TRIDIUM

NS2022

ACCELERATING INNOVATION

Using Good UX to Design Great PX

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What's New with Px

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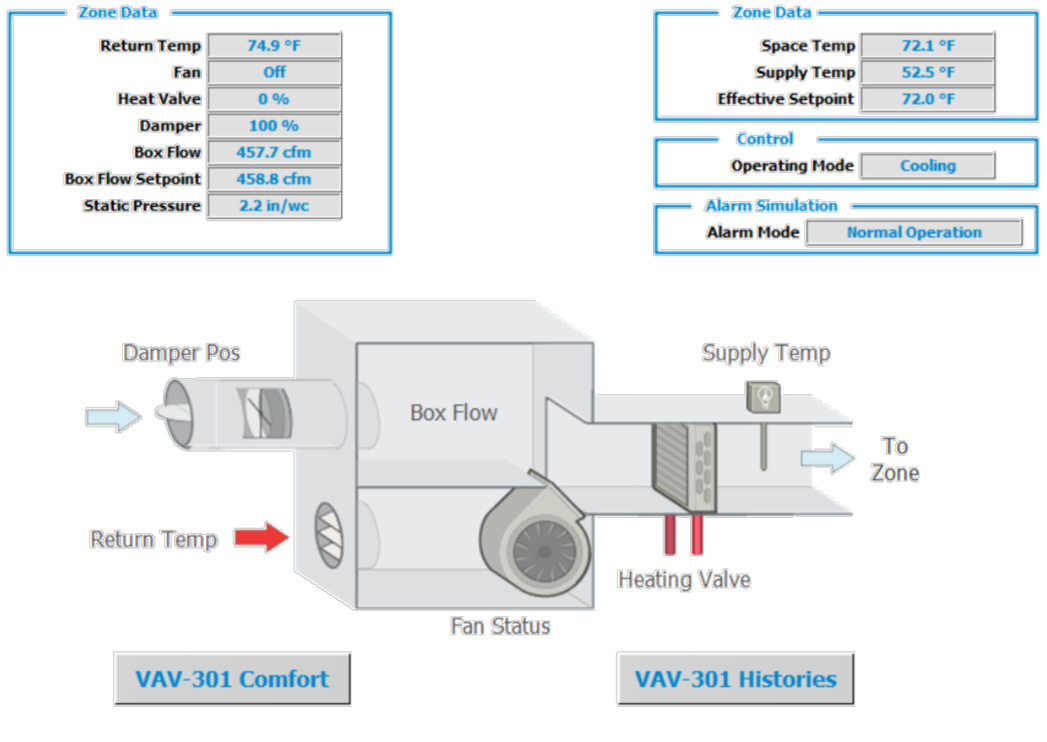
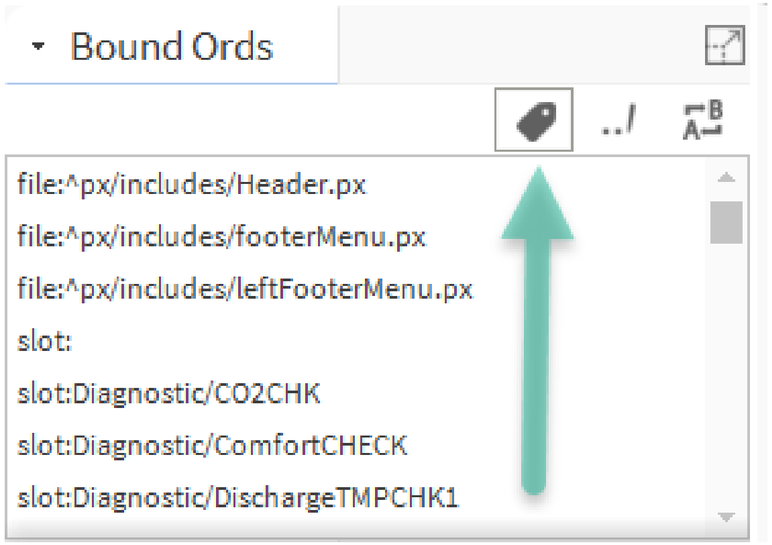
Enhanced Graphics with Tag Based Visualization

