FILE MAINTENANCE GENERATOR

DireXions 2024

AGENDA

HISTORY

OTHER CONSIDERATIONS

ENHANCEMENTS STEP BY STEP

- Webster+ Enhancements
- Enhanced Layout

OUTPUT

See‘PxPlus on the Web FM Generator’ PDF for more details

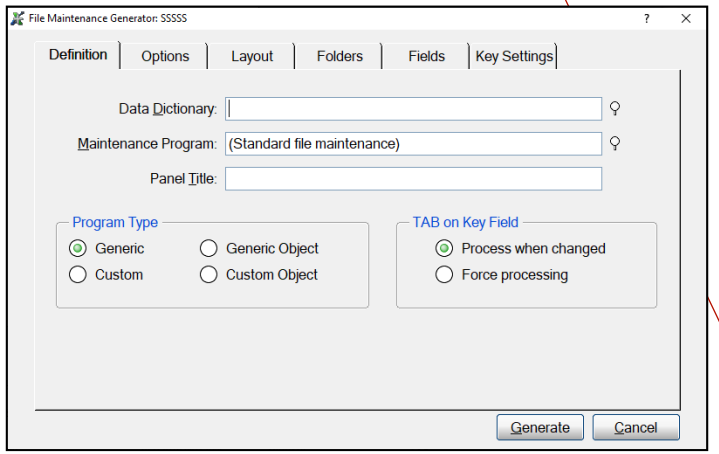
A SHORT HISTORY

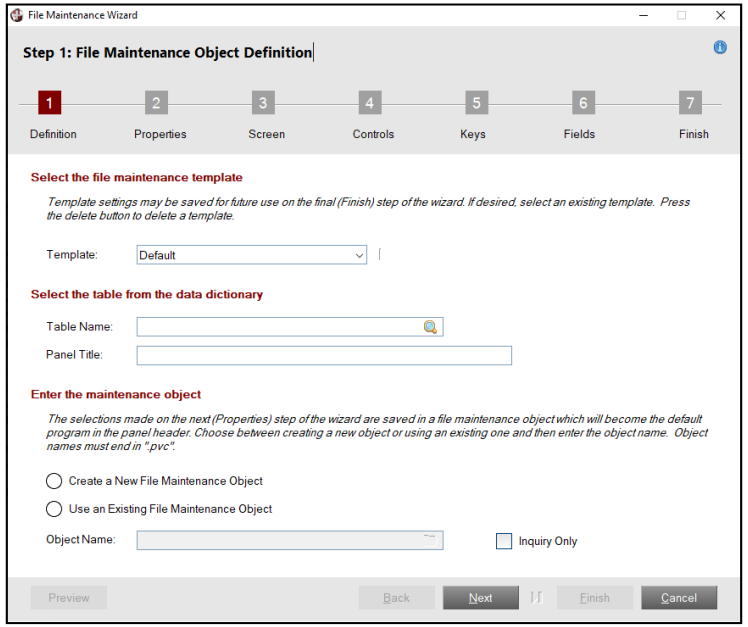
FILE MAINTENANCE GENERATOR

FILE MAINTENANCE

- Legacy File Maintenance Generator existed in **Providex** versions (prior to PxPlus)

- New File Maintenance Generator released in PxPlus 2019 as an update to the legacy version
  - Presentation at DireXions 2019 (Las Vegas)
  - Updated wizard interface with enhanced features
    - Preview the panel
    - Templates
    - Layout Grid
    - Object Oriented maintenance object





2019 FILE MAINTENANCE GENERATOR

SUMMARY

1. Enter Table Name from Data Dictionary

2. Select from various options to control the appearance of the panel generated

3. Layout Grid
   - Arrange Fields
   - Add Horizontal Lines and/or typed Text (subtitles)
   - Folder options

4. Preview/Review selections and Generate panel(s)

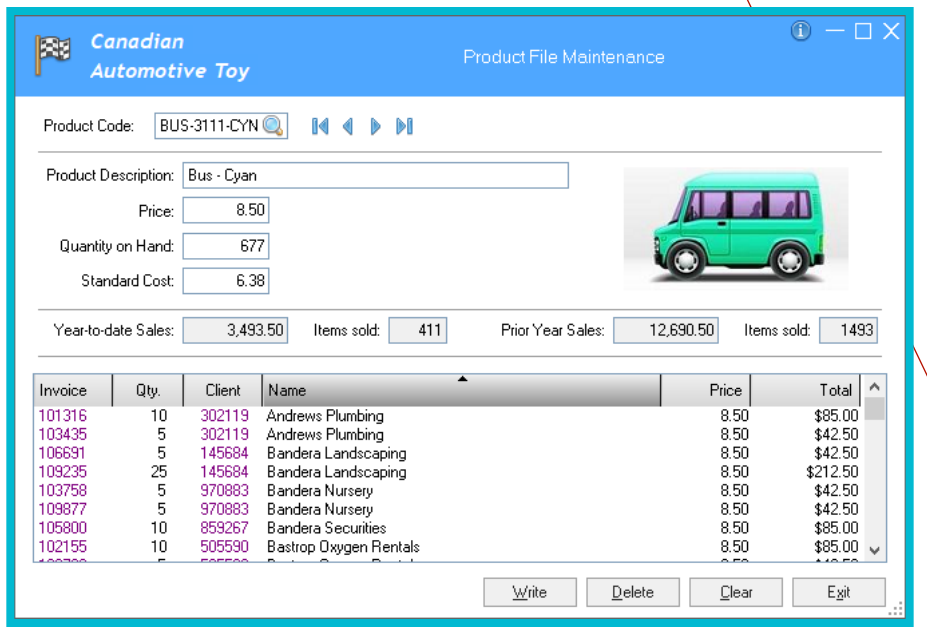
SAMPLE DEMO PANEL

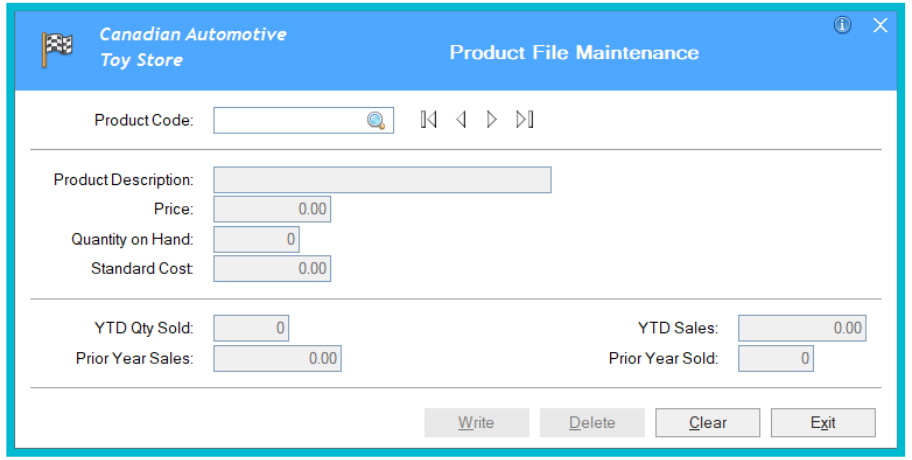
PRODUCT MAINTENANCE DEMO PANEL

- Originally created with legacy Generator but edited in NOMADS afterwards
  - Image
  - List Box
  - 4 columns

2019 FILE MAINTENANCE GENERATOR

- Unable to add Image, List Box or have more than 2 columns
- Changes had to be made in NOMADS Panel Designer after panel generated
- No way to regenerate the panel to make small changes
- Unable to create HTML pages for Webster+





OTHER CONSIDERATIONS

NON-NOMADS CONSIDERATIONS

NOT USING NOMADS?

The File Maintenance Generator was developed as a NOMADS tool

BUT

GOOD NEWS! It can be used outside of a NOMADS development environment

- Panels created could still be PROCESSed
- HTML pages generated for Webster+

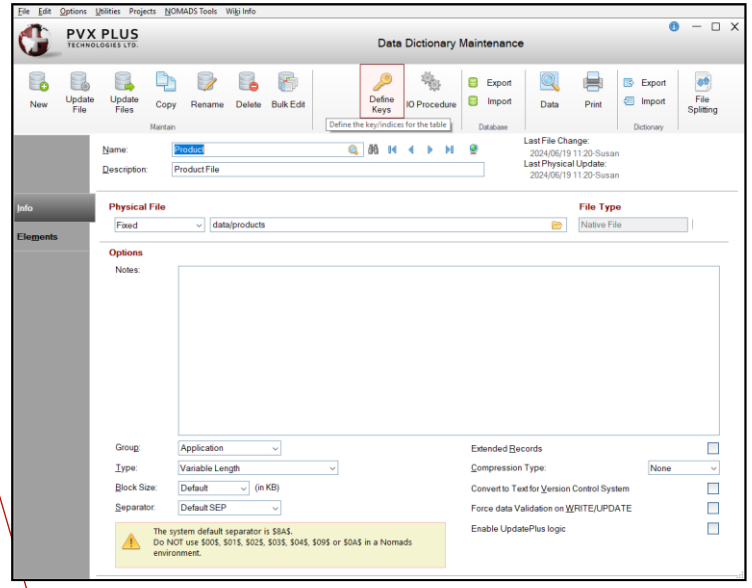
HOWEVER

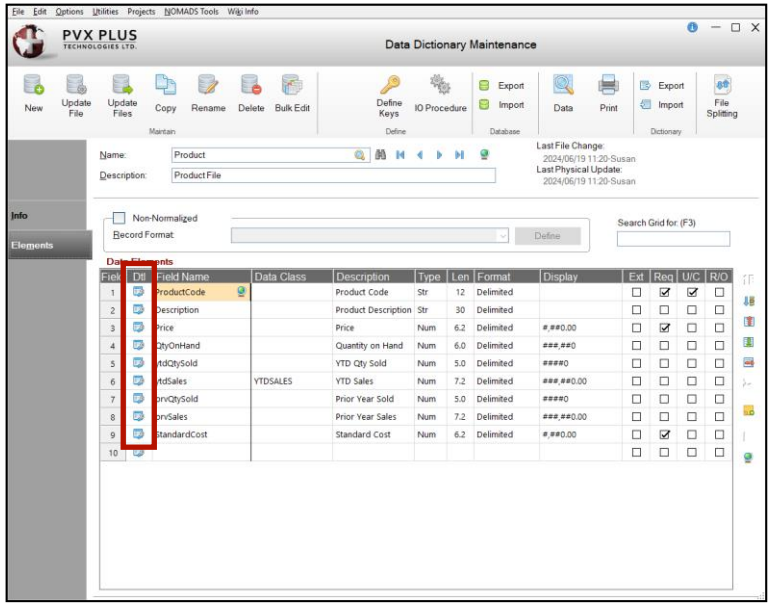
Data File **MUST** be defined in Data Dictionary Maintenance

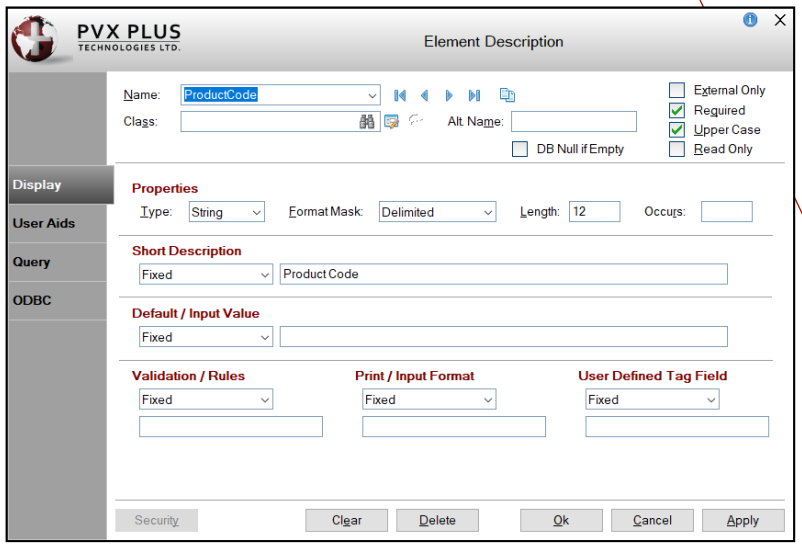
DATA DICTIONARY

DATA DICTIONARY MAINTENANCE (dd in command mode)

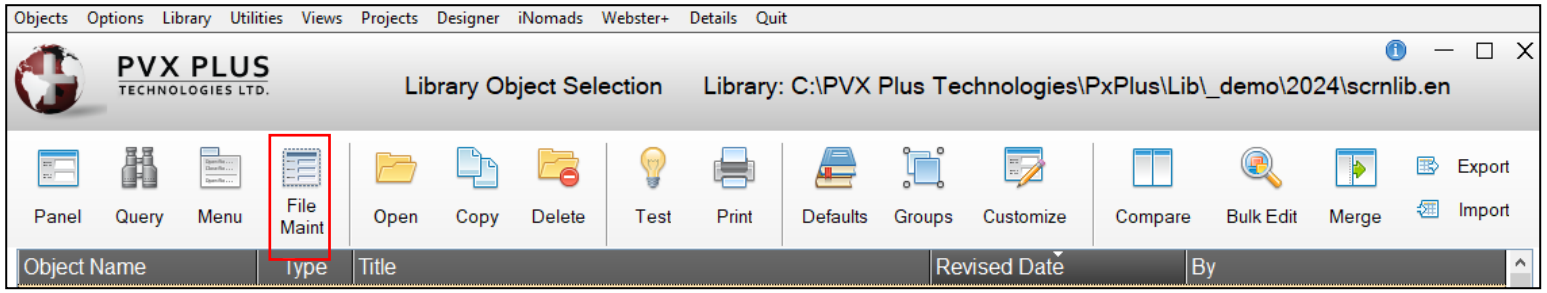
- Used by the Generator for Descriptions (prompt), Lengths, Formats, Data Classes, etc.





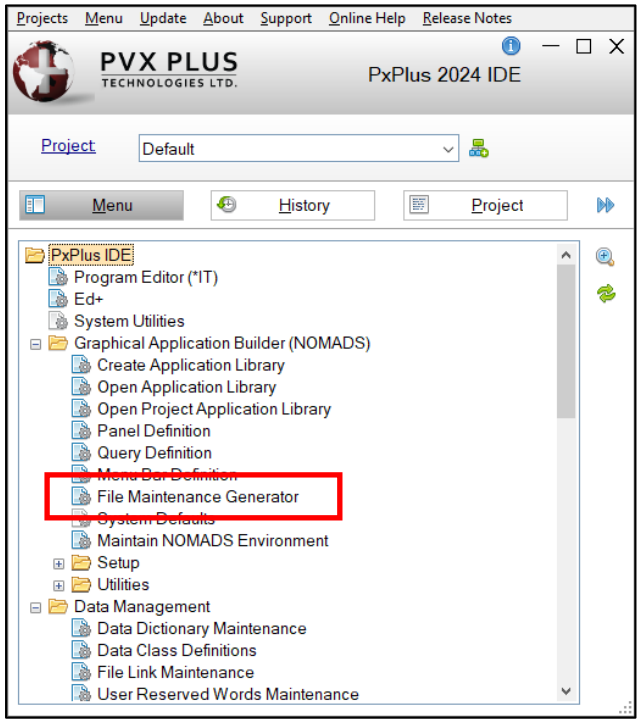


RUNNING THE GENERATOR



RUNNING THE FILE MAINTENANCE GENERATOR

- Traditionally, accessed from the NOMADS Library Object Selection dialog
- Can now also be accessed from an IDE task
  - Expand the ***Graphical Application Builder (NOMADS)*** node on the tree view
    - Select the ***File Maintenance Generator*** task



REGENERATE PANELS

PANELS MAY NOW BE REGENERATED

- All settings and information about the panel are saved in the library file
  - Special records with "T" as the 13th character in the key value

- Once recalled, all settings are restored

- Further changes may be made

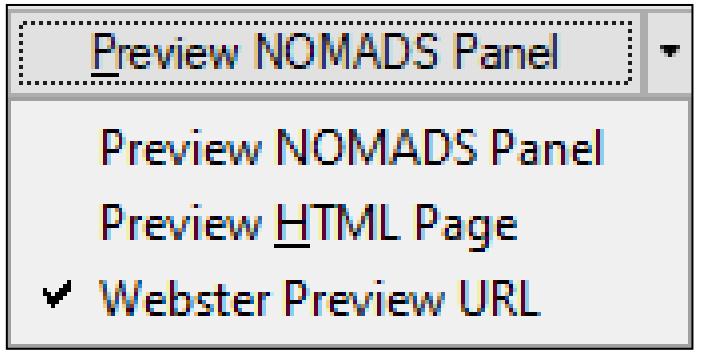
Changes made outside of the File Maintenance Generator will be lost

