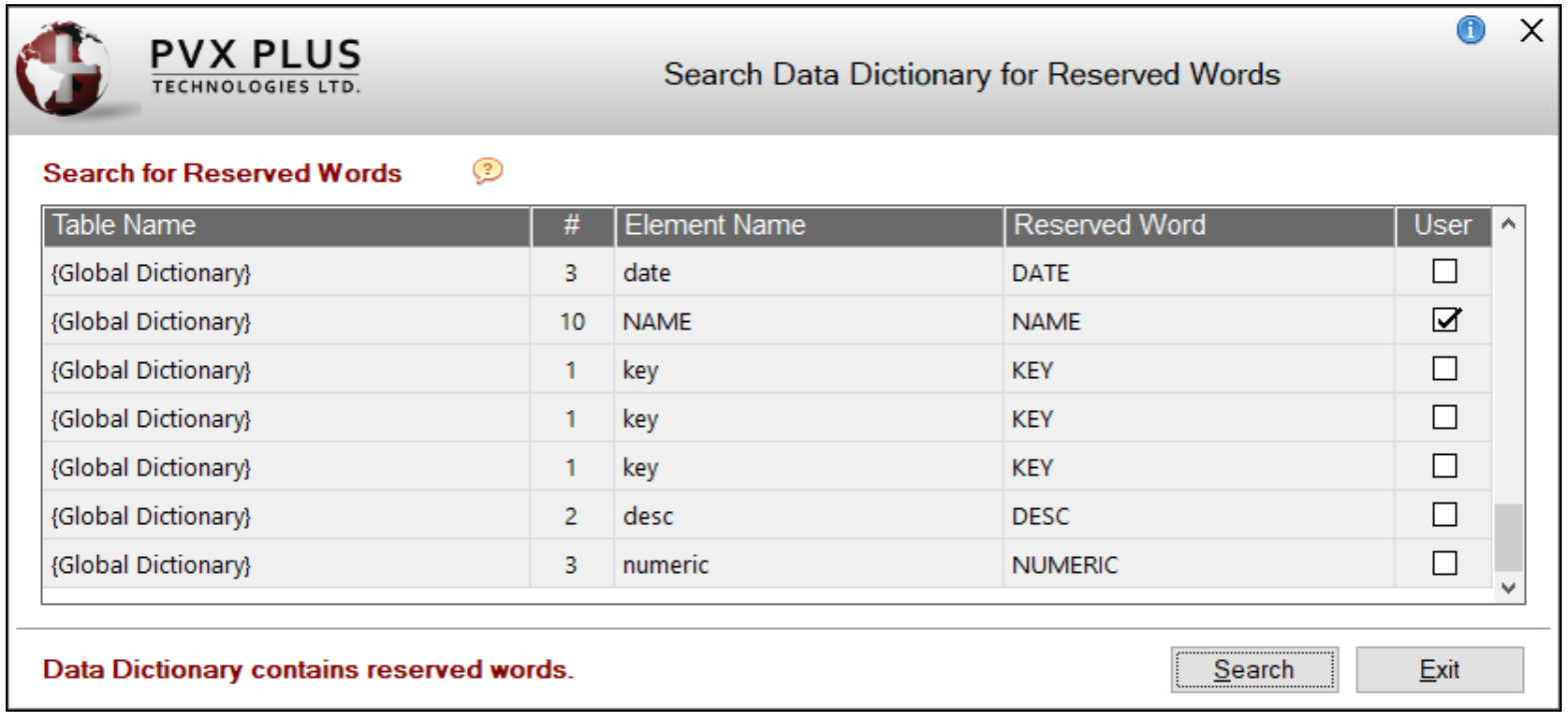




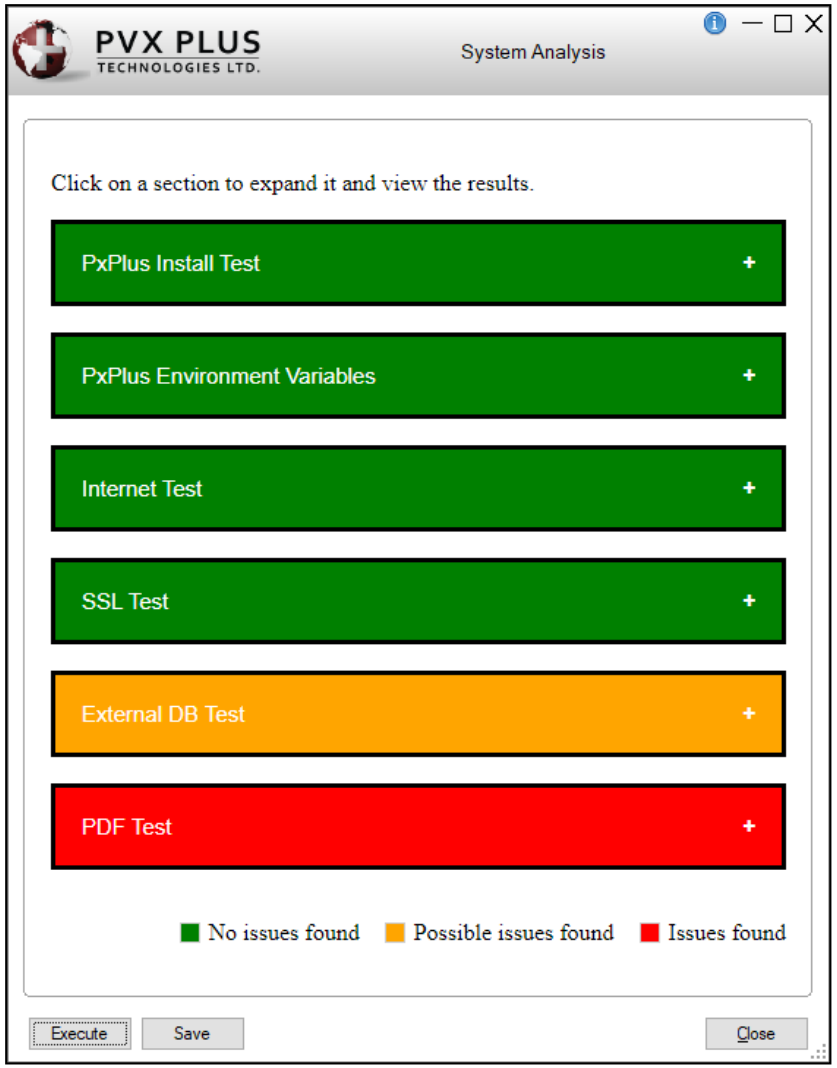
SEARCH DICTIONARY

SEARCH DICTIONARY BUTTON

- Dialog will show instances where a reserved word is currently used in the Data Dictionary



SYSTEM ANALYSIS (2022)