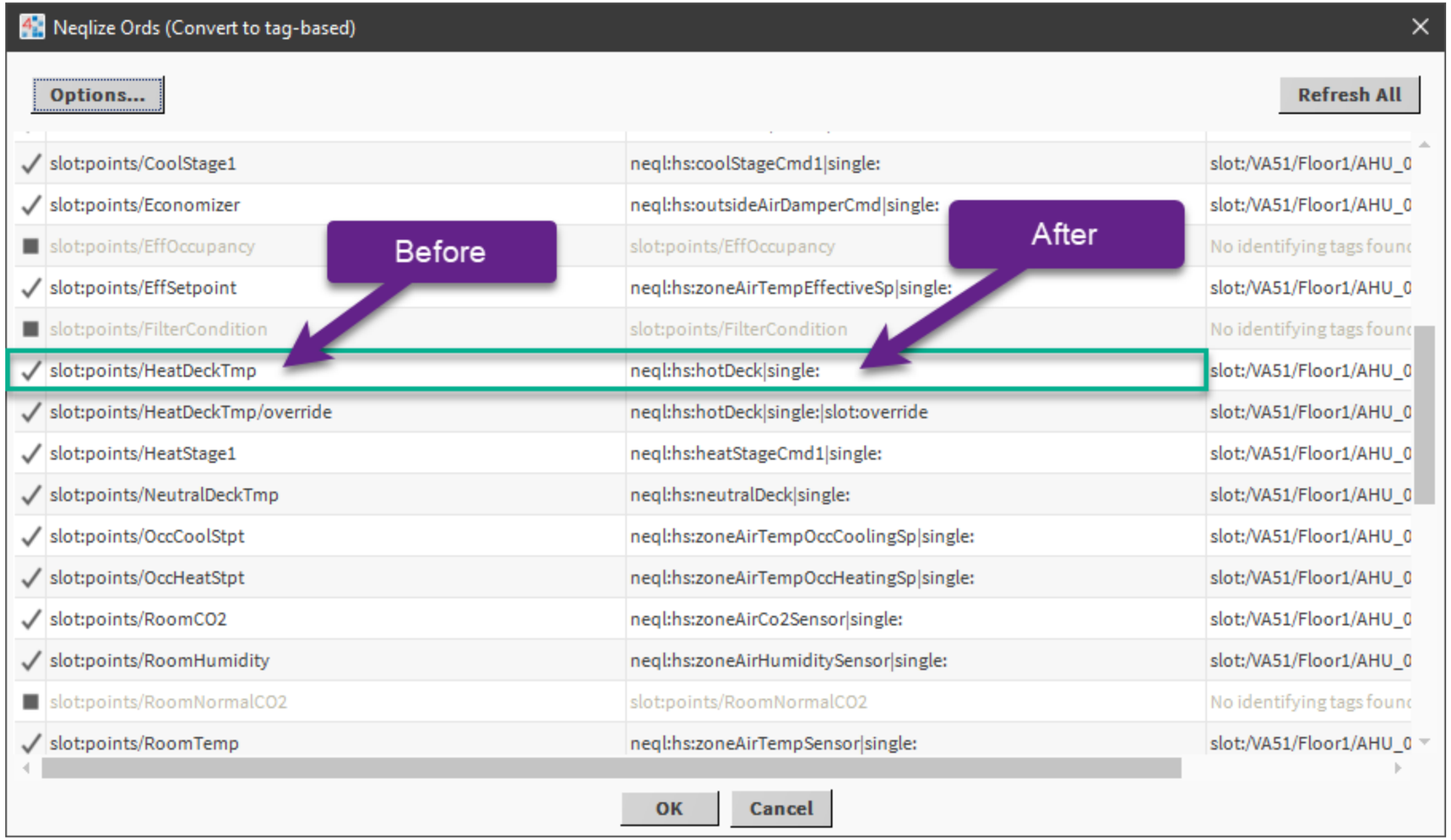


Niagara 4.9 - Create local graphics based on tags once, and then reuse for any other Niagara instance that features tags