GENERATE WEBSTER+ PAGES

WEBSTER+ PAGES MAY NOW BE CREATED

- Form Type: Select ***HTML Page***

  - If only HTML Page Form Type is selected, many NOMADS-only inputs are hidden in the subsequent Generator steps
  - Webster+ related settings are disabled unless the HTML Page option is selected
- NOMADS panels are still created in the screen library data file because the *regenerate* records are stored there
- ***Preview*** button is now a drop list button



http://server_address:port#

LIBRARY OBJECT SELECTION

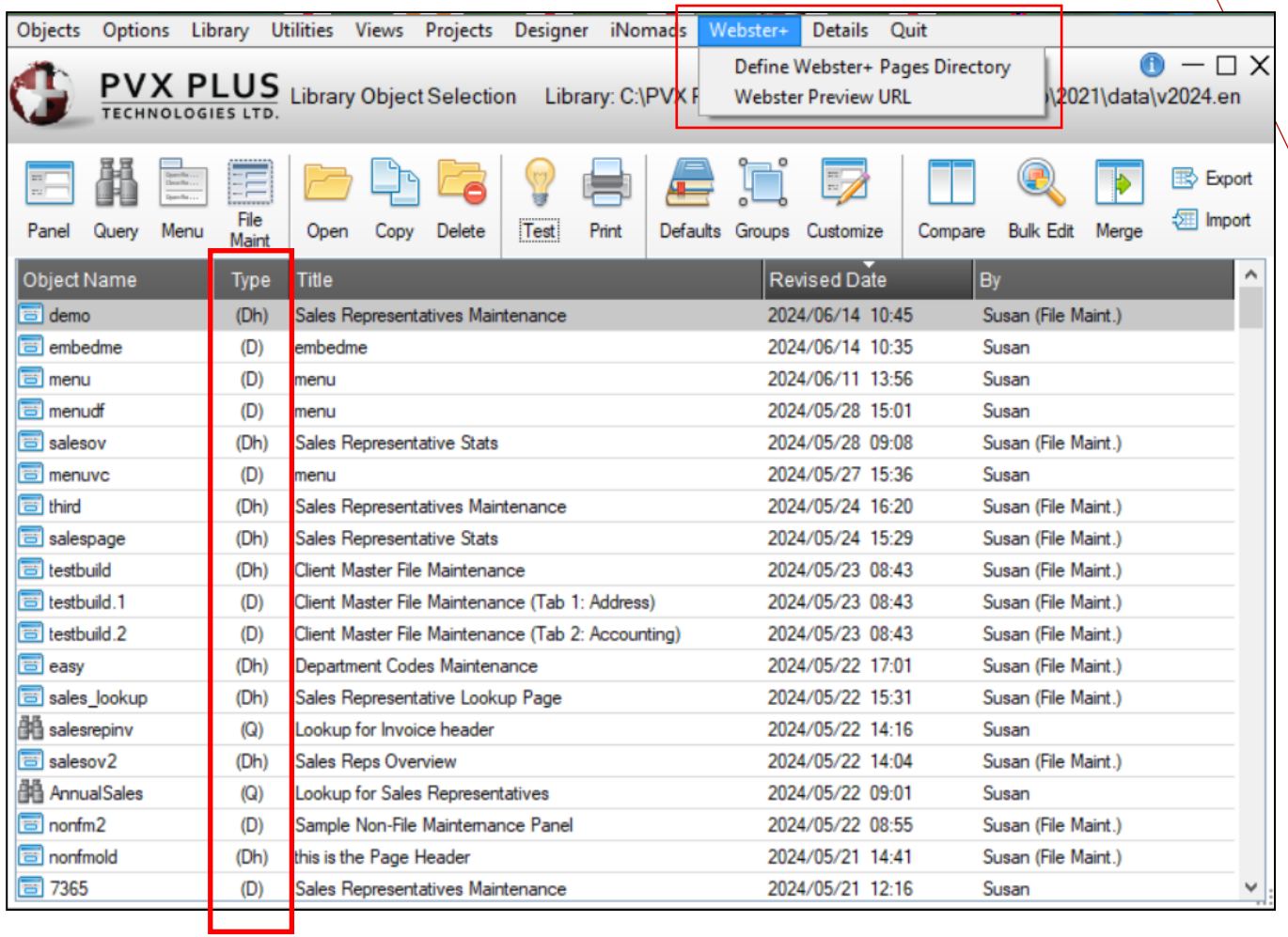
LIBRARY OBJECT SELECTION DIALOG

- Added ***Webster+*** menu
  - Define Webster+ Pages Directory

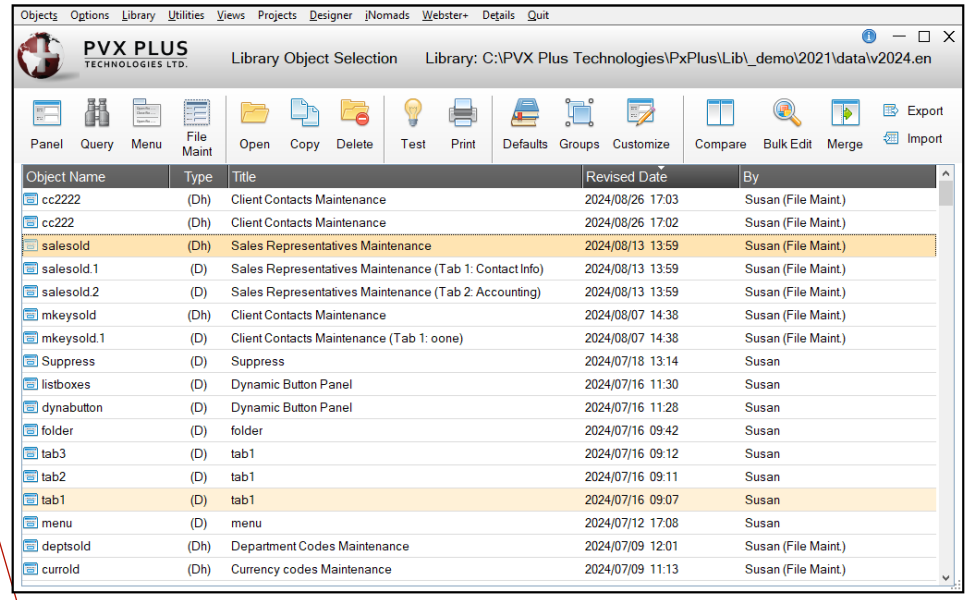
    c:\webster2024\pages
  - Webster Preview URL

    http://127.0.0.1:8088

- Type column (Dh)
  - Indicates a File Maintenance generated panel that also has a generated HTML page for use in Webster+



ACCESS TO FM OBJECTS



RECALLING A FILE MAINTENANCE OBJECT

- Double-clicking a File Maintenance generated object in Library Object Selection now launches the Generator
  - Allows changes to be made to the previously generated form
- Use the ***Open*** toolbar button to open the panel in the NOMADS Panel Designer

OR

- Press the new ***Screen Designer*** button on Step 1 of the Generator

GENERATOR ENHANCEMENTS STEP BY STEP

GENERATOR STEPS

Welcome Panel

Step 1: Object Definition

Step 2: Object Properties

Step 3: Screen Layout

Step 4: Control Settings

Step 5: Key Settings

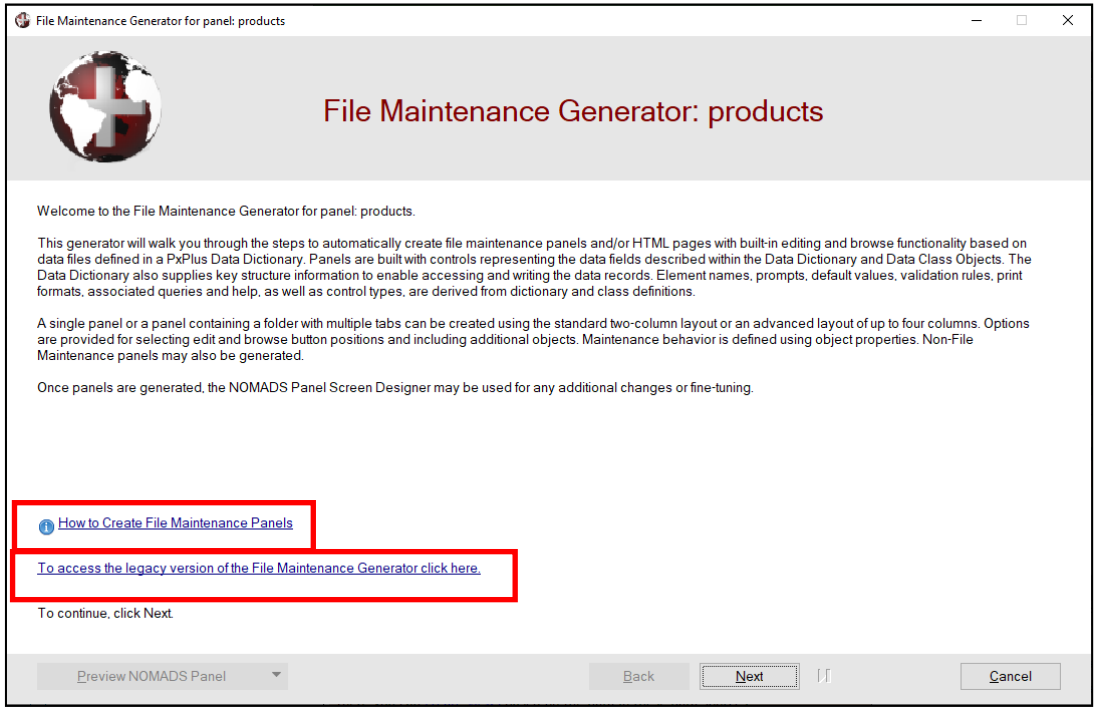
Step 6: Field Layout

Step 7: Completion

WELCOME PANEL

WELCOME PANEL

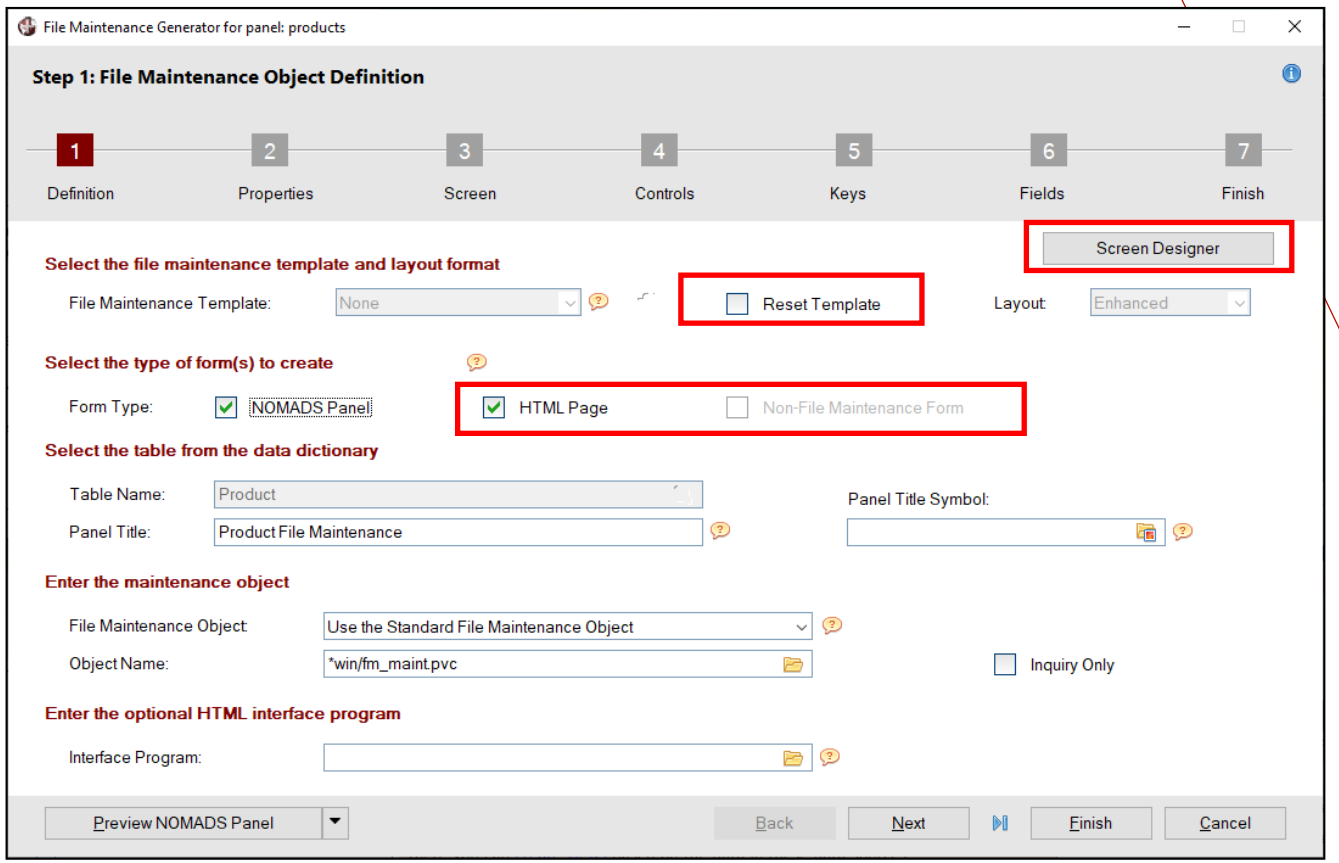
- Only appears when creating a new panel
- Unchanged from original version except for text
  - Help Link
  - Legacy version



STEP 1: OBJECT DEFINITION

OBJECT DEFINITION

- ***Screen Designer*** button
  - Available for previously generated panels
  - Shortcut to editing the panel in NOMADS Panel Designer
- ***Reset Template*** checkbox
  - Unlocks File Maintenance Template input on previously generated panels
- Two new Form Types
  - ***HTML Page*** (Webster+)
  - ***Non-File Maintenance Form***
    - With and without entering a Table Name



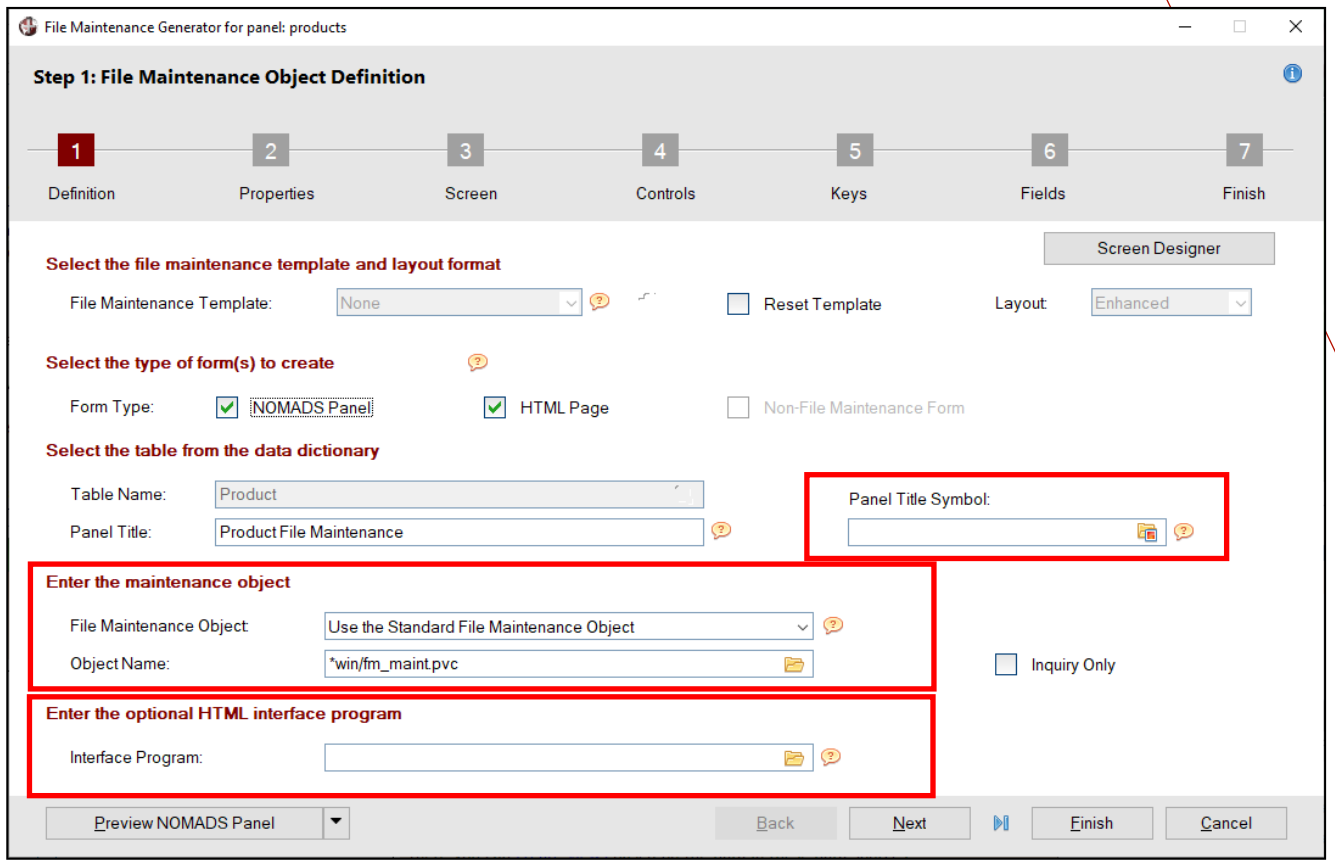
OTHER NEW OBJECT DEFINITION INPUTS

NEW OBJECT DEFINITION INPUTS

- ***Panel Title Symbol***
  - Optional bitmap or symbol to appear before Webster+ panel title
- HTML ***Interface Program***
  - Program to contain any non-standard logic such as File Maintenance hooks, grid loading logic or events

REDESIGN

- ***Maintenance Object*** input



MAINTENANCE OBJECT

FILE MAINTENANCE OBJECT

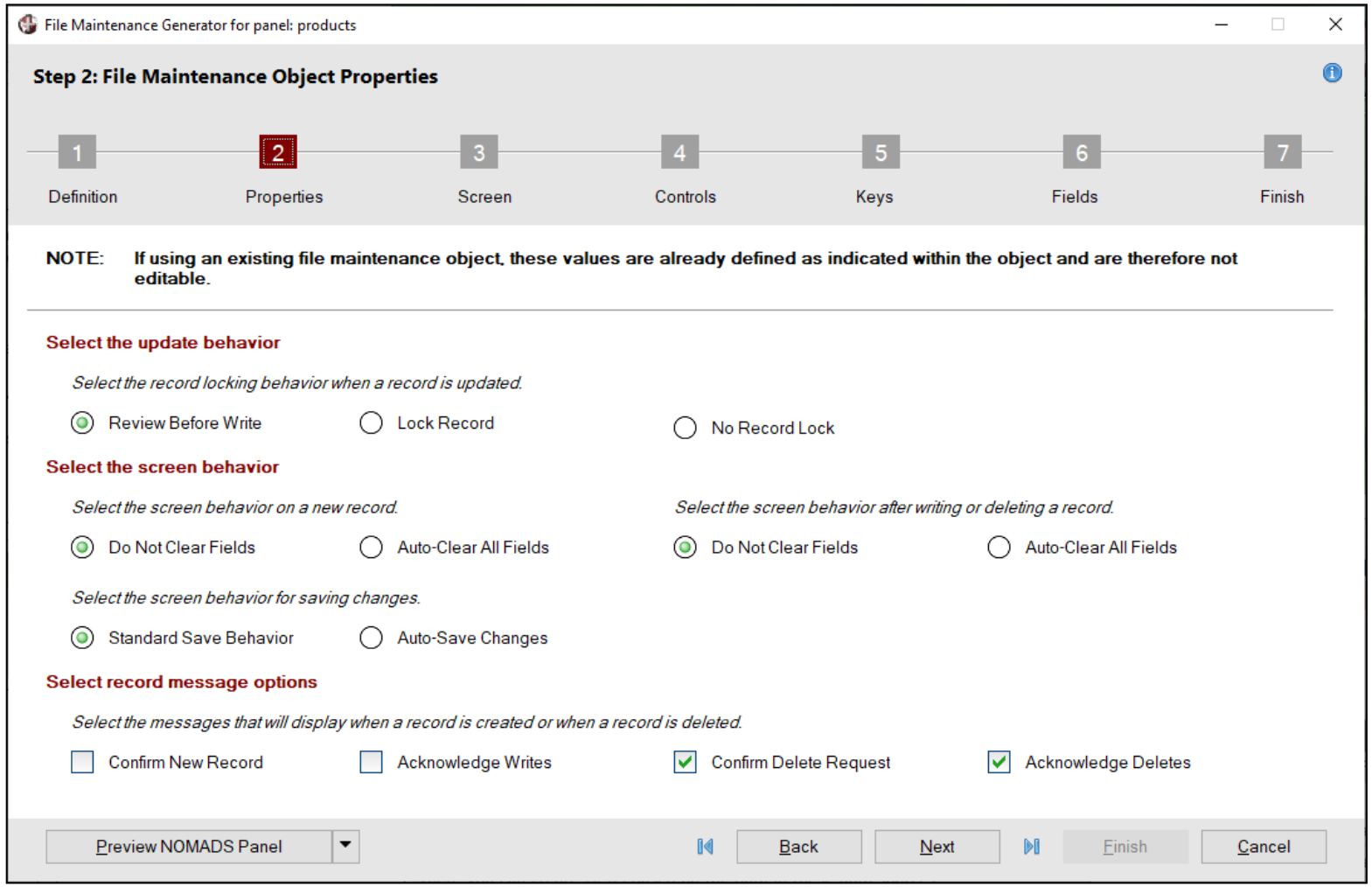
- Redesigned entry of the File Maintenance Object

  - Standard Object will be used by default
  - Prevents an object for every FM panel since the properties will likely be the same over an application
  - New or Existing objects can have different Object Properties set