NEW SYSTEM ANALYSIS UTILITY

- Analyses the PxPlus installation and setup

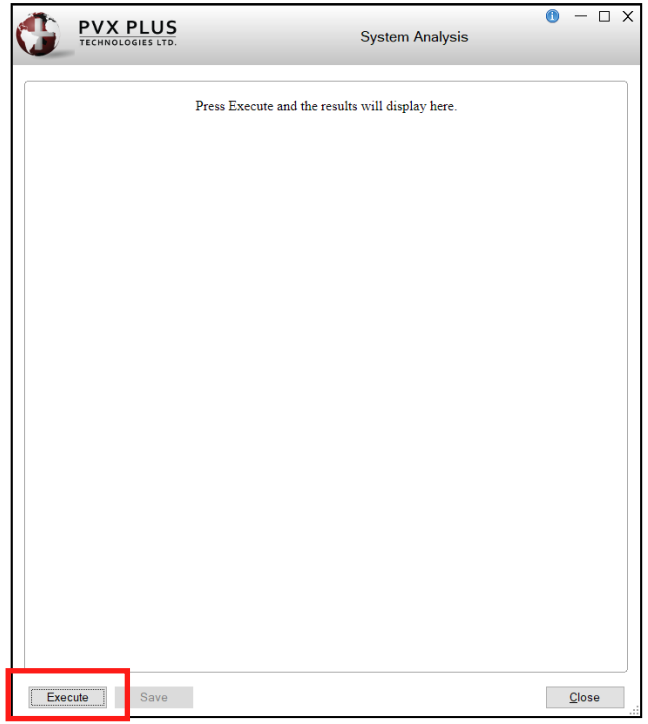
SYSTEM ANALYSIS TESTS

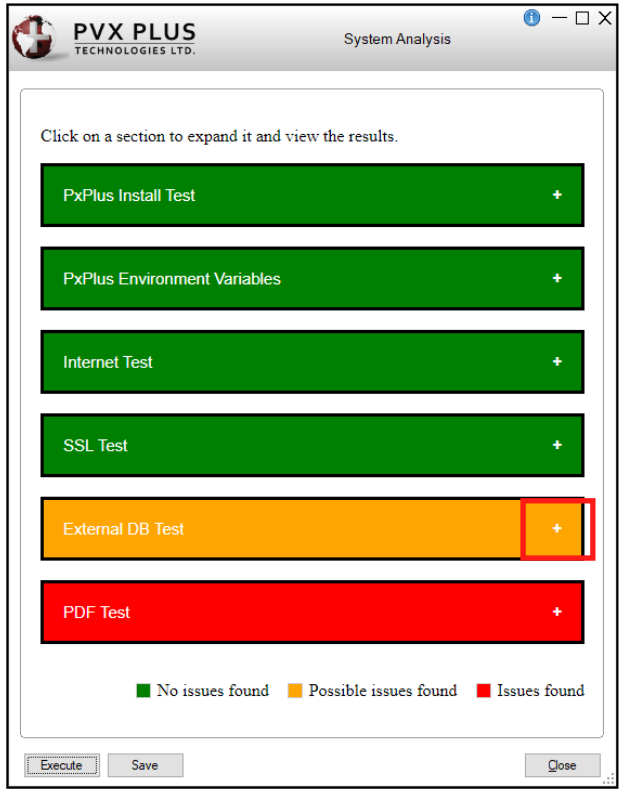
Test	Description
PxPlus Install Test	Create and delete a file in the install directory. Create and delete a file in the *Lib* directory and all *Lib* sub-directories.
WindX Test	Display client and server PxPlus versions and the WindX program version. Ensure client PxPlus version equals the server PxPlus version. Validate **%PXPLUS_HOST$** is set correctly and that spawning works
PxPlus Environment Variables	Display all of the PxPlus environment variables.
Internet Test	Test that PxPlus can connect to the Internet at **www.pvxplus.com**.

SYSTEM ANALYSIS CONTINUED

Test	Description
SSL Test	Test that PxPlus can connect securely via SSL to **www.pvxplus.com**. Display OpenSSL version.
External DB Test	Test that ADO is supported. Test that ODB is supported. On UNIX, test that UNIX ODBC is setup. Test that DB2 is supported and the DB2 client is setup. Test that OCI is supported and the Oracle instant client is installed. Test that MySQL client library is installed.
PDF Test	Check that LibHaru is supported and enabled. Open a PDF file.