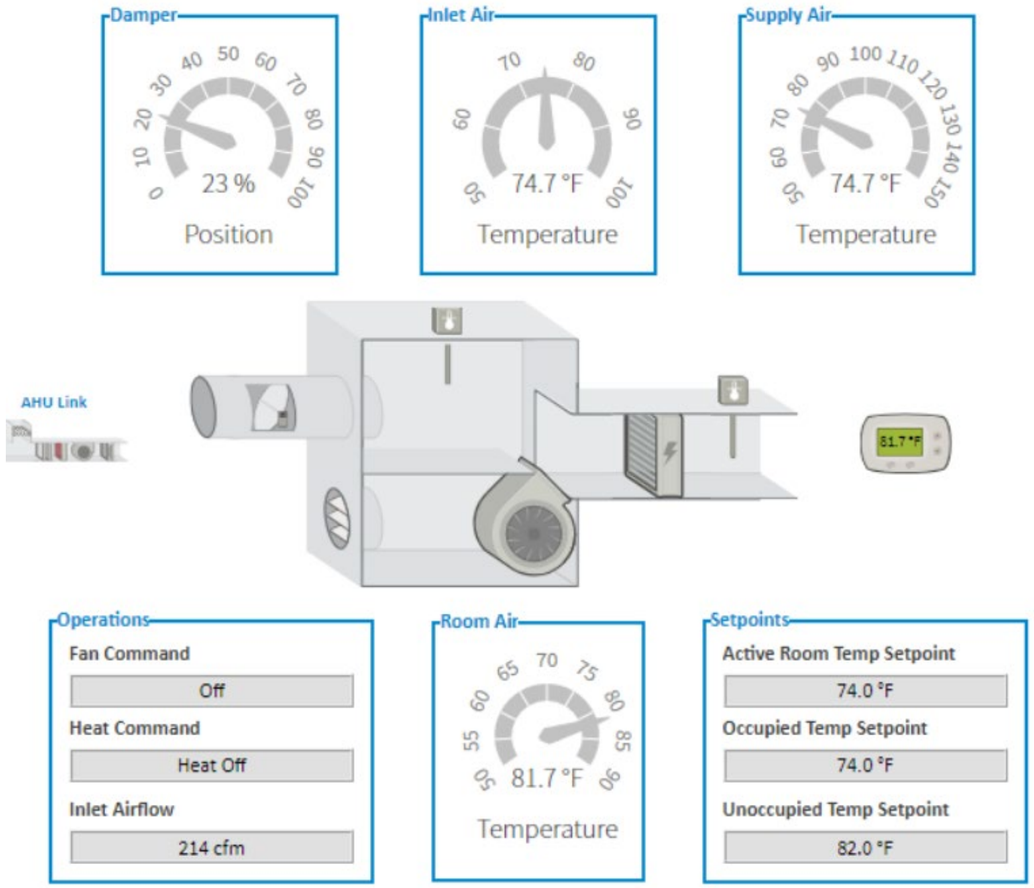
- Tags and metadata are the future of building management
  - Conform with the latest building design specifications by using a graphical user interface (GUI) based entirely on tags
- Want to see more information?
  - Check out the Tridium Talk and free Tridium University module.

Tag Based


Bound Ords
file:^px/includes/Header.px
file:^px/includes/footerMenu.px
file:^px/includes/leftFooterMenu.px
slot:
slot:Diagnostic/CO2CHK
slot:Diagnostic/ComfortCHECK
slot:Diagnostic/DischargeTMPCHK1