STEP 2: OBJECT PROPERTIES

OBJECT PROPERTIES

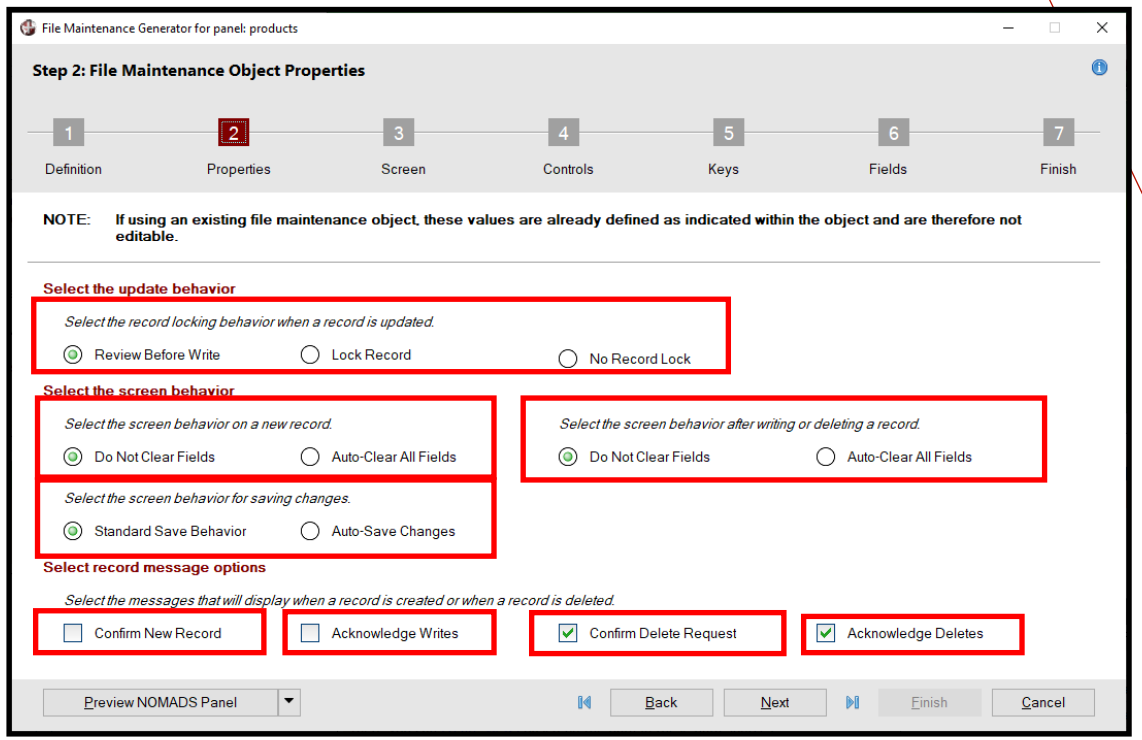
- No changes
- All inputs disabled when using an existing file maintenance object



FILE MAINTENANCE PROPERTIES

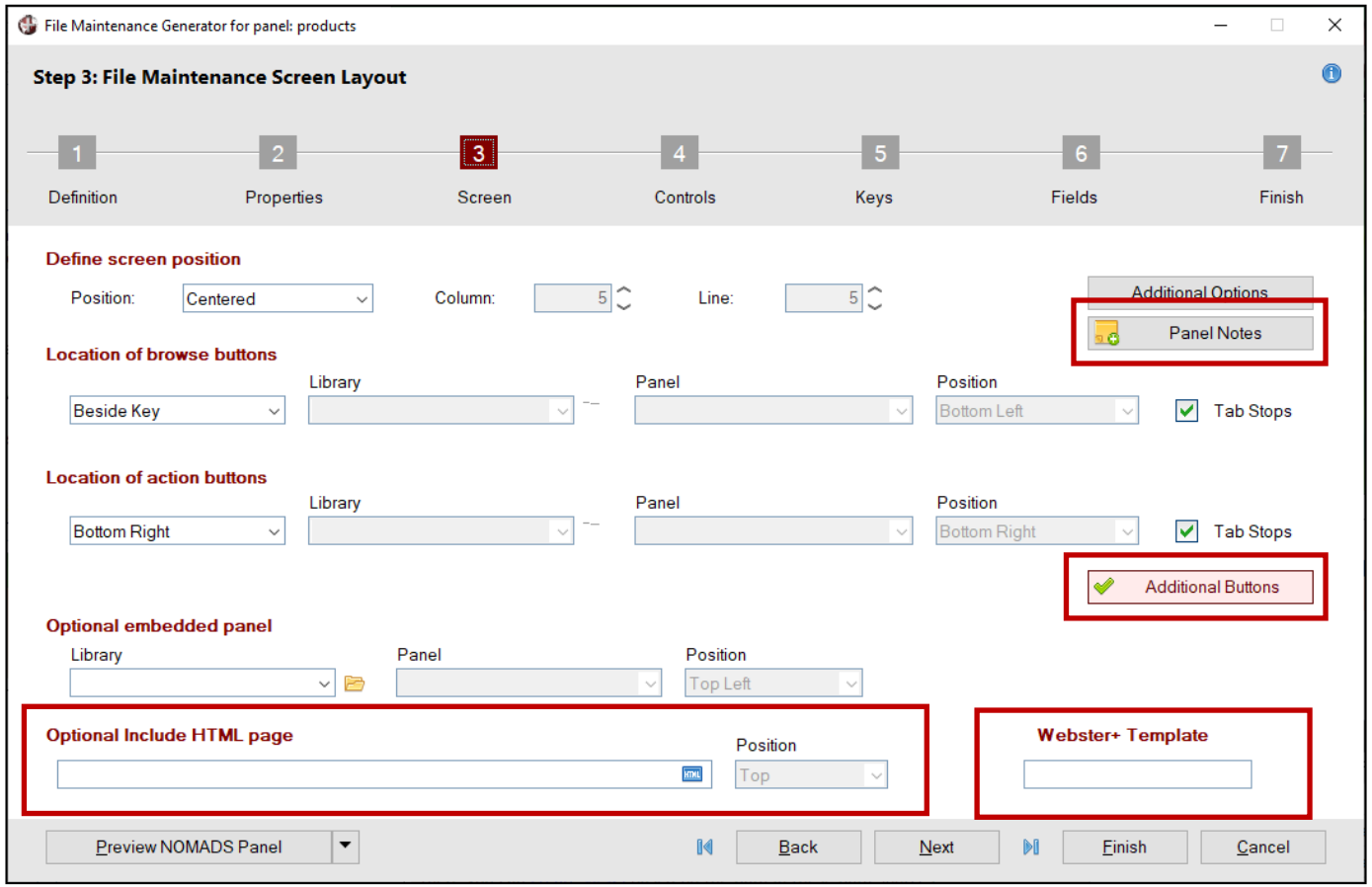
8 FM RELATED NOMADS PROPERTIES (%NOMADS'property$)

- FM_Update_Option$="R/L/N"
- FM_New_Option$="0/1"
- FM_Clear_Option$="0/1"
- FM_Auto_Save_Option$="0/1"
- FM_Confirm_New_Rec$="0/1"
- FM_Acknowledge_Writes$="0/1"
- FM_Skip_Confirm_Deletes$="0/1"
- FM_Skip_Acknowledge_Deletes$="0/1"



- Can be set to over-ride values in standard object

STEP 3: SCREEN LAYOUT



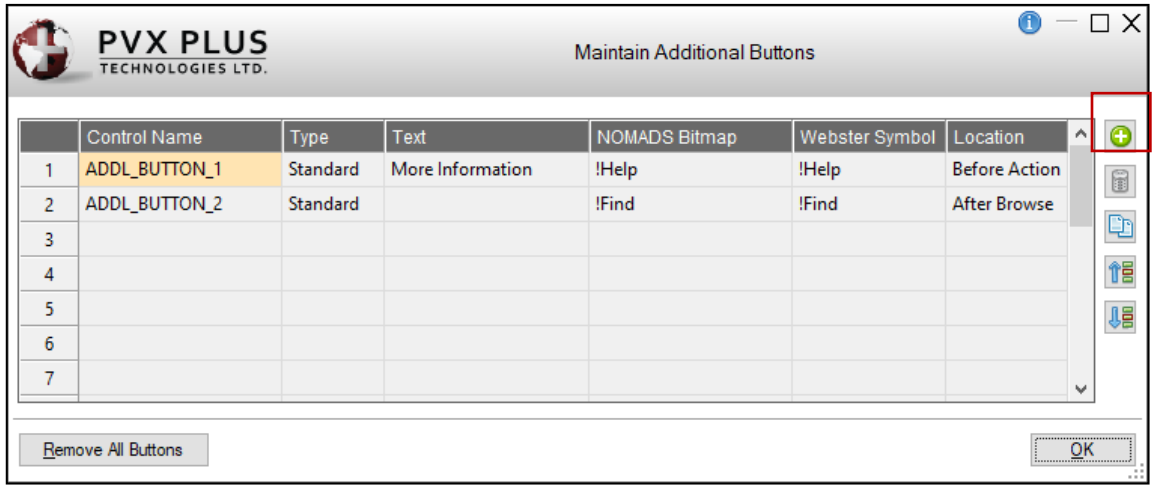
SCREEN LAYOUT

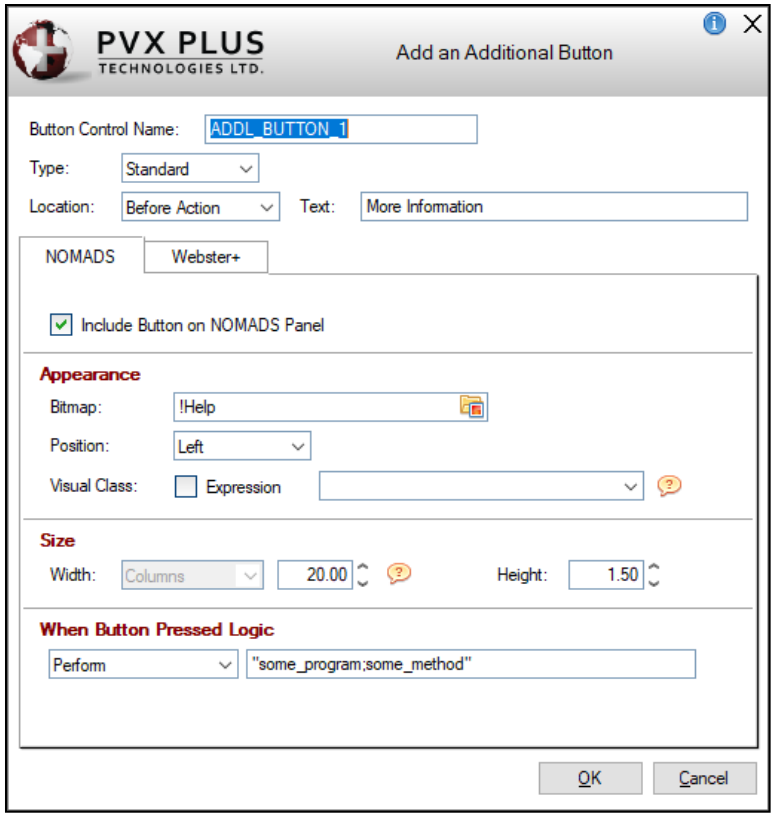
- ***Panel Notes***
  - Enter notes to be written to the panel header record
- ***Include HTML Page***
  - Position (Top or Bottom)
- ***Webster+ Template***
- ***Additional Buttons***

ADDITIONAL BUTTONS

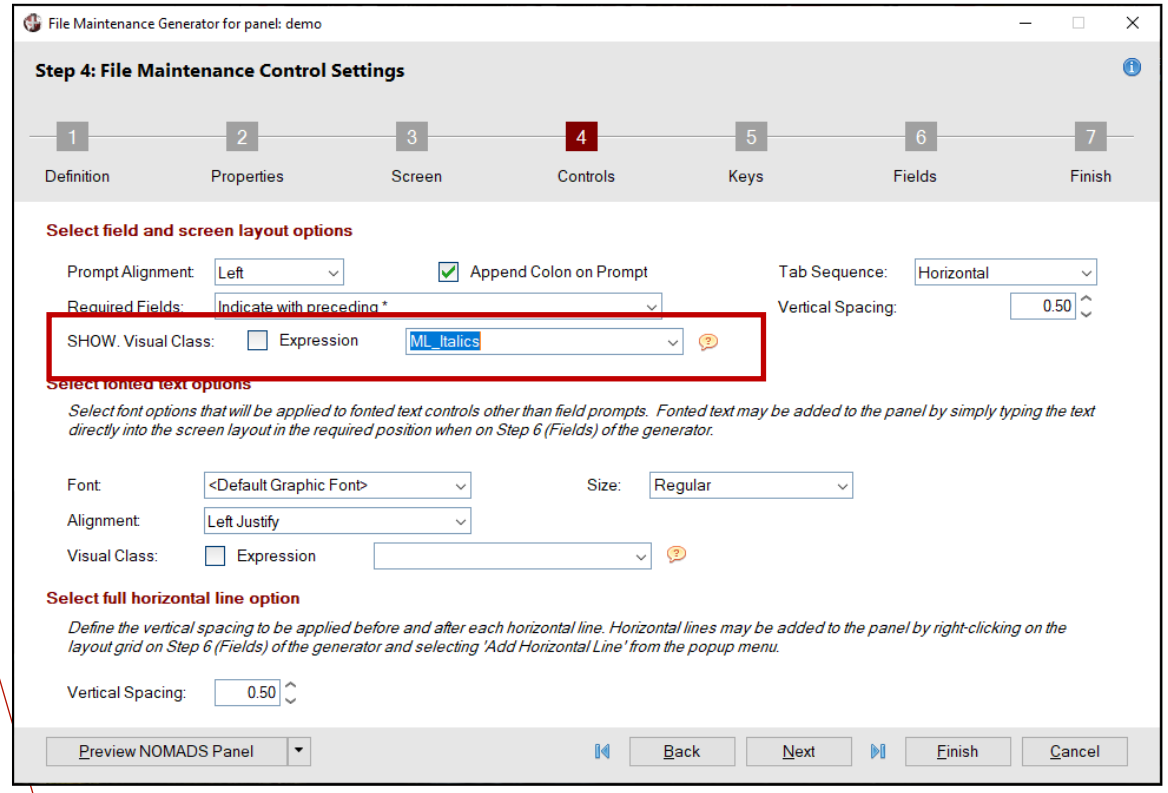
MAINTAIN ADDITIONAL BUTTONS

- Up to 20 buttons may be added before/after browse buttons or action buttons



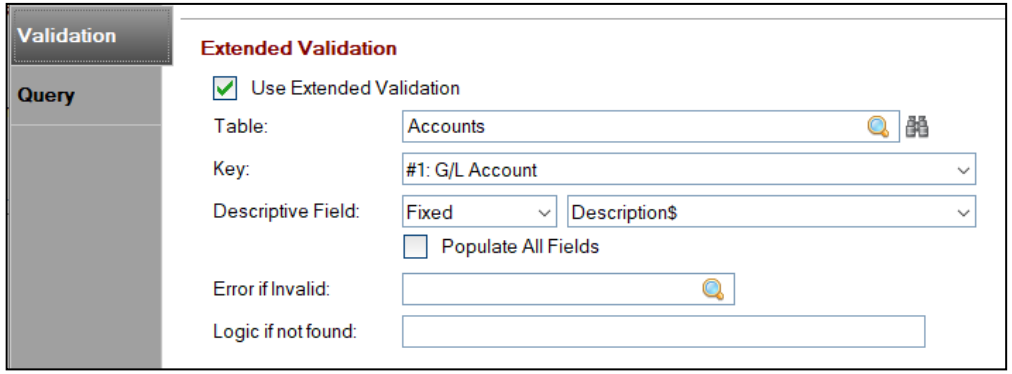


STEP 4: CONTROL SETTINGS



CONTROL SETTINGS

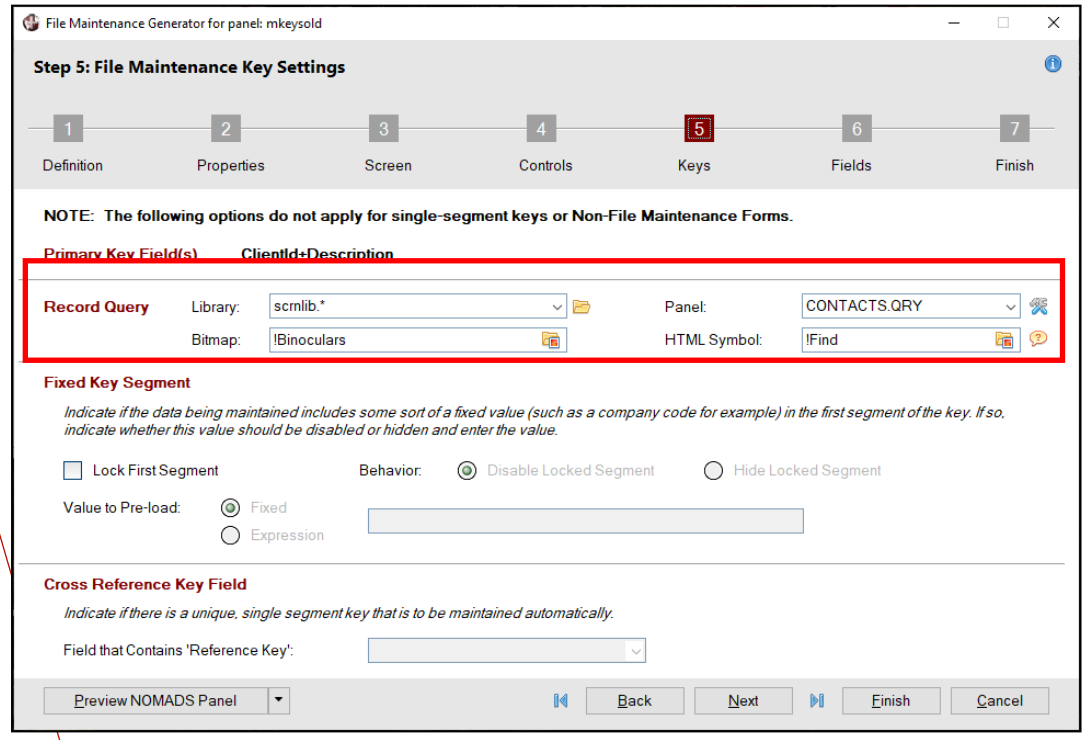
- Added ***SHOW Visual Class***
  - Field in Data Dictionary has a Data Class using Extended Validation

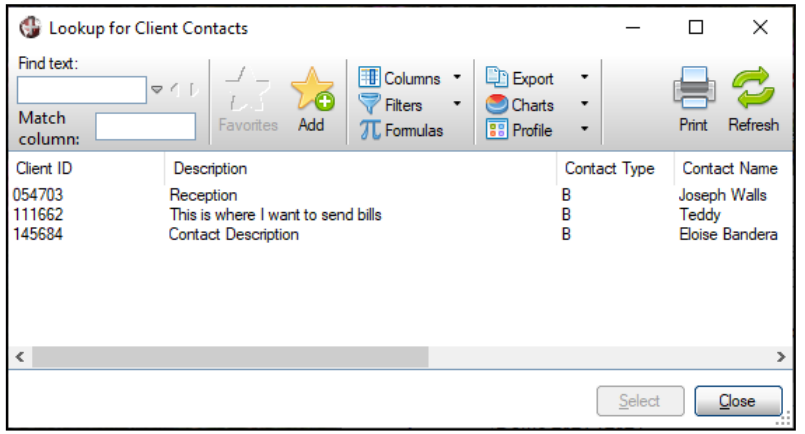


STEP 5: KEY SETTINGS

KEY SETTINGS

- Ability to define a ***Record Query*** when there is a multi-part key
  - Inputs for ***Screen Library, Panel, Bitmap*** and ***HTML Symbol***