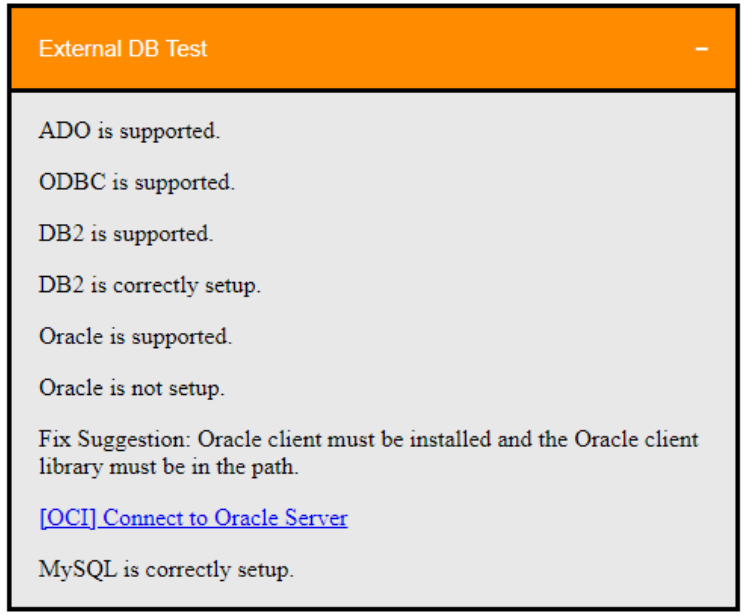
RUNNING THE GRAPHICAL ANALYSIS





ANALYSIS RESULTS

- Color-coded
- More info available with + button

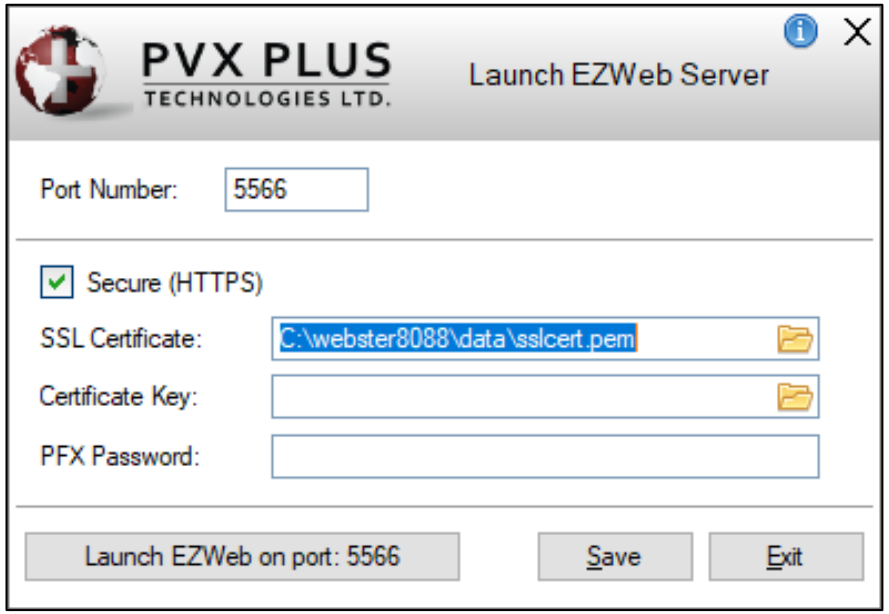


RUNNING THE TEXT-BASED ANALYSIS

```
CALL "*tools/systemanalysis", results$, htmlOutput
```

WHERE	EXPLANATION
result$	Output string where the test results are returned
htmlOutput	If set, the output will be HTML. If not set or set to 0, the output is plain text

LAUNCH EZWEB SERVER (2022)



Updated Launch EZWeb Server utility

SECURITY OPTIONS ADDED

- Secure (HTTPS) check box
  - SSL Certificate
  - Certificate Key
  - PFX Password