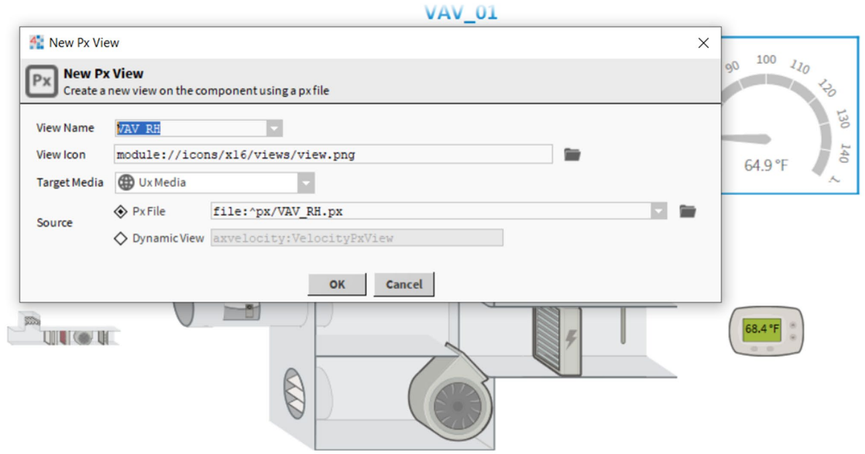

Neqlize Ords (Convert to tag-based)
Options...
Refresh All
Before
After
slot:points/CoolStage1 neql:hs:coolStageCmd1|single: slot:/VA51/Floor1/AHU_0
slot:points/Economizer neql:hs:outsideAirDamperCmd|single: slot:/VA51/Floor1/AHU_0
slot:points/EffOccupancy slot:points/EffOccupancy No identifying tags found
slot:points/EffSetpoint neql:hs:zoneAirTempEffectiveSp|single: slot:/VA51/Floor1/AHU_0
slot:points/FilterCondition slot:points/FilterCondition No identifying tags found
slot:points/HeatDeckTmp neql:hs:hotDeck|single: slot:/VA51/Floor1/AHU_0
slot:points/HeatDeckTmp/override neql:hs:hotDeck|single:|slot:override slot:/VA51/Floor1/AHU_0
slot:points/HeatStage1 neql:hs:heatStageCmd1|single: slot:/VA51/Floor1/AHU_0
slot:points/NeutralDeckTmp neql:hs:neutralDeck|single: slot:/VA51/Floor1/AHU_0
slot:points/OccCoolStpt neql:hs:zoneAirTempOccCoolingSp|single: slot:/VA51/Floor1/AHU_0
slot:points/OccHeatStpt neql:hs:zoneAirTempOccHeatingSp|single: slot:/VA51/Floor1/AHU_0
slot:points/RoomCO2 neql:hs:zoneAirCo2Sensor|single: slot:/VA51/Floor1/AHU_0
slot:points/RoomHumidity neql:hs:zoneAirHumiditySensor|single: slot:/VA51/Floor1/AHU_0
slot:points/RoomNormalCO2 slot:points/RoomNormalCO2 No identifying tags found
slot:points/RoomTemp neql:hs:zoneAirTempSensor|single: slot:/VA51/Floor1/AHU_0
OK
Cancel

Enhanced Virtual Graphics with Tag Based Visualization



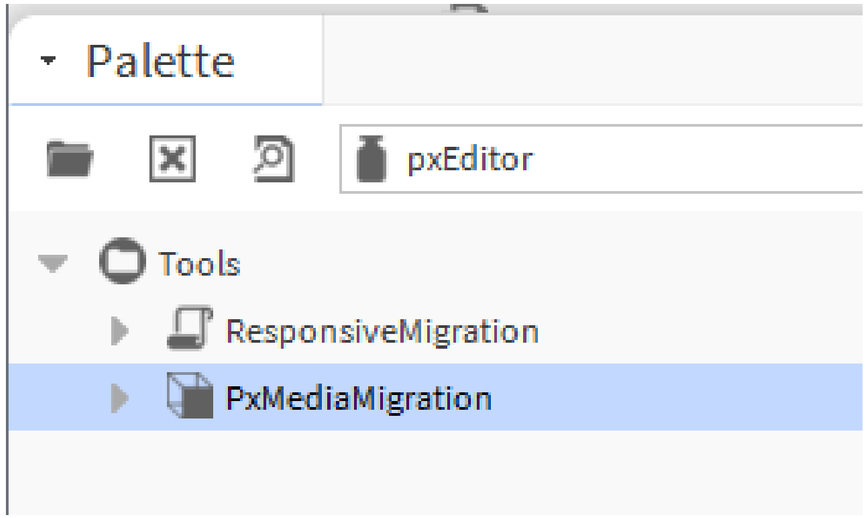
- Niagara 4.10, Tag Based Graphics can now be used with SystemDB and Virtuals