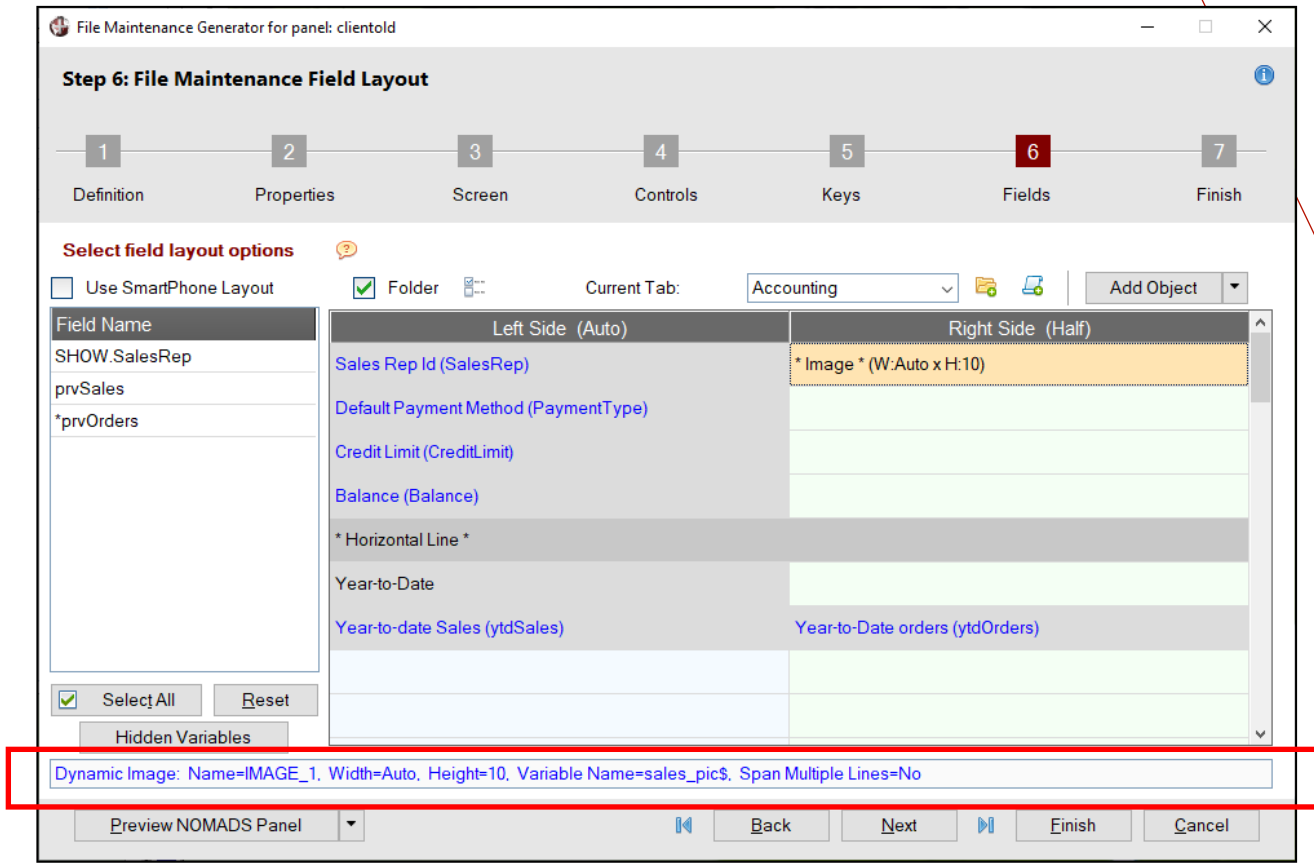


STEP 6: FIELD LAYOUT

FIELD LAYOUT

- Drag and Drop Fields onto Layout Grid
- Type Text in layout grid cells
- Create Horizontal Lines
- Section Sizes

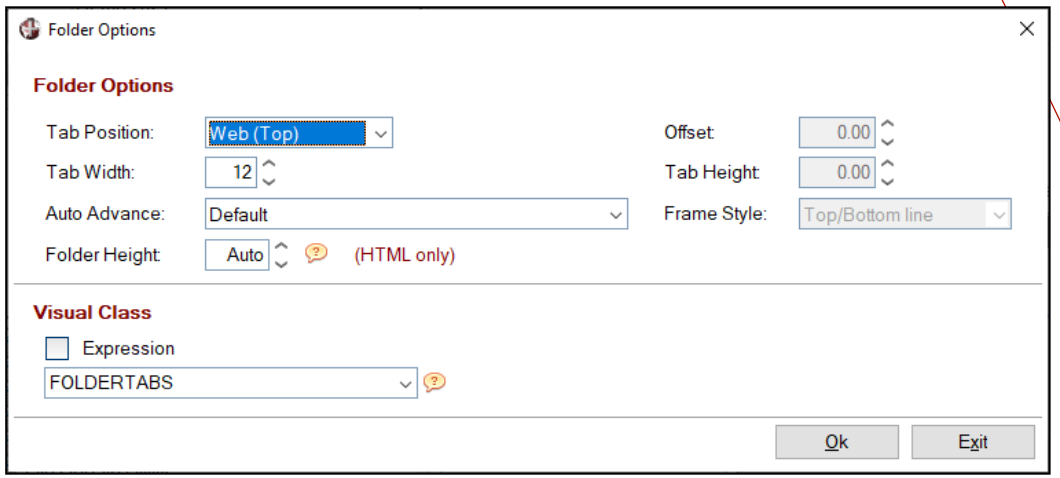
- Added ***Status Bar***
  - Provides more information about selected layout grid cell

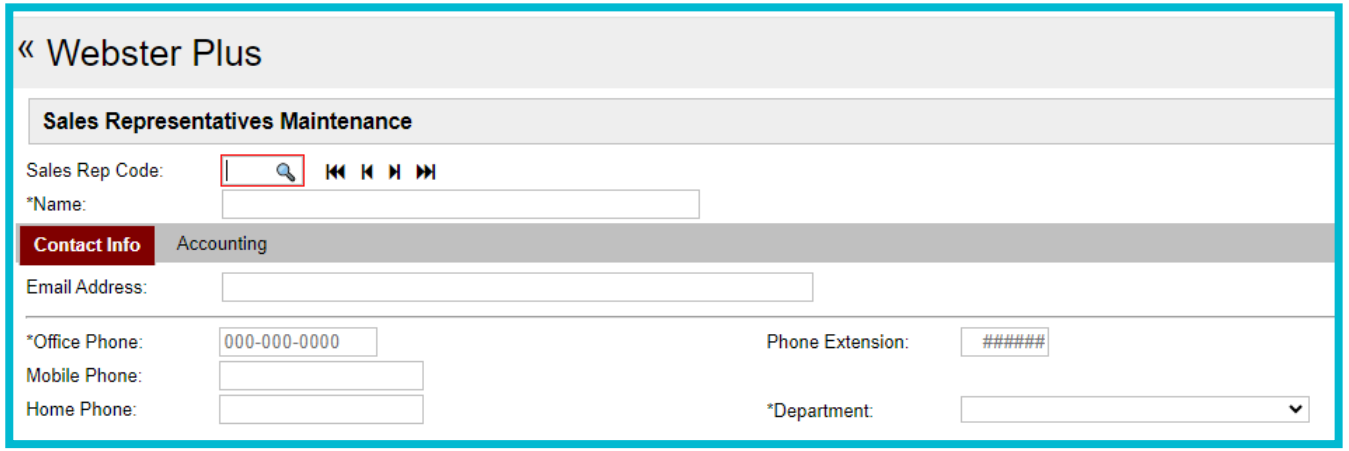


FIELD LAYOUT – FOLDER OPTIONS

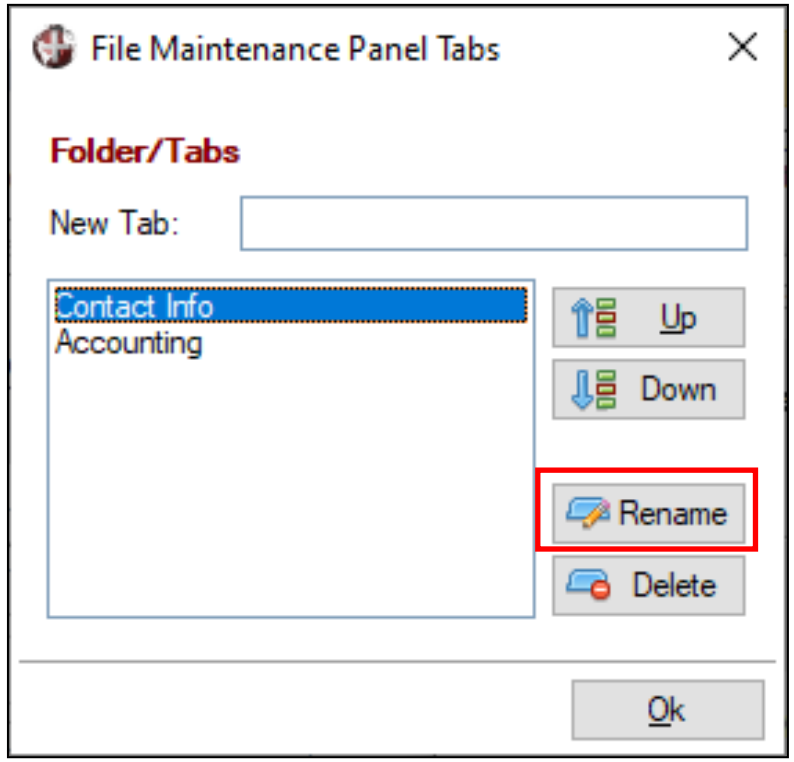
FOLDER OPTIONS

- New ***Web (Top)*** Tab Position on Folder Options dialog
  - Will use Top position on NOMADS dialog





FIELD LAYOUT – PANEL TABS



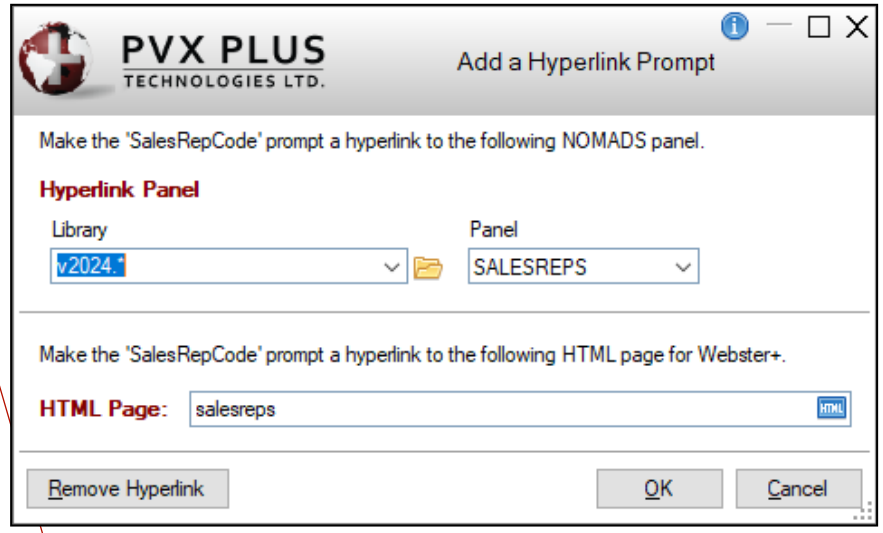
RENAME TABS

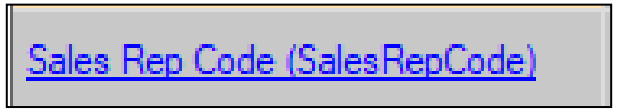
- ***Rename*** button added to File Maintenance Panel Tabs panel
  - Can now rename a folder tab without deleting it and starting over

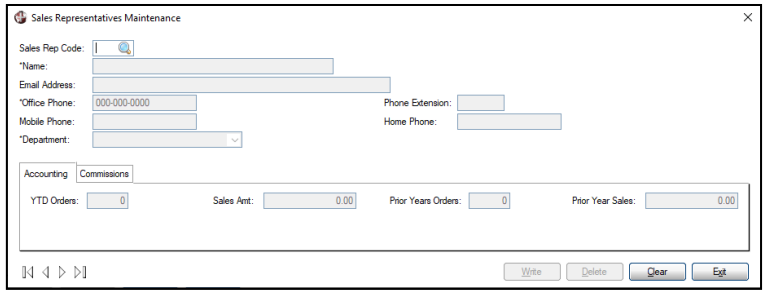
FIELD LAYOUT - HYPERLINKS

HYPERLINKS

- Select ***Add Object/Add or Edit a Hyperlink Prompt*** from the layout grid popup menu or press the ***Add Object*** button and select ***Hyperlink Prompt***
- Transform a prompt into a hyperlink that opens another panel



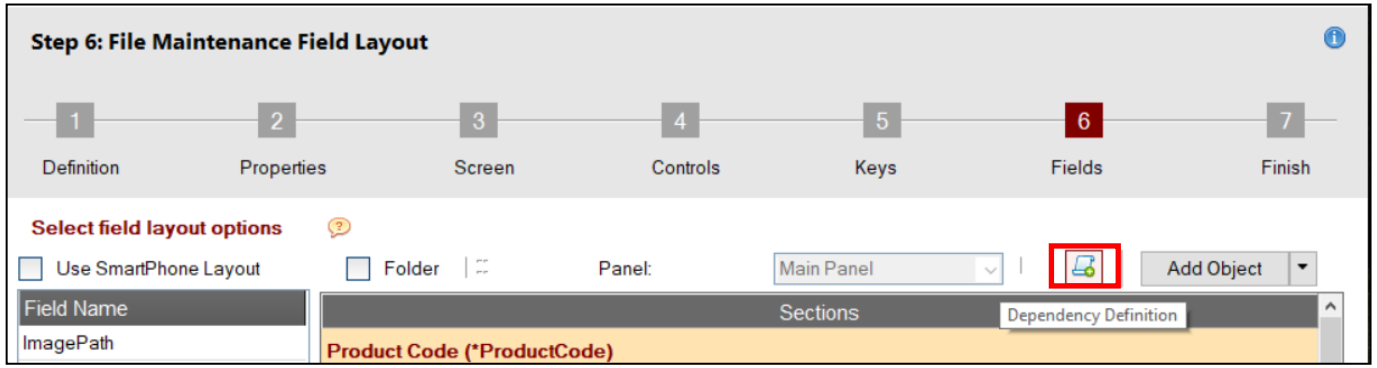




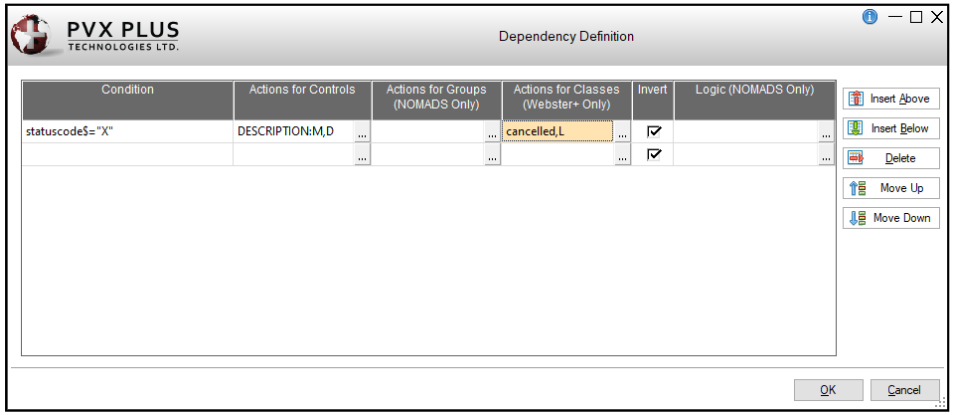
DEPENDENCY DEFINITIONS

DEPENDENCIES

- Similar to defining Dependency Definitions in the NOMADS Panel Designer



- Enable/Disable, Show/Hide, Lock/Unlock controls
- Some columns affect NOMADS panel only
- New column for Webster+ Classes

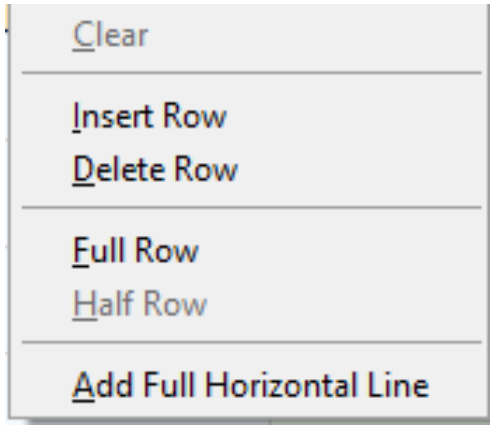


LAYOUT GRID POPUP MENUS

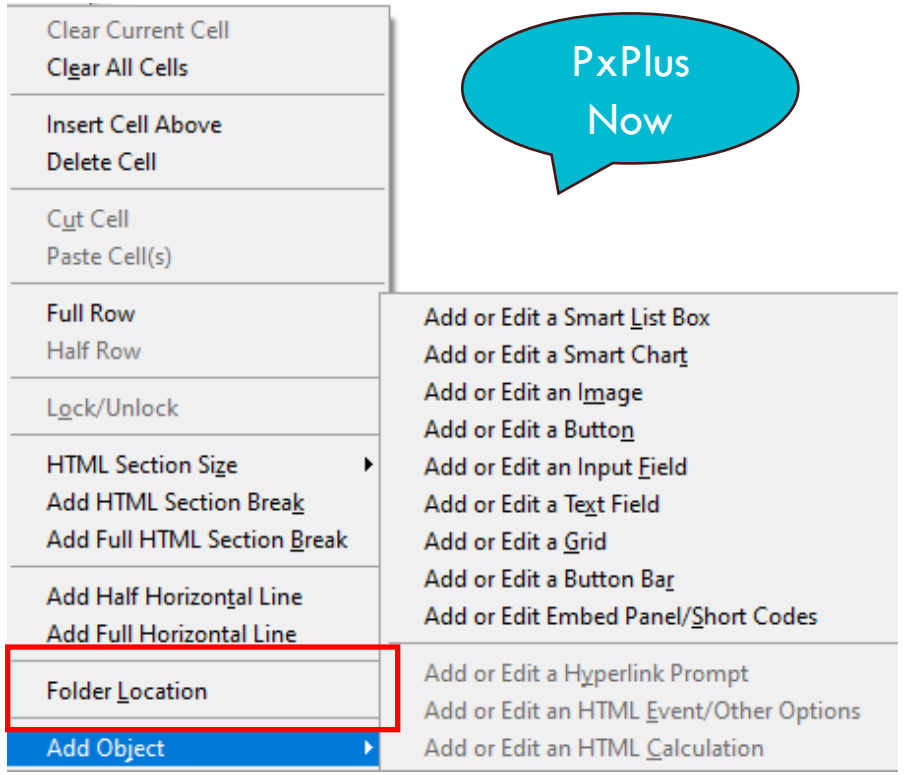
LAYOUT GRID POPUPS

- Additions to ***Grid Popup Menu*** (right-click on layout grid)
- ***Folder Location*** can now be defined