SYSTEM TRAY

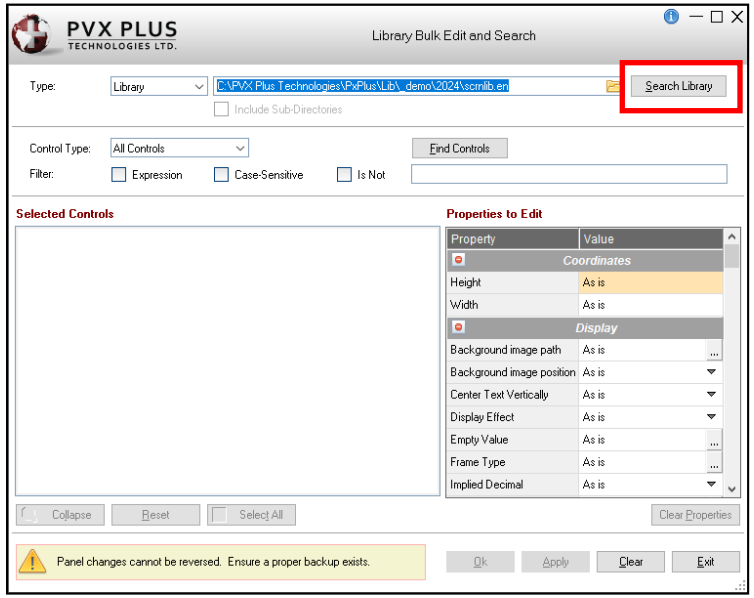
- System Tray messages updated when secure

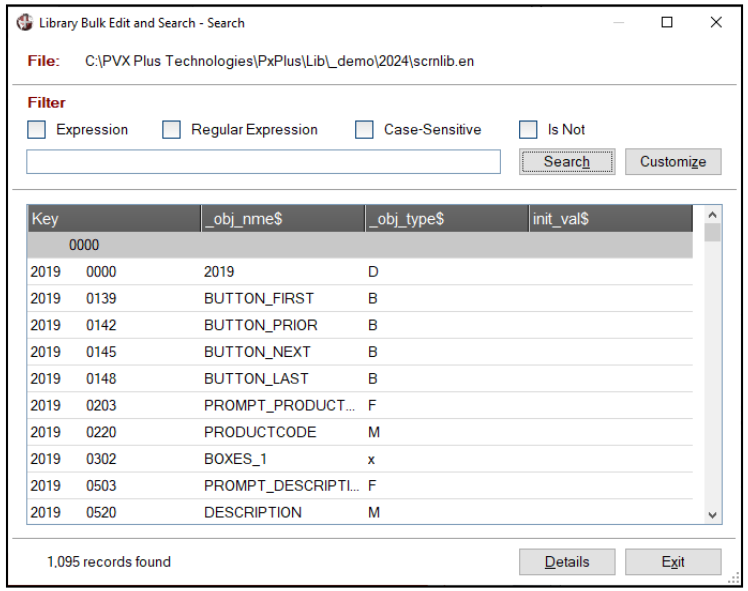
See 'Security' PDF for more details

LIBRARY BULK EDIT AND SEARCH (2023)

UPDATED LIBRARY BULK EDIT

- Search capabilities added to existing Library Bulk Edit Utility
- Search Library button is available when Type is set to Library