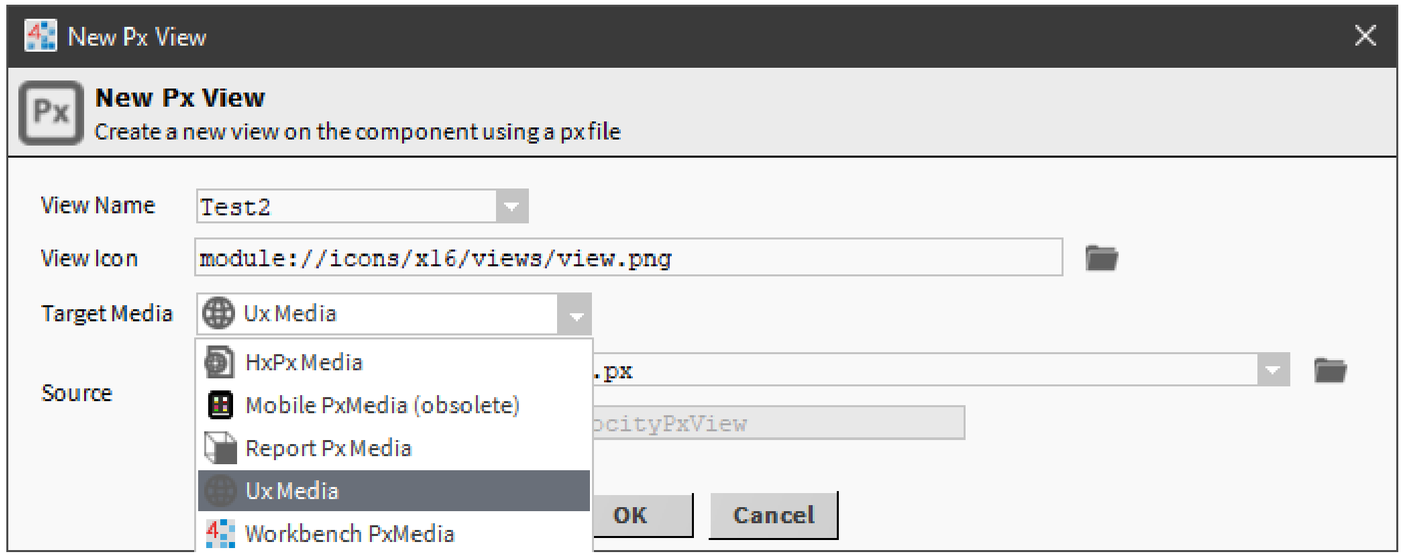
UxMedia



- Enables an improved end user experience
  - Faster graphics load time by removing the rendering and layout from the JACE and shifting it to the browser
  - UxMedia widgets provides immediate feedback upon value changes
- Fosters an enriched modern developer environment
  - Utilize rich sets of open-source development tools to enable a native HTML5 and JavaScript UI that is more flexible and adaptable to future cloud-based solutions
  - UI development process is more efficient since evaluating widget changes does not require a module rebuild and a station restart - just hit refresh in the browser to try out the new behavior!
  - Instantaneously convert existing PX Graphics to utilize UxMedia via the PxMediaMigrator and the browser-native Audition Mode