PxPlus 2019



PxPlus Now



ADD OBJECTS

ADDITIONAL OBJECTS

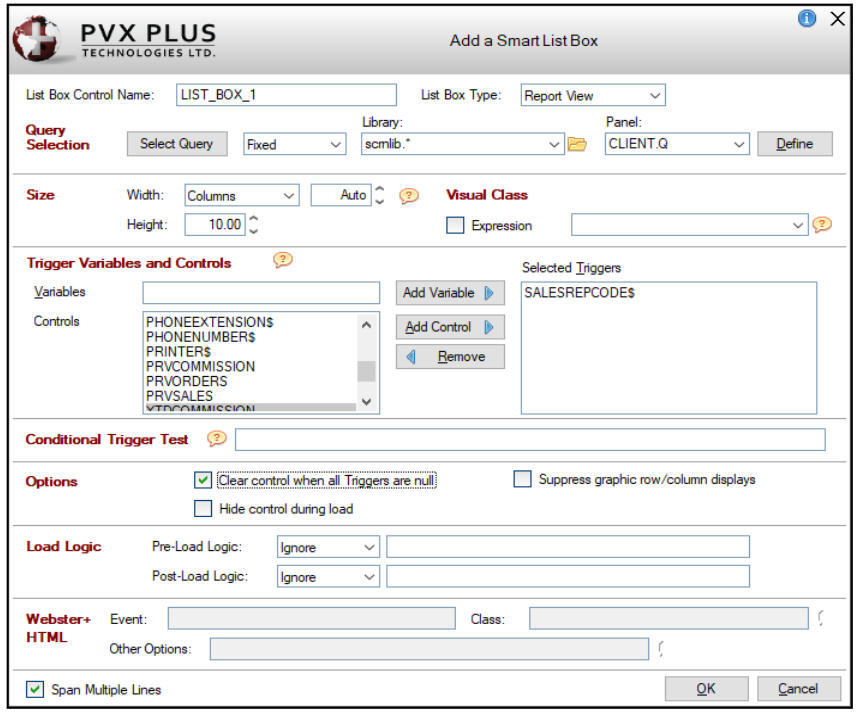
- Ability to add objects to panels
  - Smart List Boxes
  - Smart Charts
  - Image
  - Button
  - Input Fields
  - Text
  - Button Bar
  - Grid (Webster+ only)
  - Embedded Panels (NOMADS only)
  - Short Codes (Webster+ only)
- All objects may also be added to Non-File Maintenance forms

SMART LIST BOX

ADD A SMART LIST BOX

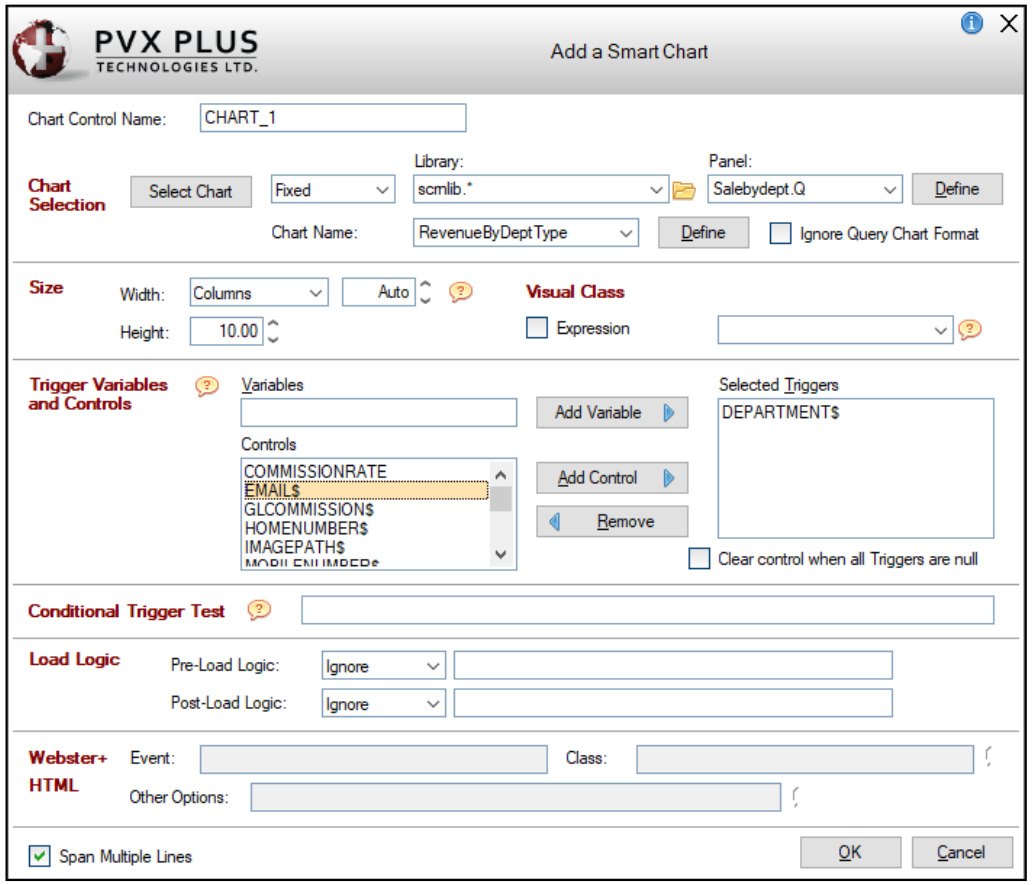
- List Box Type
  - Report View
  - Tree View

- Uses previously defined Queries



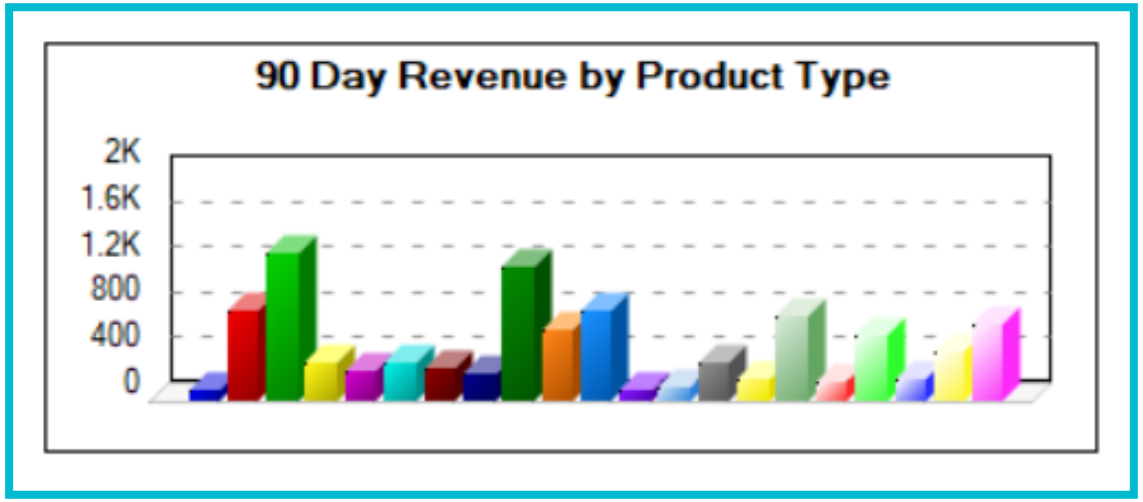
Client ID	Name	Address	City	State/Province	Country
302119	Andrews Plumbing	141 Bright Treasure Farms	Denfield	Ontario	Canada
145684	Bandera Landscaping	8189 Round Expressway	Concord	Ontario	Canada
970883	Bandera Nursery	8198 Dewy Wagon Maze	Caribou	Manitoba	Canada
859267	Bandera Securities	8445 Pleasant Panda Grove	Quesnel	British Columbia	Canada
505590	Bastrop Oxygen Rentals	8038 Colonial Path	Perth	Ontario	Canada
834320	Bee Fish and Chips	4180 Lost Mount	Ramsey	Ontario	Canada
178896	Bee Grocery	516 Heather Pond Lookout	Keswick	Ontario	Canada
789006	Bee Interior Decorations	1861 Shady Point	Denbigh	Ontario	Canada

SMART CHART



ADD A SMART CHART

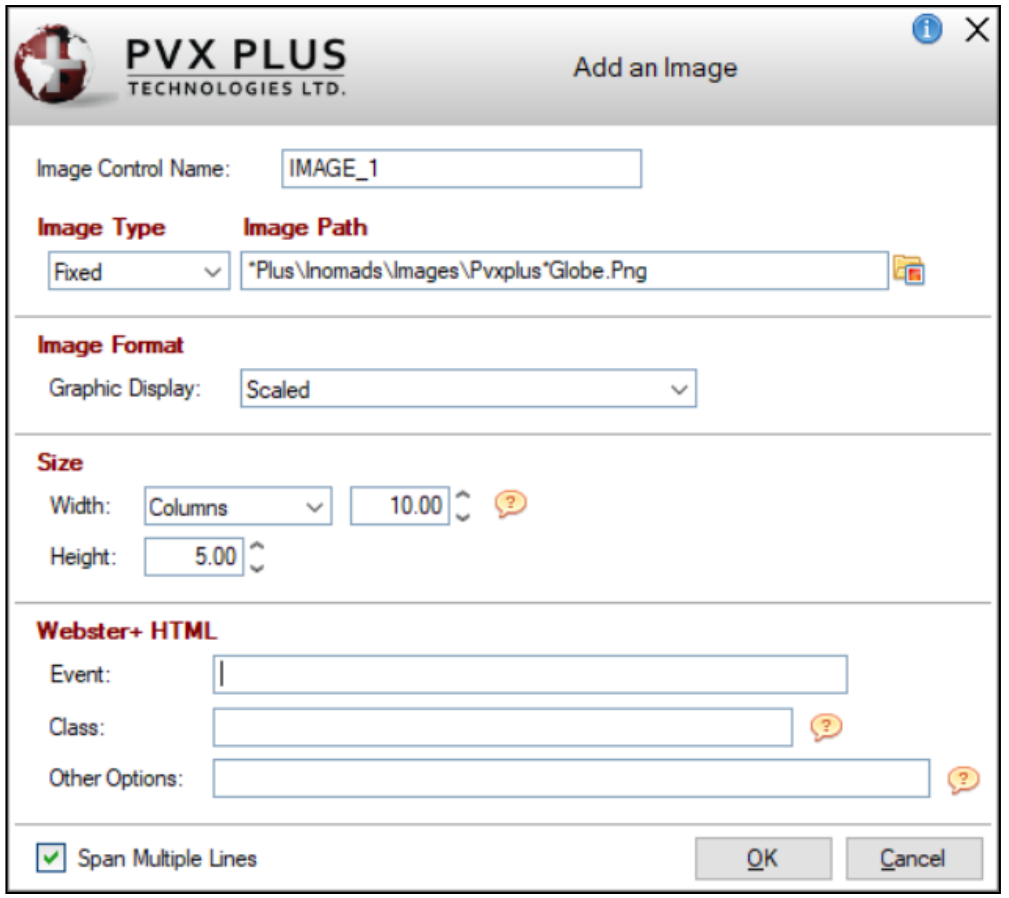
- Uses previously defined Charts
  - Pie, Bar, Column or Line charts



IMAGE

ADD AN IMAGE

- Graphic Display Options
  - Asis, Centered, Scaled, Tiled, Halftone, etc.

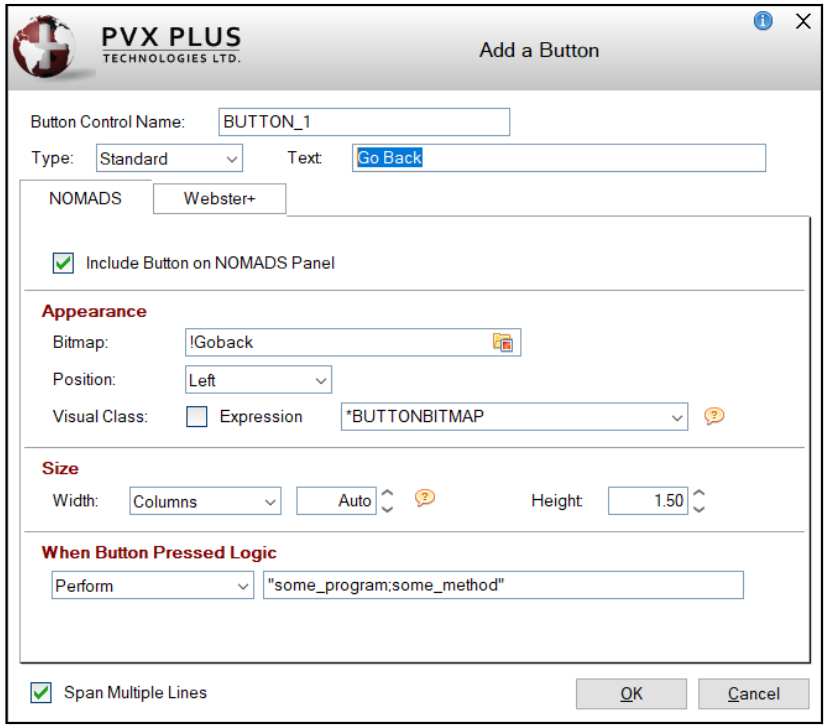


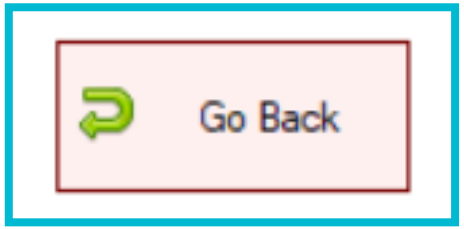
Webster+ Security must be enabled

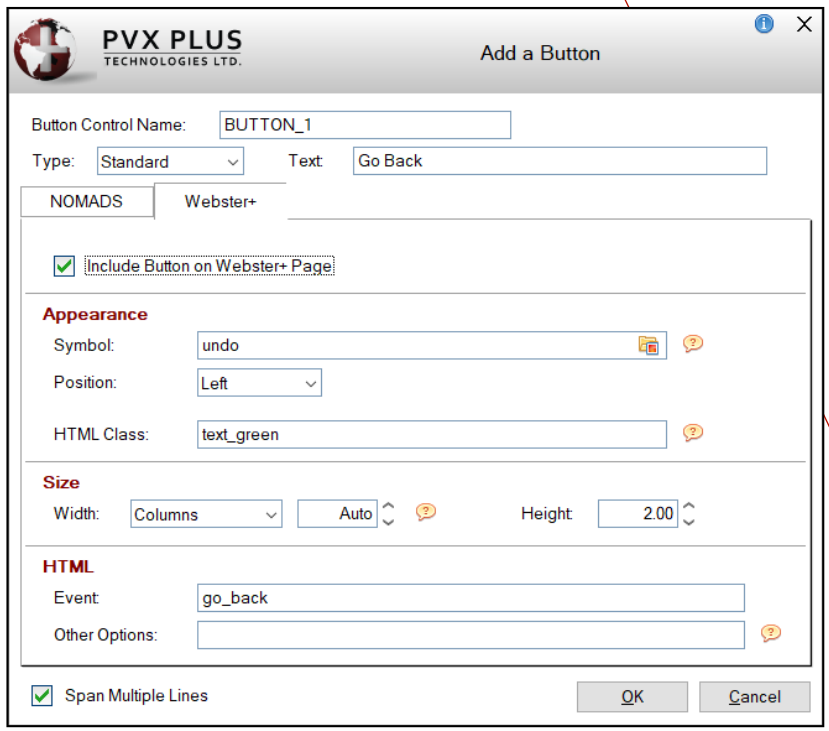
BUTTON

ADD A BUTTON

- Button Types
  - Standard
  - Hyperlink
  - Drop List
- Folder Tabs
  - NOMADS
  - Webster+



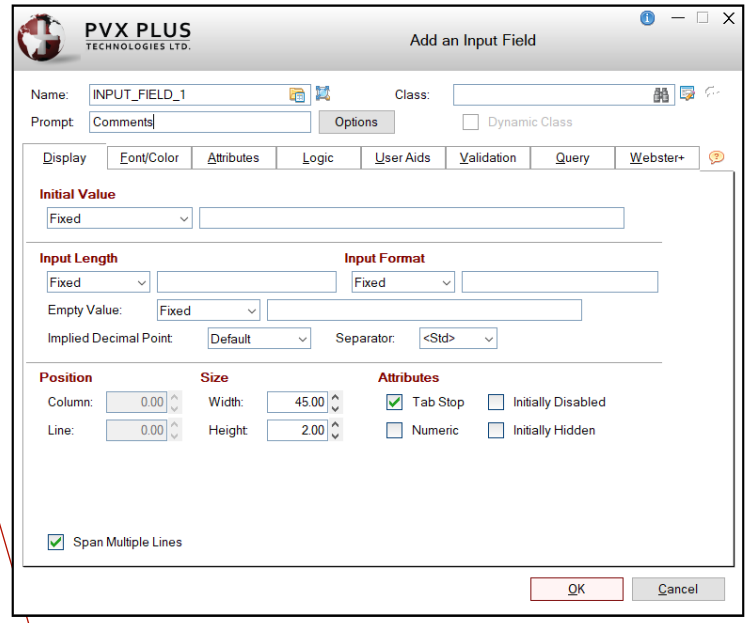


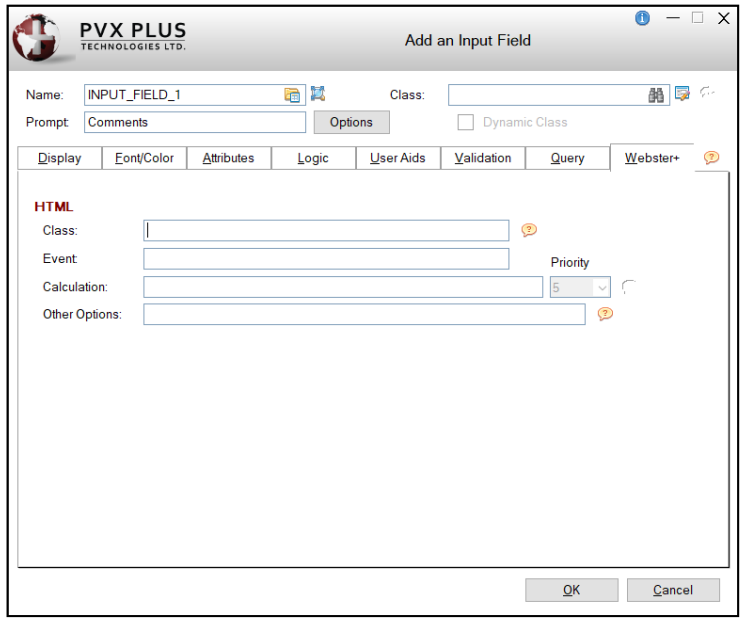


INPUT FIELD

ADD AN INPUT FIELD

- Based on NOMADS Panel Designer Multi-Line definition
  - Additional Webster+ folder tab