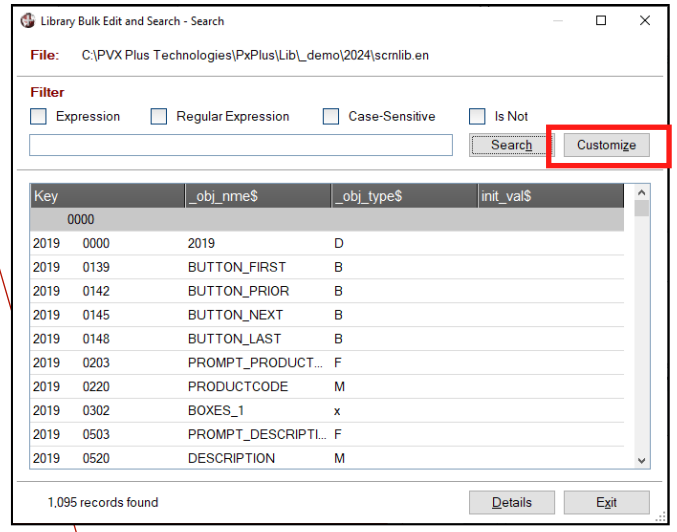


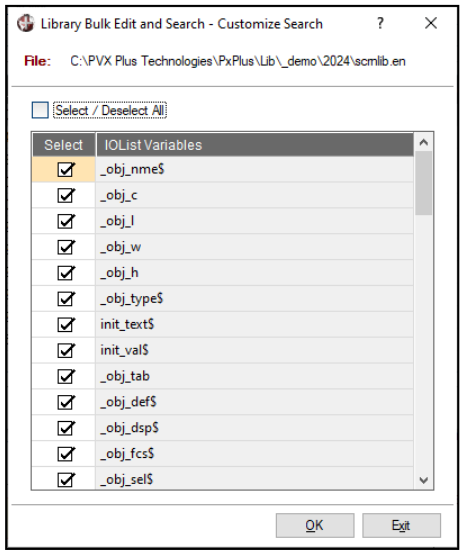
- Initially 4 columns are displayed (Key, _obj_nme$, _obj_type$ and _init_val$)

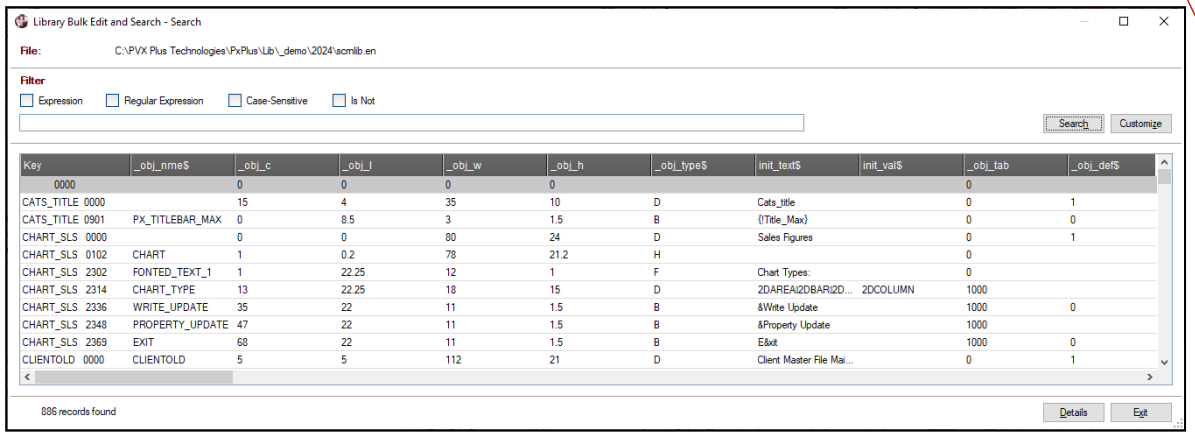
CUSTOMIZE SEARCH (2024)

LIBRARY BULK EDIT AND SEARCH

- Customize button allows more columns
- Select from all available columns in the library file