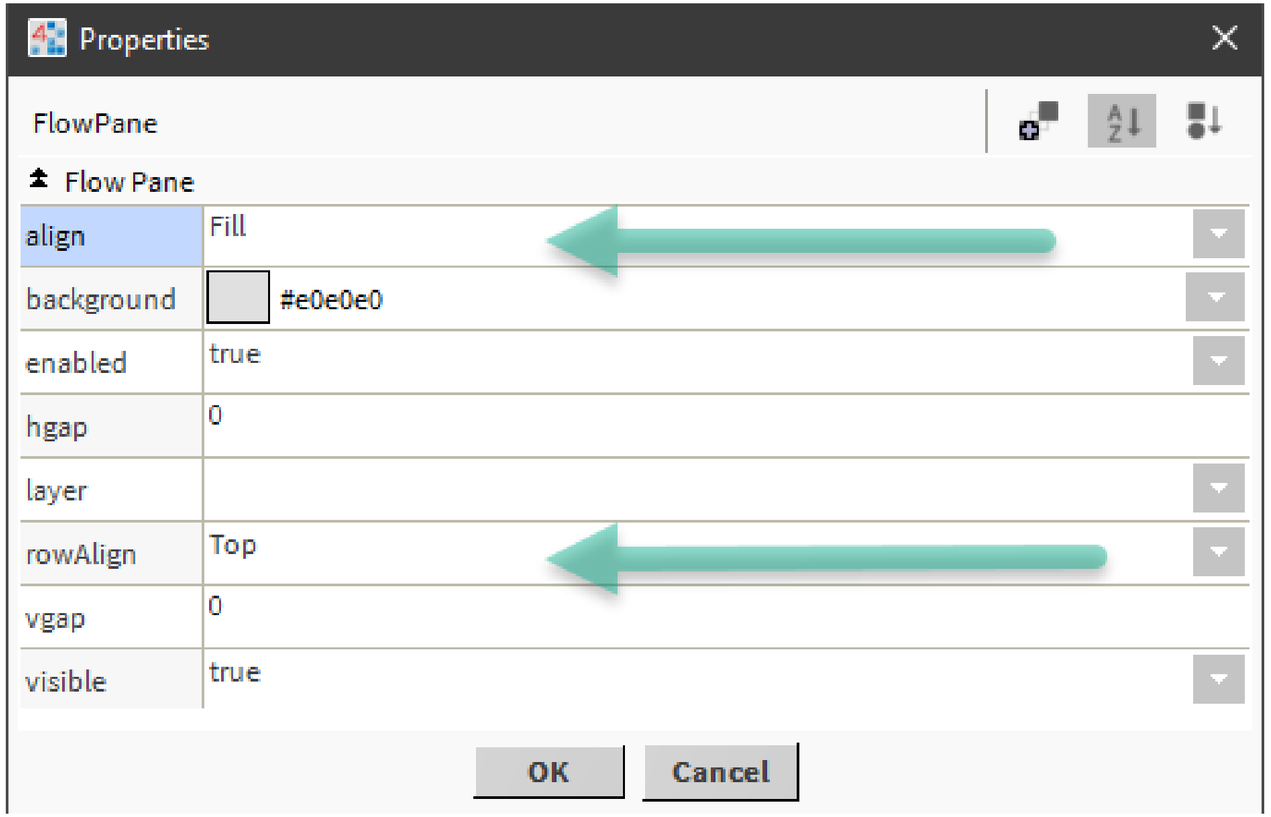
UxMedia


Palette
pxEditor
Tools
ResponsiveMigration
PxMediaMigration


New Px View
New Px View
Create a new view on the component using a px file
View Name
Test2
View Icon
module://icons/x16/views/view.png
Target Media
Ux Media
Source
.px
HxPx Media
Mobile PxMedia (obsolete)
Report Px Media
Ux Media
Workbench PxMedia
OK
Cancel

HxPx vs UxMedia

calculating in java vs css flexbox

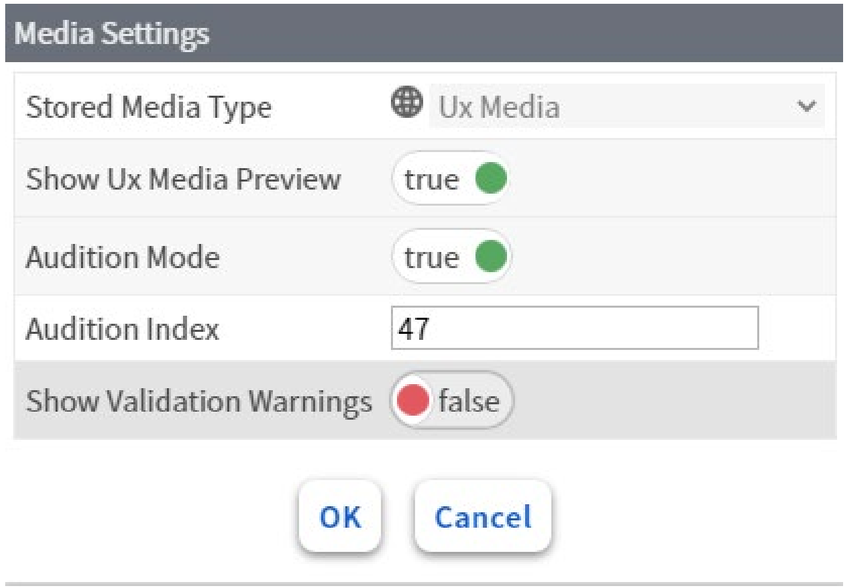


Audition Mode

- In the **HTML5 Hx Profile** when you have the Web Profile option for ‘Enable View Selection’ turned on, you will see an additional Media Settings Command in the toolbar when viewing a Px graphic. This allows an easy way to try out you're existing Px graphics in Audition Mode to see how well they behave in UxMedia.