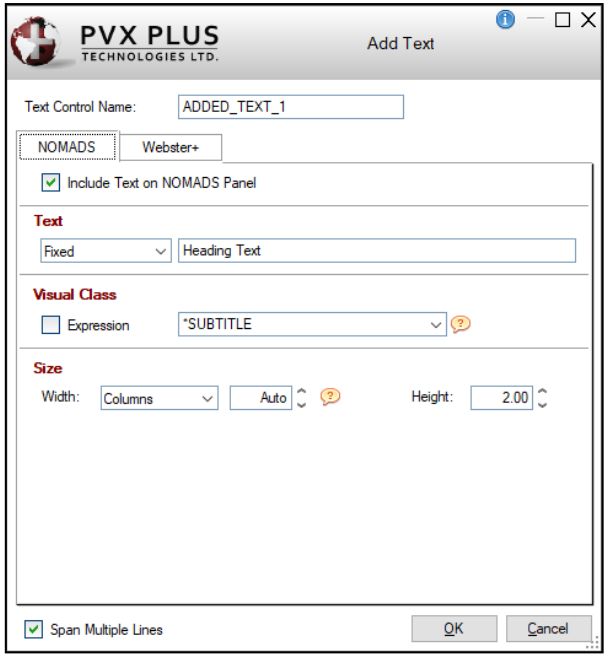


TEXT

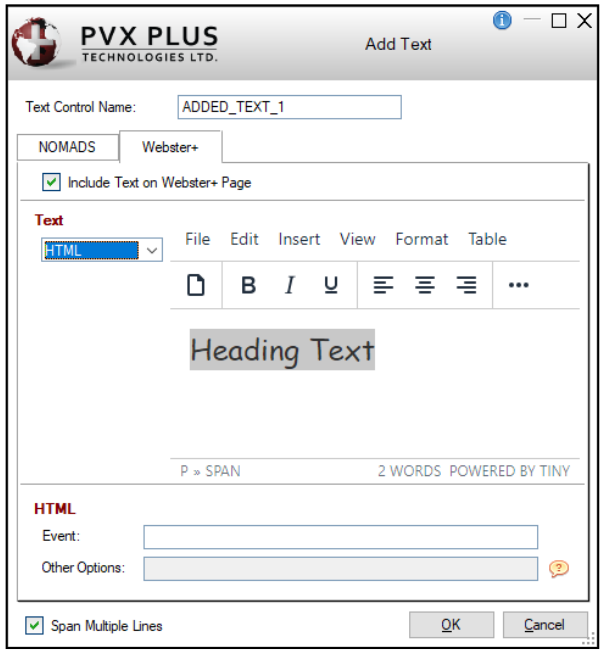
ADD TEXT

- More flexibility than typing text into the layout grid cell
- Fixed, Expression, Message Library Reference/HTML

NOMADS



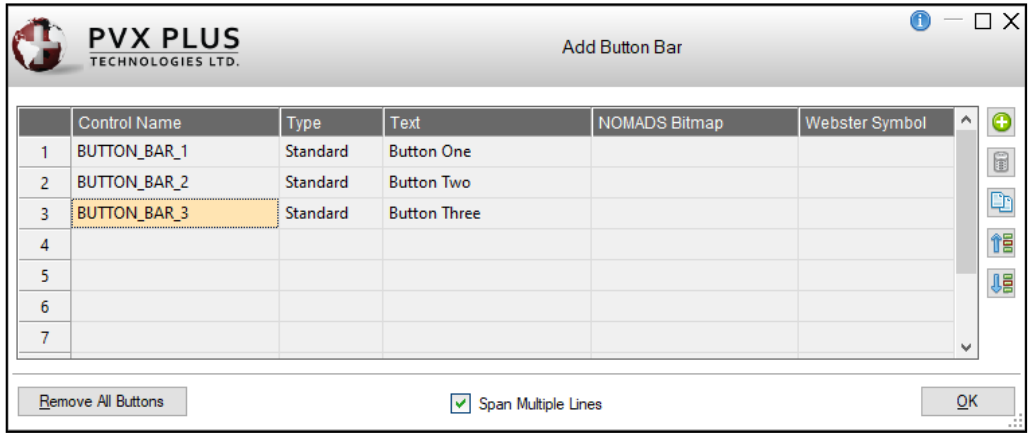
WEBSTER+

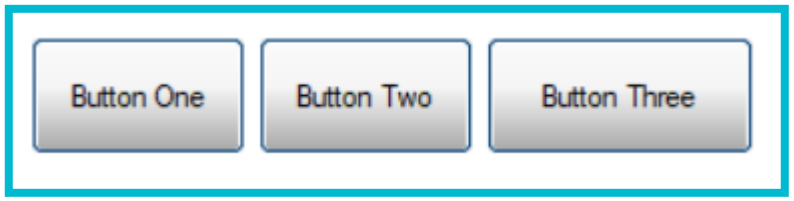


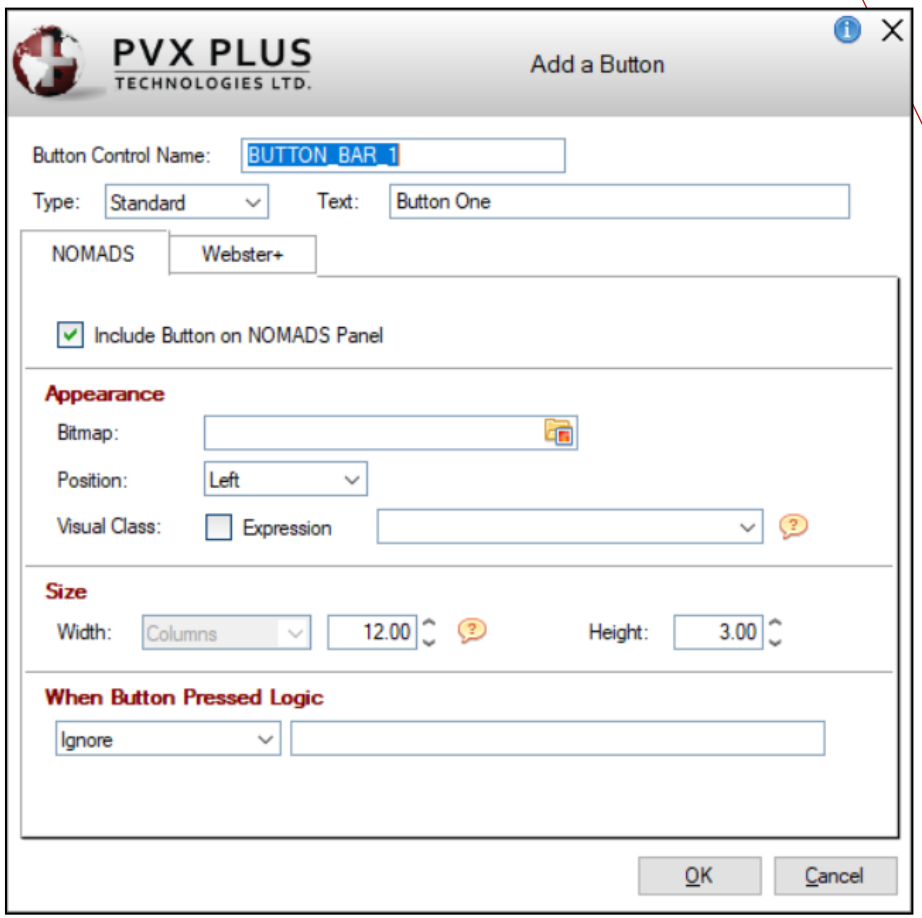
BUTTON BAR

ADD BUTTON BAR

- Defines multiple buttons in a row
  - Similar to defining Additional buttons



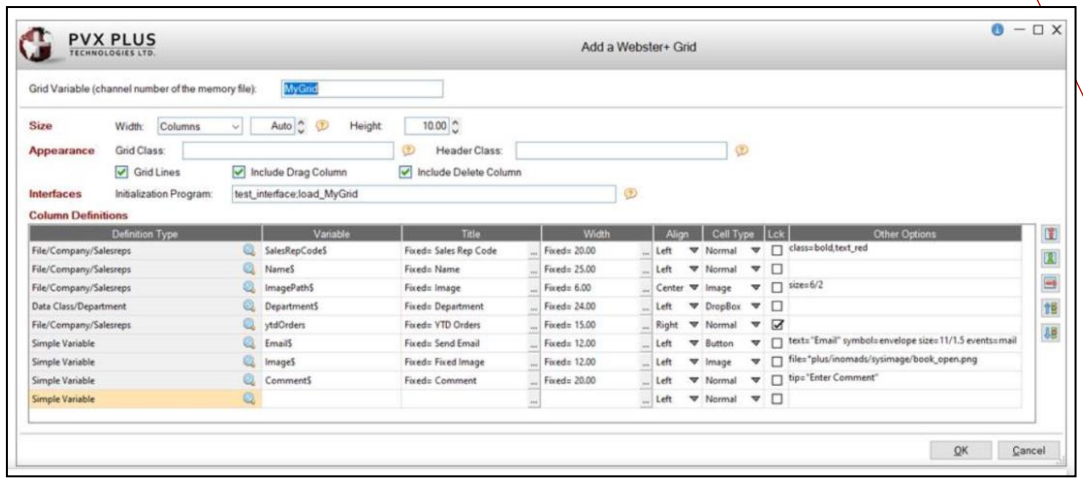




GRID (WEBSTER+ ONLY)

ADD A GRID

- An Interface Program method is required to populate memory file
- Webster+ Grid Example
- So far, would still need to be added in the NOMADS designer for NOMADS



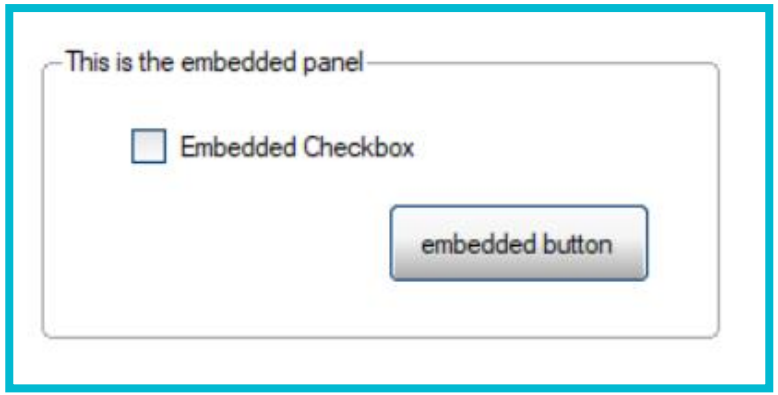
Drag	Sales Rep Code	Name	Ima...	Department	YTD Orders	Send Email	Fixed Image	Comment	Del
≡	AN	Ann Nelson		Eastern Canada Sales	4	Email			
≡	BM	Ben Mackay		Ontario Sales	2	Email			
≡	BT	Betty Turner		Eastern Canada Sales	8	Email			

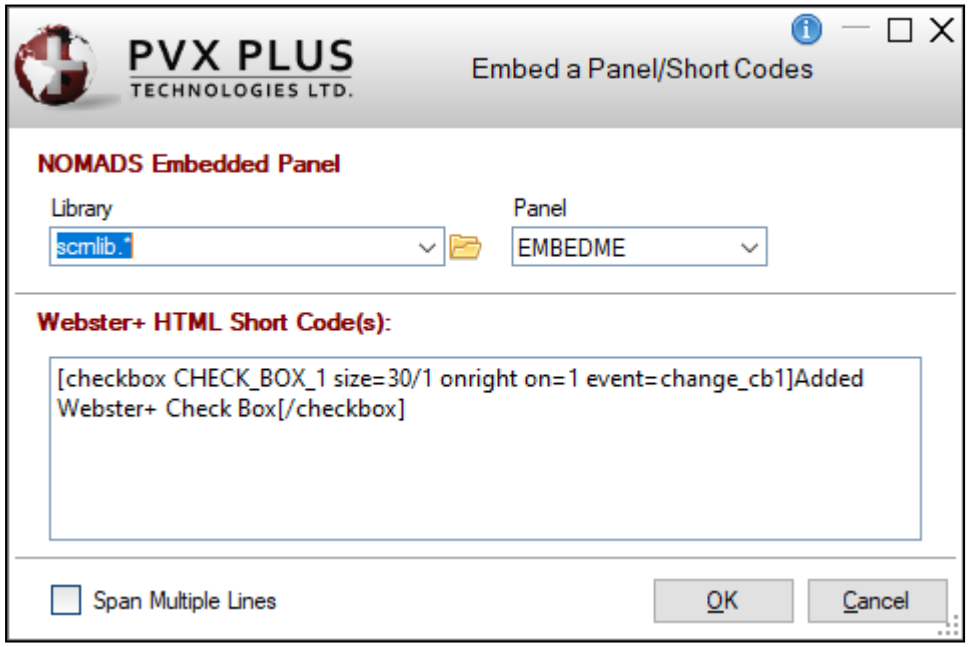
See 'PxPlus on the Web File Maintenance Generator Demo' PDF for more details

EMBED A PANEL / SHORT CODES

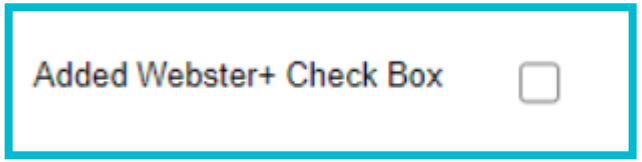
EMBED A PANEL/SHORT CODES

- NOMADS Embedded Panel





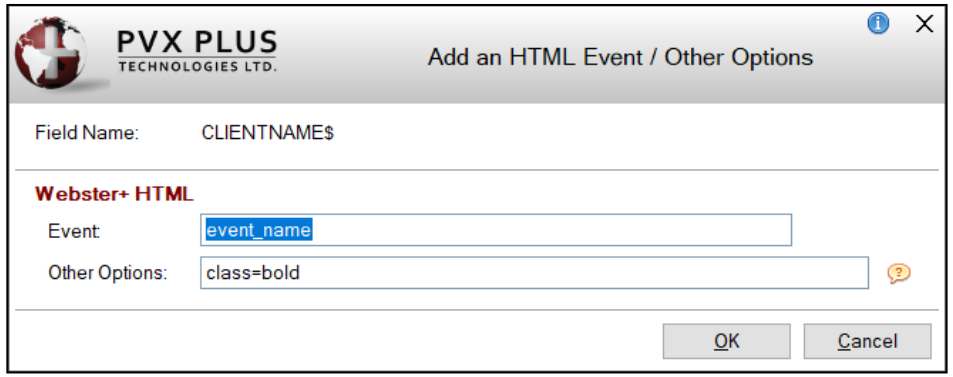
- Webster+ HTML Short Codes

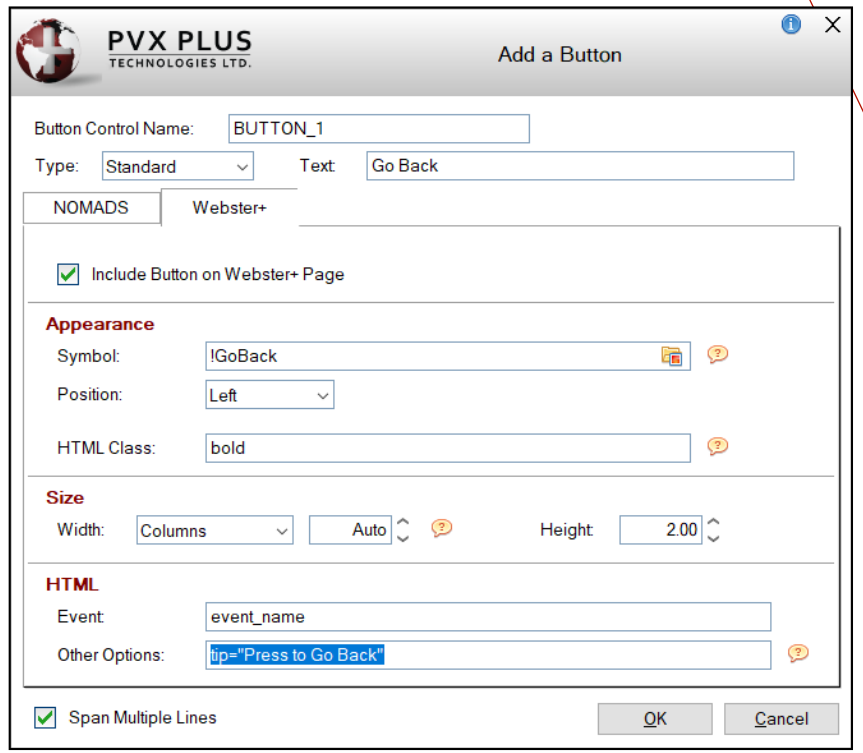


EVENTS (WEBSTER+ ONLY)

HTML EVENTS

- HTML Events can be added to a Field or an Object
  - Event logic should be added to the HTML Interface Program
  - Analogous to ***On Change*** or ***When Button Pressed*** logic in NOMADS

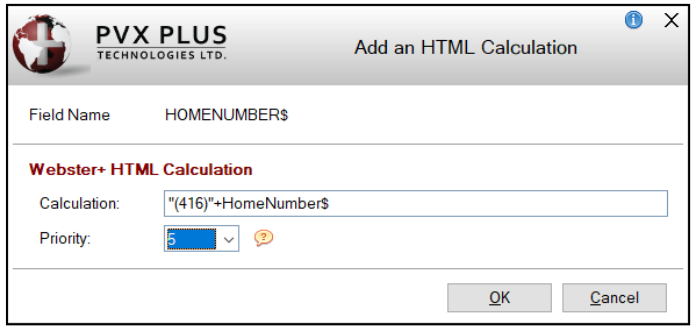


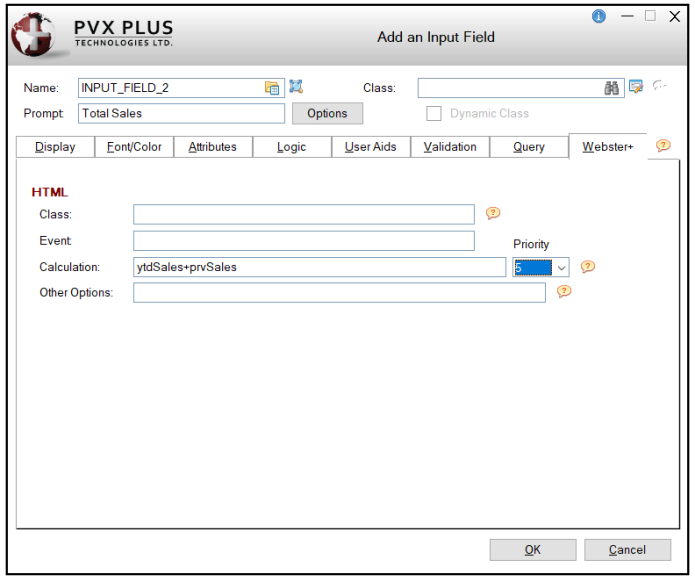


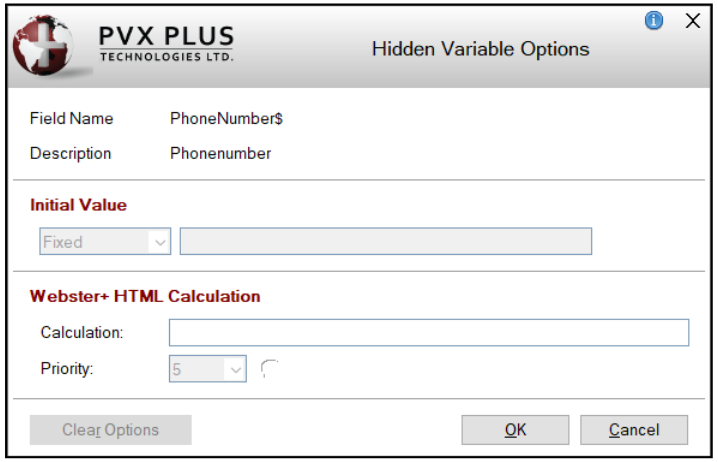
CALCULATIONS (WEBSTER+ ONLY)

HTML CALCULATIONS

- HTML Calculations may also be added for a Field, an Object or a Hidden Variable
  - A Priority of 1 - 9 (default of 5) may be assigned in case the calculation order is important
  - Would probably be done via ***Post Create, When Receiving Focus*** or ***On Change*** logic in NOMADS







LAYOUT GRID INDICATIONS

GRID INDICATIONS

- Cell tick colors are used to indicate cells with Events and/or Calculations
- Double-clicking on cells will allow Events/Calculation settings to be edited

Red indicates an Event

Blue indicates a Calculation

Purple indicates both

HIDDEN VARIABLES (WEBSTER+ ONLY)