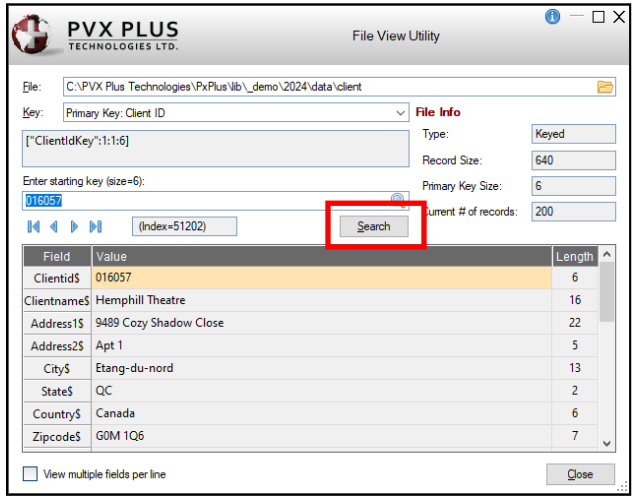


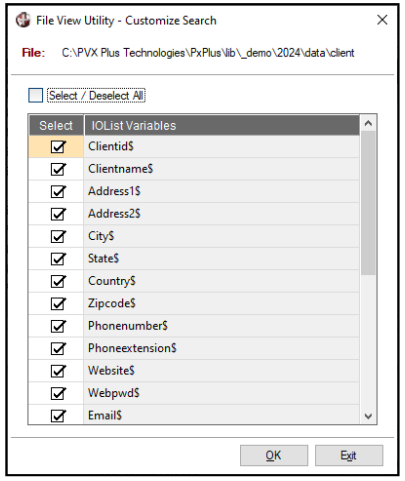


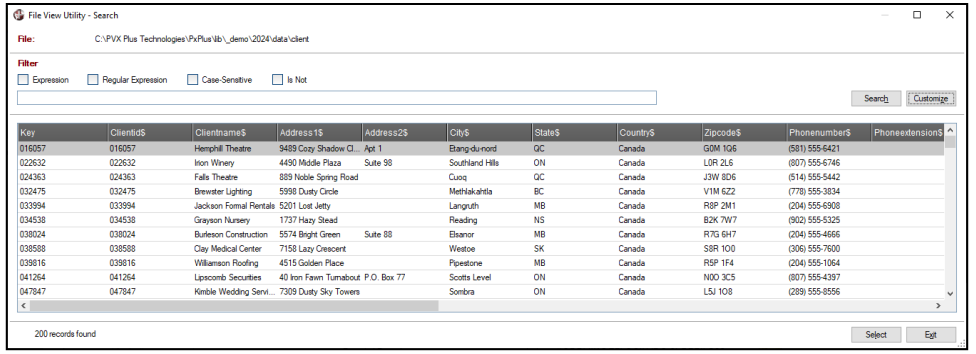
FILE UPDATE/VIEW UTILITIES

UPDATED FILE UTILITIES

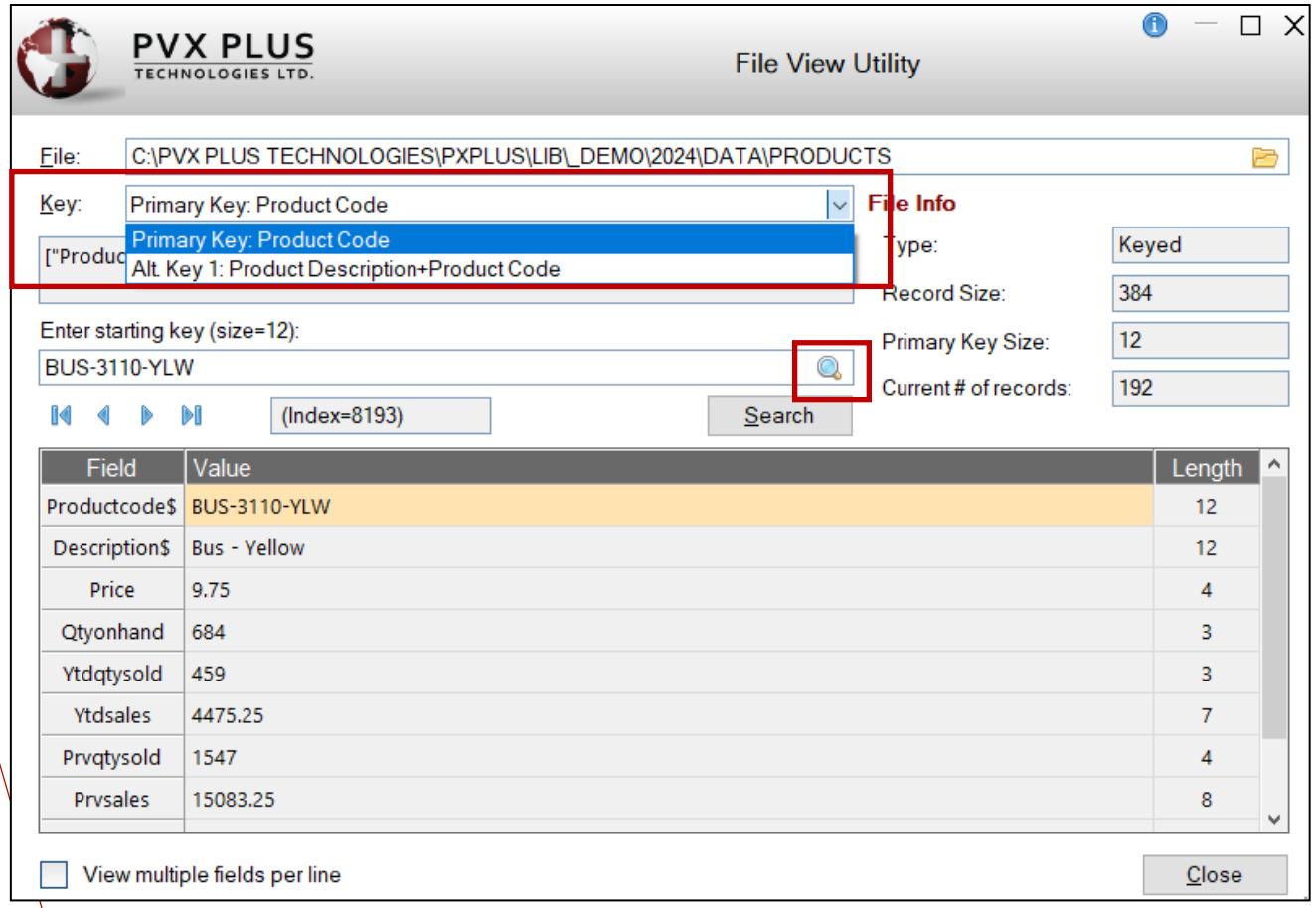
- Similar search capabilities added to the File Update and File View Utilities
- **File Update**
  - Accessed from System Utilities or IDE task under Data Management
- **File View**
  - Accessed from System Utilities or Data toolbar button in Data Dictionary Maintenance