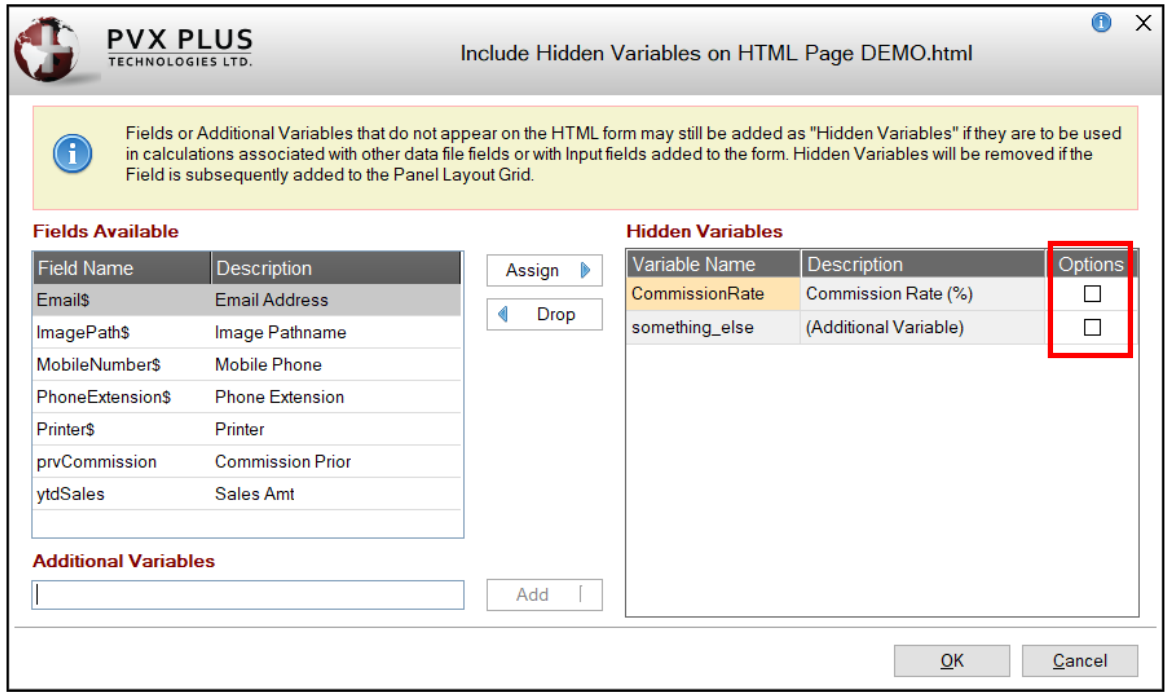
HIDDEN VARIABLES

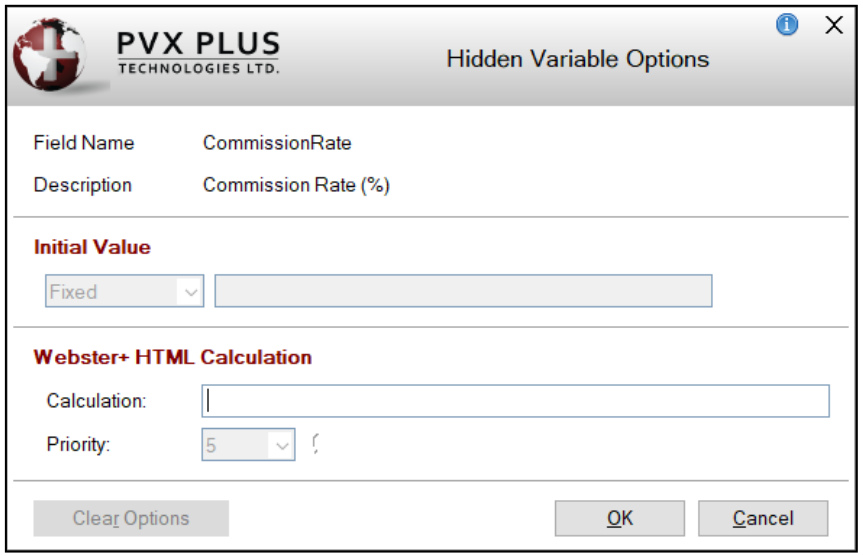
- Variables that do not appear on the HTML page but are still needed for some other reason such as a calculation
  - Variables that are Fields in the file being maintained
  - Variables added as Input Objects
  - Any other variable

HIDDEN VARIABLE DIALOGS

INCLUDE HIDDEN VARIABLES ON HTML PAGE

- Main dialog to define the Hidden Variables
  - Options dialog for each variable defined

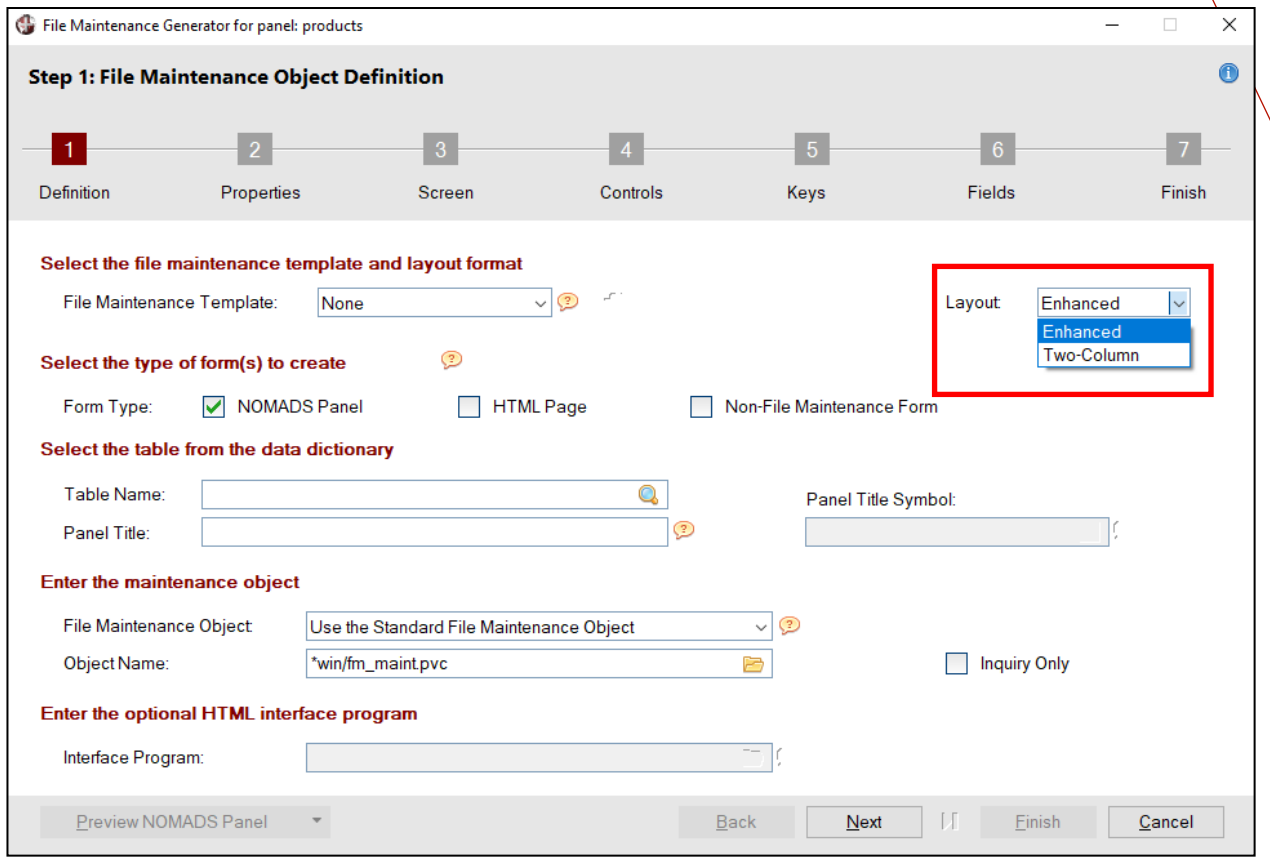




ENHANCED LAYOUT (VERSION 2024)

NEW LAYOUT OPTION

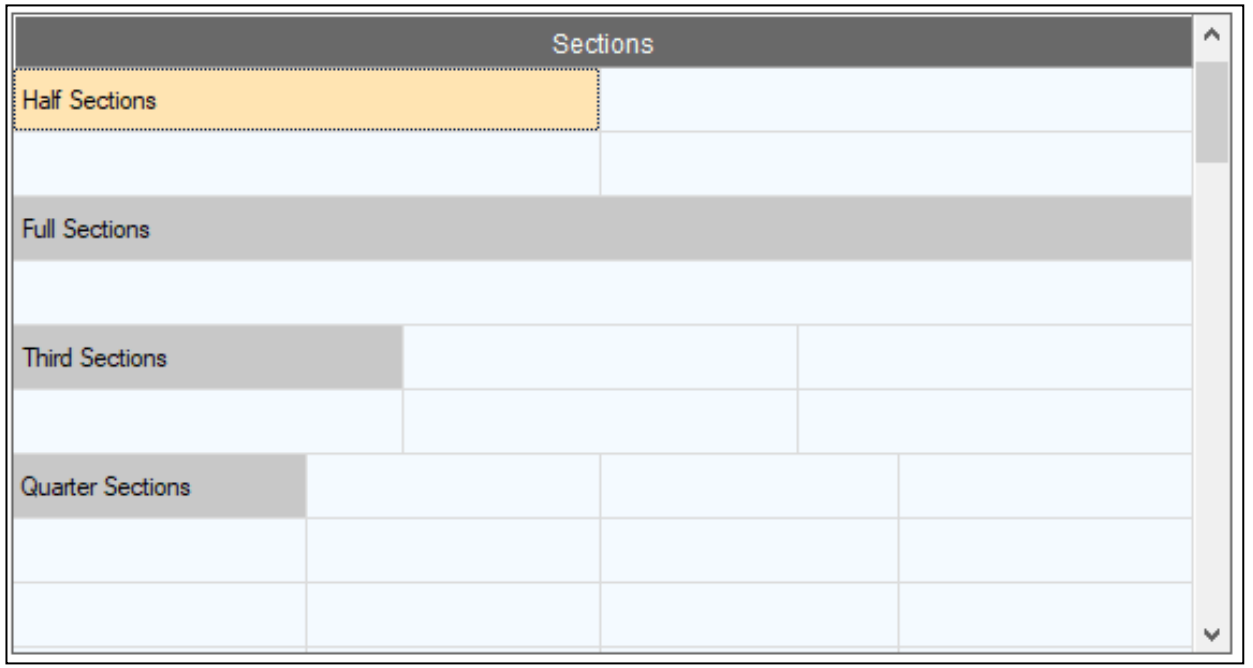
- Enhanced Layout
  - Default layout for new panels
  - Previous (Two-Column) layout is still available



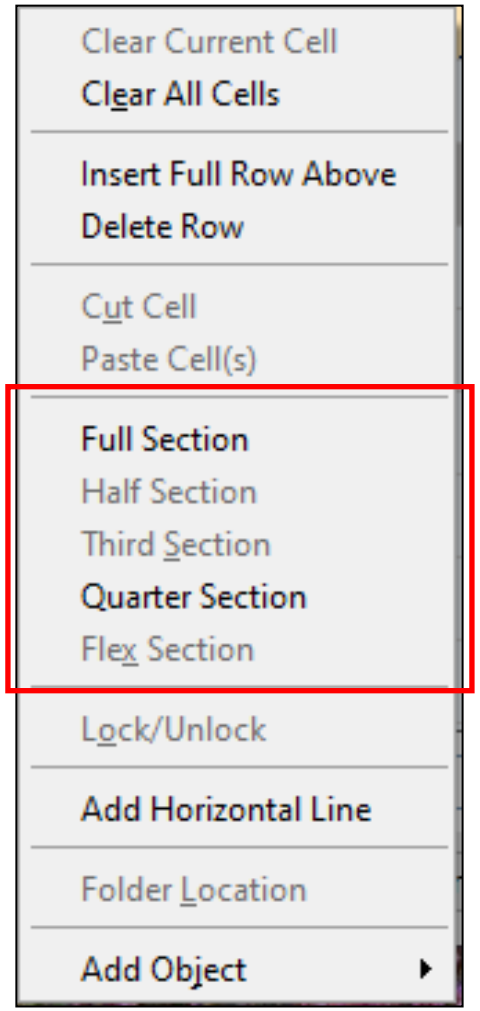
ENHANCED LAYOUT GRID

ENHANCED LAYOUT GRID DISPLAY

- Displays Full, Half, Third and Quarter section sizes in the Enhanced Layout grid
  - Third and Quarter section sizes now also available for NOMADS panels



ENHANCED LAYOUT GRID POPUP MENU



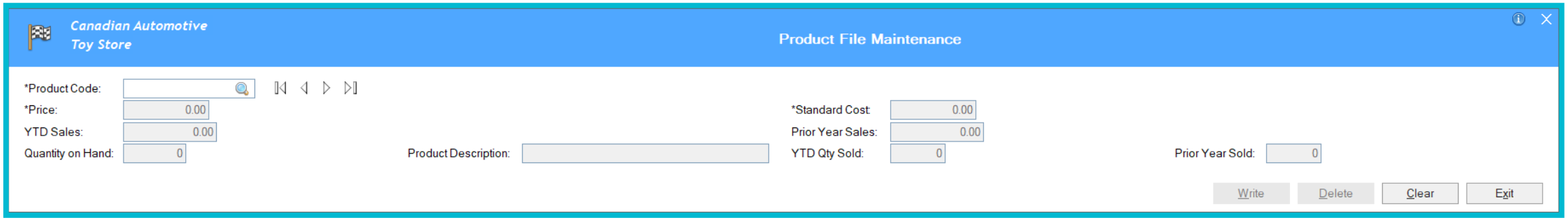
ENHANCED LAYOUT GRID POPUP

- Section sizes are selected via the Popup Menu
  - All unpopulated rows sharing the same section size below the current cell are changed
  - Third Section can only be selected on Full Section cell
  - Flex Section only available when HTML page is being generated
    - Control can be made wider/narrower at runtime

ENHANCED LAYOUT SIZING

PANEL WIDTH CALCULATION

- All alike section sizes are the same width so calculated panel width is largest of:
  - Widest Full Section
  - Widest Half Section x 2
  - Widest Third Section x3
  - Widest Quarter Section x 4



- Important to place wide fields and controls in larger Sections to avoid excess white space

ENHANCED LAYOUT ADVANTAGES

CONSIDERATION	LAYOUT CHOICE	EXPLANATION
Panel layout flexibility	Enhanced	The *Enhanced* layout provides options for defining a row with *Full*, *Half*, *Third* or *Quarter* sections, which allows for more flexibility for both NOMADS panels and Webster+ HTML pages.
Ease of visualizing Sections	Enhanced	While the *Two-Column* layout can be used to create *Quarter* and *Third* sections for Webster+ HTML pages, these section sizes have no impact on the NOMADS panel being generated. The *Enhanced* layout makes it easier to use and visualize these sections for both NOMADS panels and Webster+ HTML pages.
> 2 columns needed (in NOMADS)	Enhanced	To generate a NOMADS panel with more than two columns, the *Enhanced* layout must be used.

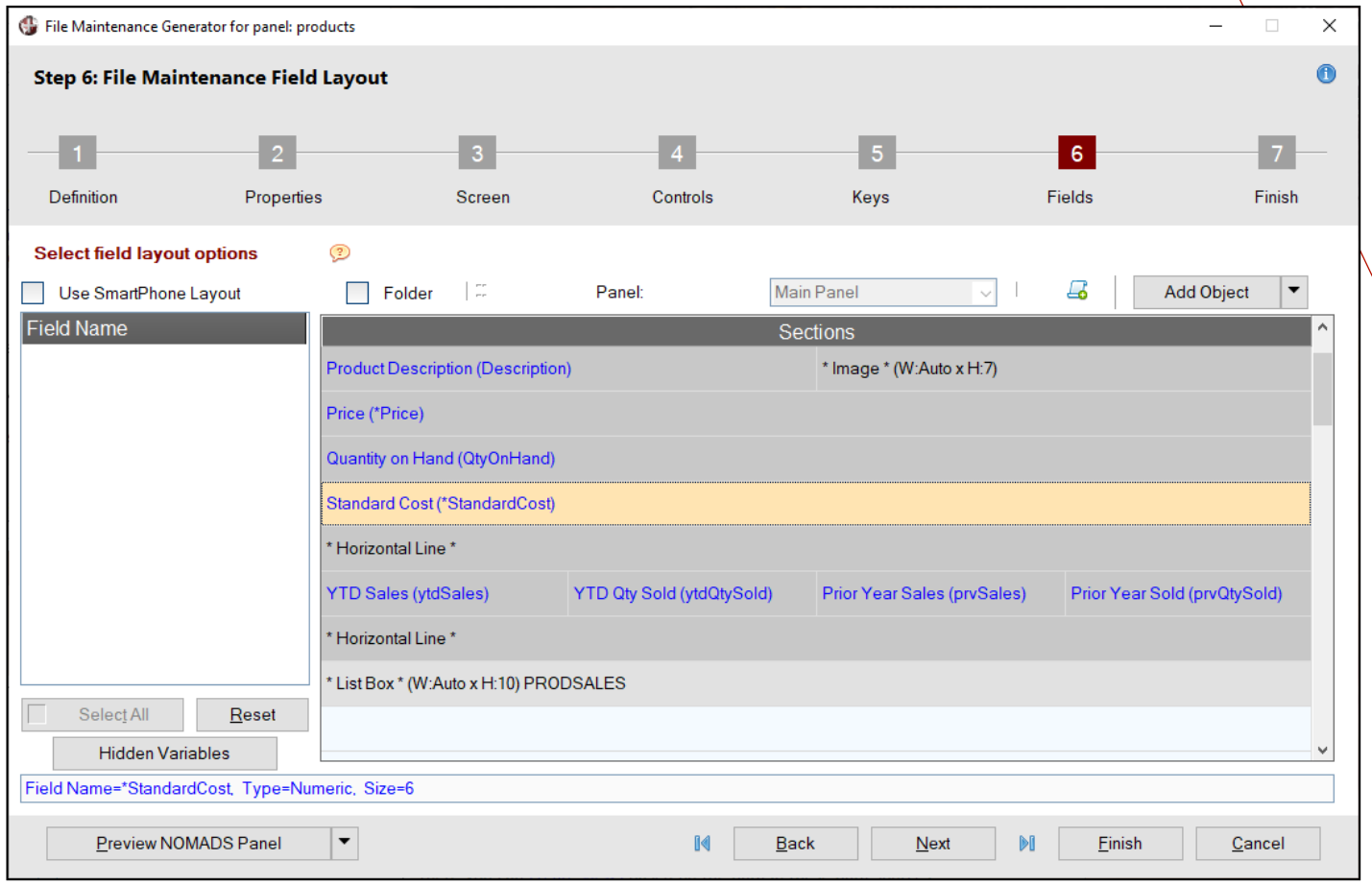
TWO-COLUMN LAYOUT ADVANTAGES

CONSIDERATION	LAYOUT CHOICE	EXPLANATION
Narrow column widths	Two-Column	Because the Left and Right sides of the Two-Column layout can have differing widths, the resulting NOMADS panel may be narrower if narrow elements are all placed on one side of the layout.
Minimum panel width	Two-Column	When using the *Enhanced* layout, care must be taken to avoid a wide panel with excess white space. In the *Layout Grid*, placing a wide element in a cell defined as a *Quarter* section will result in a NOMADS panel that is four times wider than the wide element (including the prompt for data file fields). Very wide elements should be placed in cells defined with larger section sizes, such as *Full* or *Half* sections.