USABILITY ENHANCEMENTS

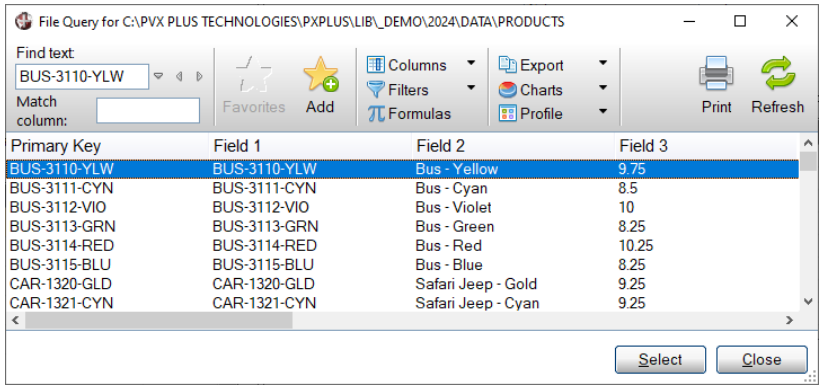


FILE VIEW UTILITY

- Key definition information added to identify keys more easily when searching records

FILE VIEW & FILE UPDATE UTILITIES

- Query button added to key value to aid in selecting a particular record



IN CONCLUSION

PXPLUS IS ALWAYS WORKING TO EXPAND THE TOOLSET AS WELL AS ENHANCE AND IMPROVE EXISTING TOOLS

- Recent Language Enhancements
- Future Roadmap
- Support Tickets
- Forum Posts
- User Suggestions