COMPLETED LAYOUT GRID

LAYOUT GRID EXAMPLE

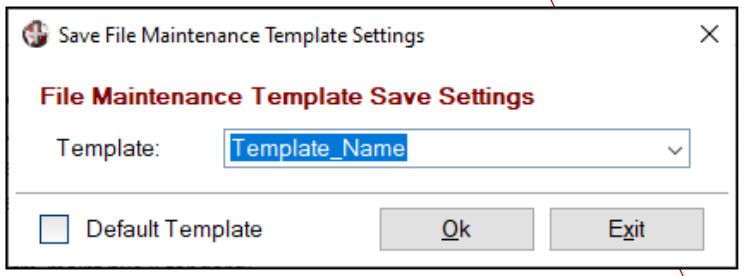
- How to Use the Enhanced Layout
- Enhanced Layout Sample Panels

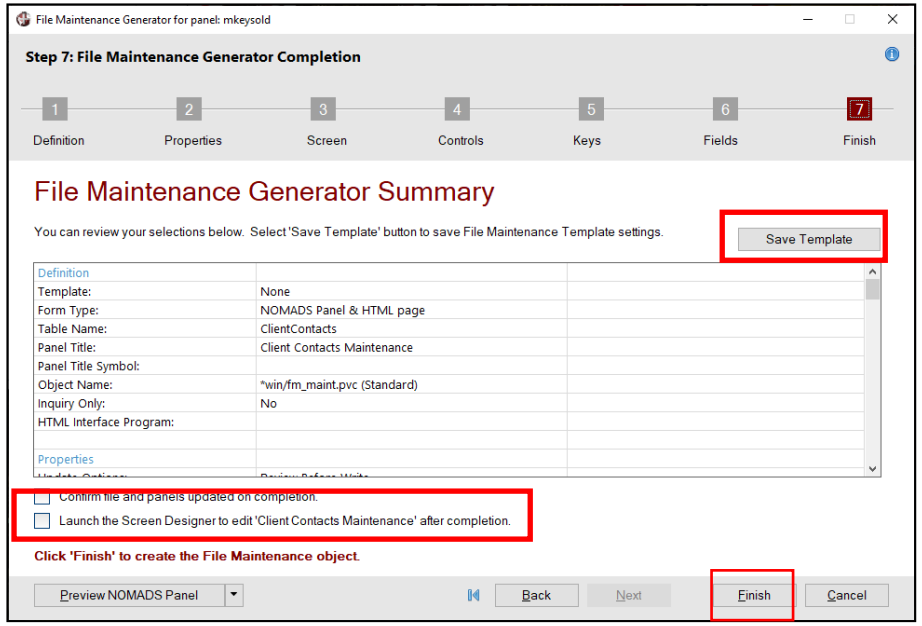


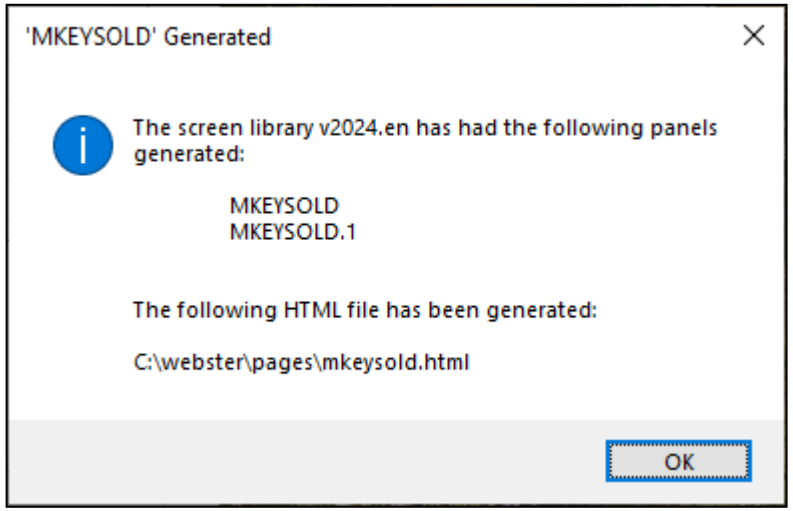
STEP 7: COMPLETION

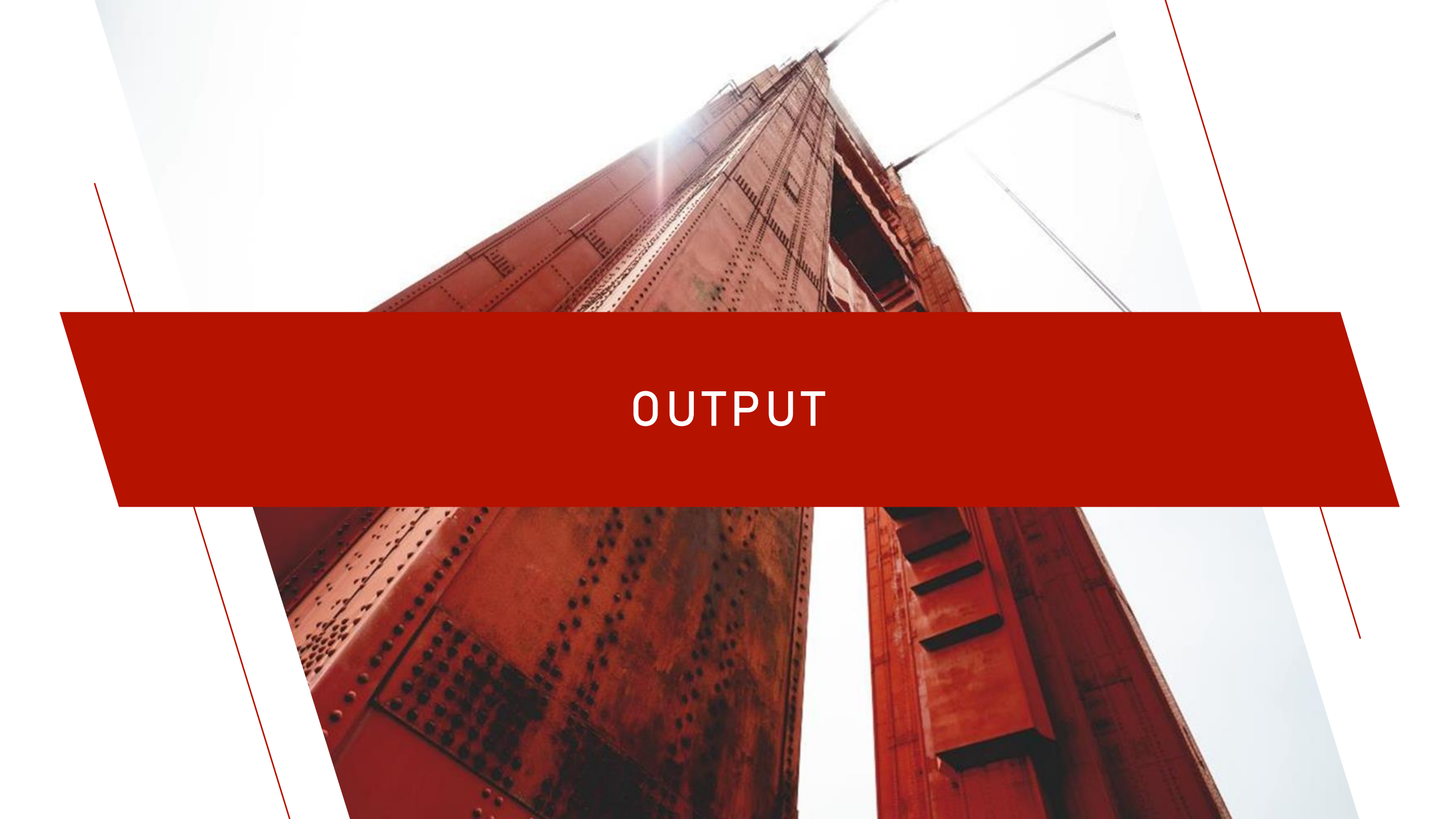
COMPLETION

- Updates to summary Grid for new inputs and Enhanced Layout
- Save Template button
- Added ***Confirm files and panels updated on completion*** check box
- Press ***Finish*** button to generate panel(s) and/or HTML page









OUTPUT

PROCESSING A NOMADS PANEL

PROCESS A NOMADS PANEL

- For File Maintenance panels, arg_1$ is used for passing the key to a record to initially display

```
PROCESS "panel","[lib]",arg_1$,arg_2$, … arg_20$
```

Examples

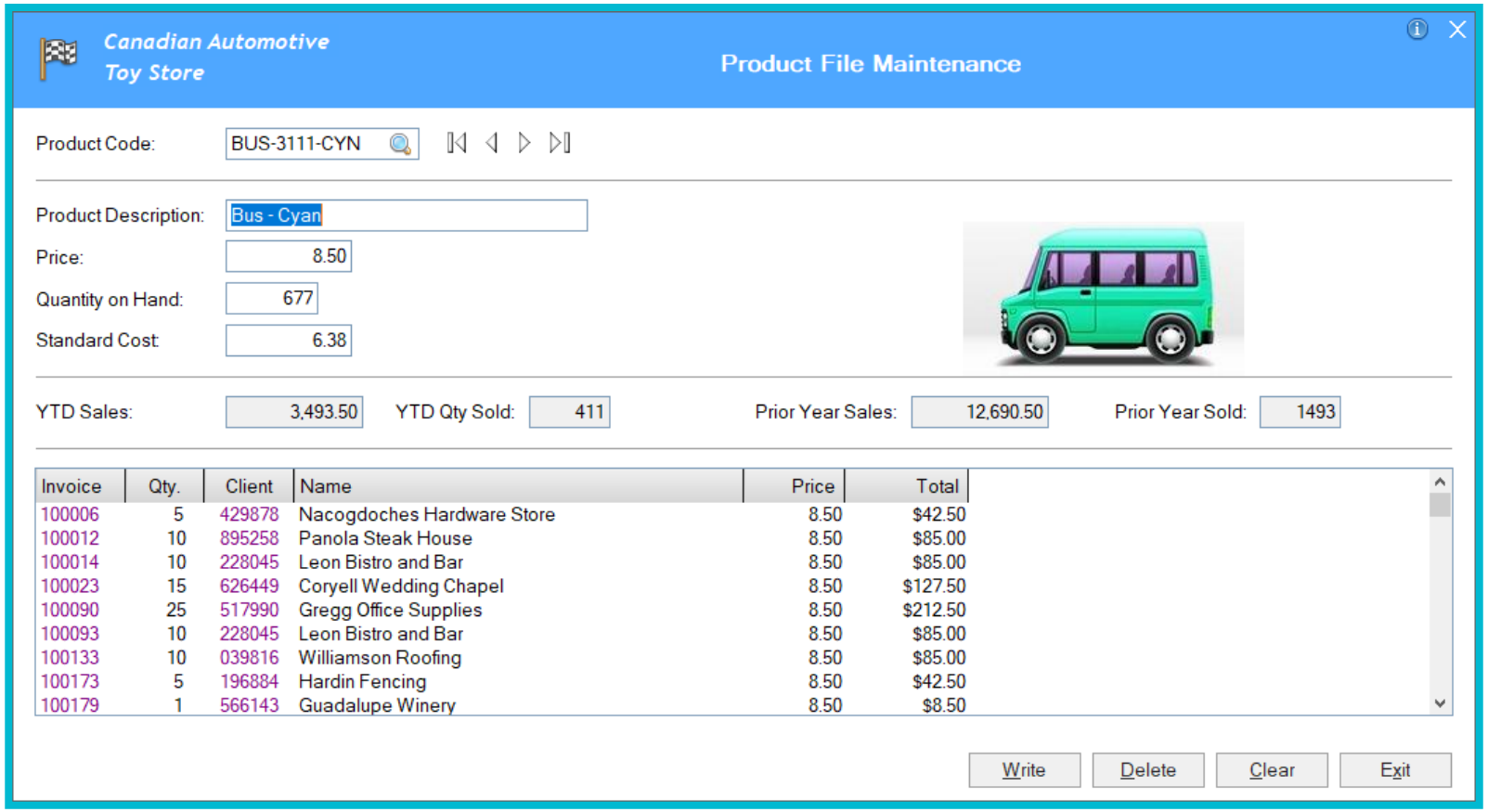
```
PROCESS "products","scrnlib.en"
```

Displays 'products' File Maintenance panel

```
PROCESS "products","scrnlib.en","BUS-3111-CYN"
```

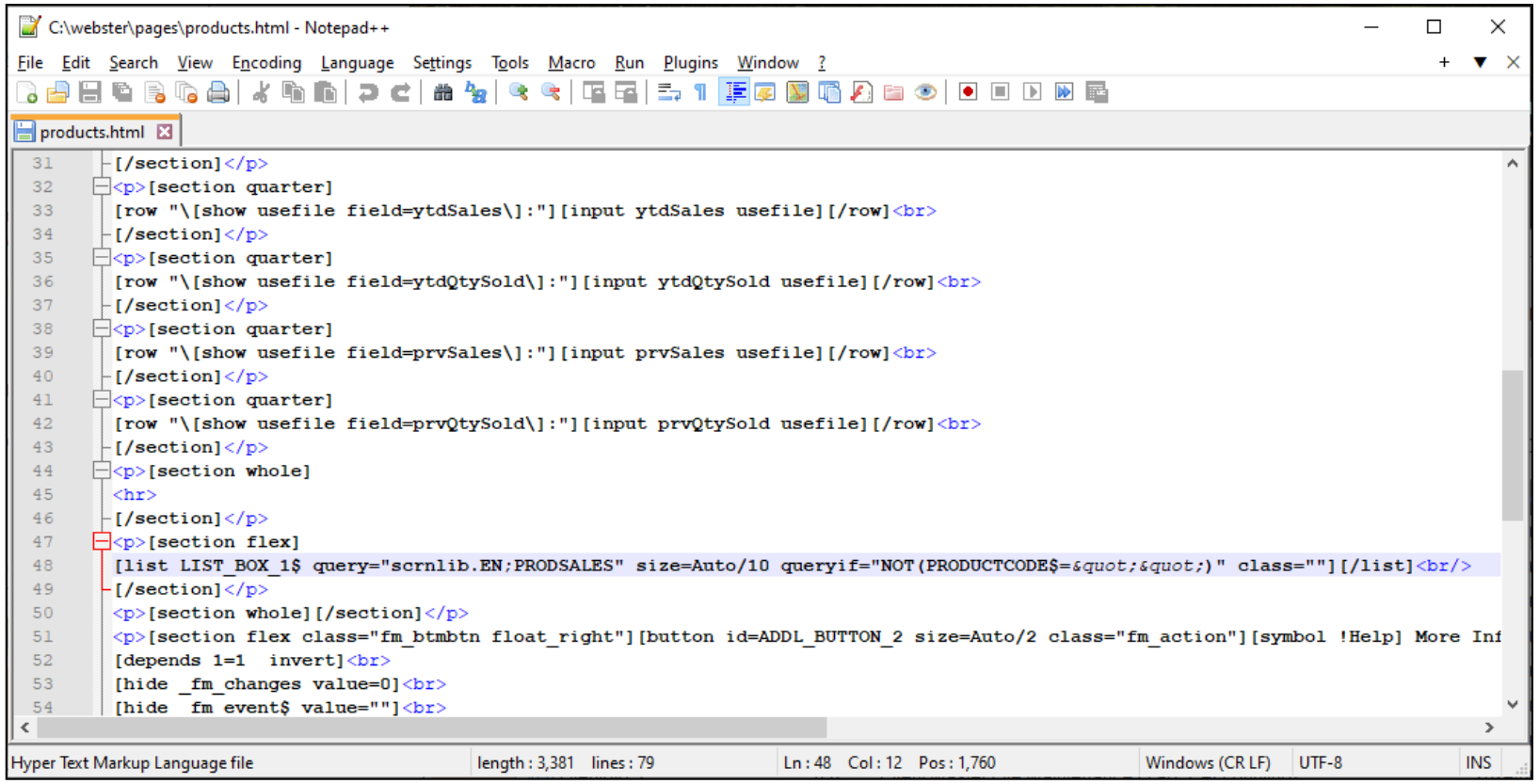
Displays 'products' File Maintenance panel with the BUS-311-CYN record displayed

COMPLETED NOMADS PANEL



- Has Image, 4 columns and a List Box

GENERATED HTML PAGE

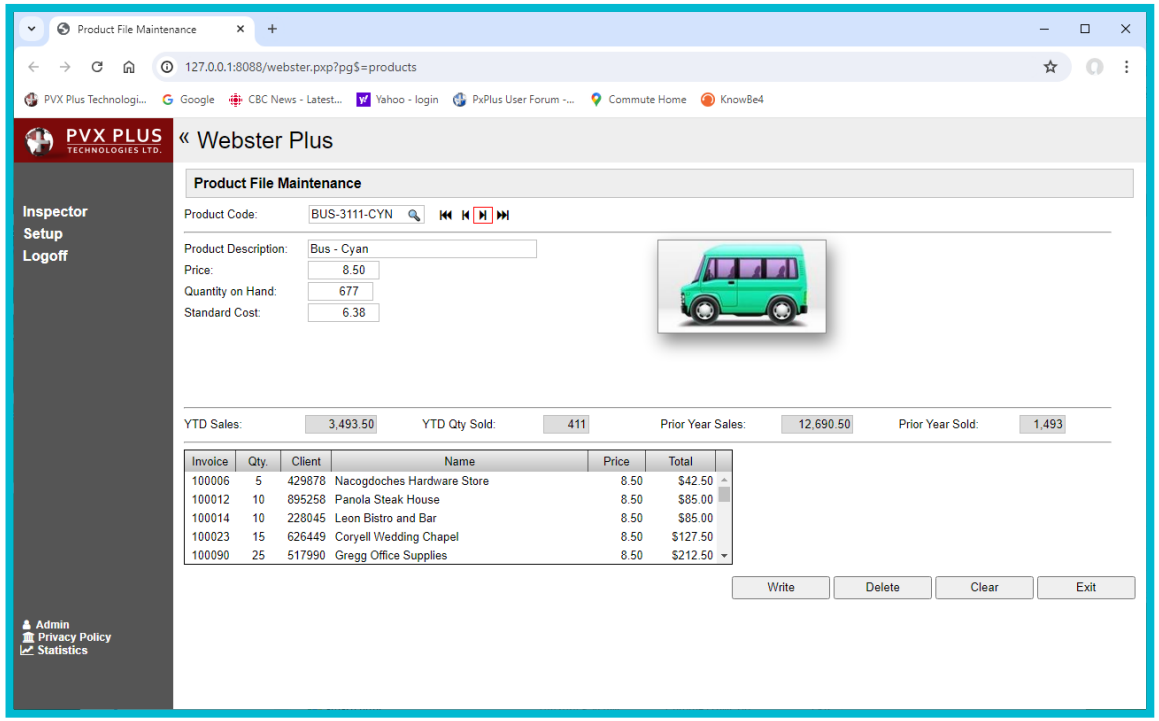


- Educational tool for learning Webster+ short codes and options

WEBSTER+ PAGE

DISPLAY A WEBSTER+ PAGE

- A Webserver of some sort must be running
  - EZWeb
  - Apache
  - IIS



- Navigate to URL
  - http://server_address:port/?pg$=html_page

IN CONCLUSION

THE FILE MAINTENANCE GENERATOR HAS COME A LONG WAY SINCE PXPLUS 2019

- Regenerate Panels
- Non-File Maintenance Panels
- Added Flexibility with many new Settings/Options
- Additional Browse/Action Buttons
- Hyperlinks
- Dependencies
- Create Webster+ Pages
  - Events
  - Calculations
  - Grids
  - Hidden Variables
- Enhanced Layout