Media Settings

- **Stored Media Type**: Set the target media type for the current Px graphic.
- **Show Ux Media Preview**: If true, the Stored Media Type will be read only and pressing OK will show you a UxMedia Preview without changing the Stored Media Type.
- **Audition Mode:** allows for a quick and easy way to check every single graphic in the system. If true, two more “back” and “forwards” commands will appear, navigating you quickly to the previous or next Px graphic to see how it looks. If Show Ux Media Preview is checked, navigating using these commands will continue to show a UxMedia Preview.
- **Audition Index:** only used in Audition Mode. Allows you to navigate by index to the very first Px graphic found in the system (index 0), to the last one.
- **Show Validation Warnings**: set to true to display any validation warnings in the browser. Use this to determine exactly which widgets or bindings in your page are incompatible with UxMedia.



- As an alternative, you can set the system property niagara.preferUxMedia=true, which will display all Px pages in UxMedia in the browser, regardless of audition or media settings.
- You can also hide the additional Media Settings command for all users by adding the system property niagara.profile.hideMediaCommand=true.

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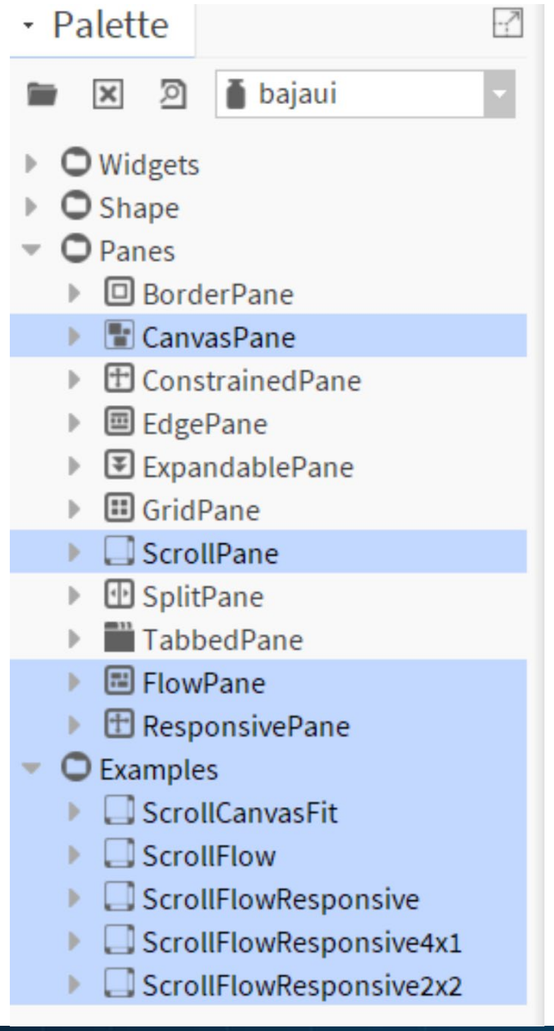
Responsive Tools

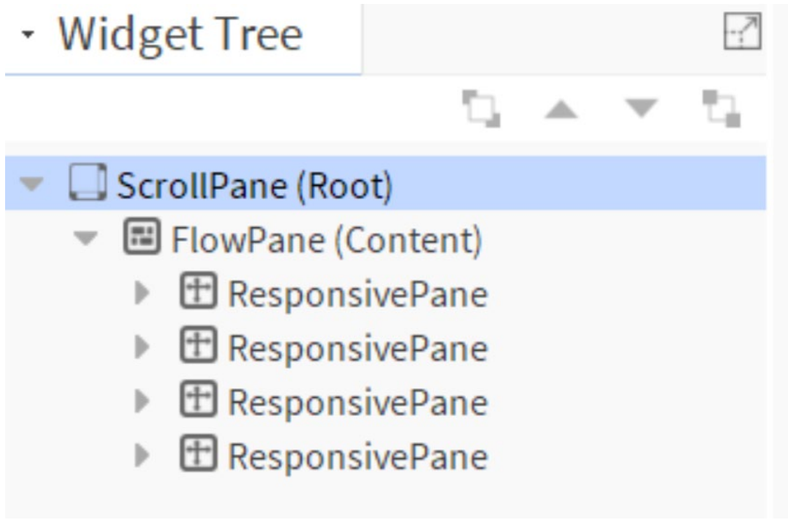
- Scroll, Flow, Responsive, and Canvas Panes

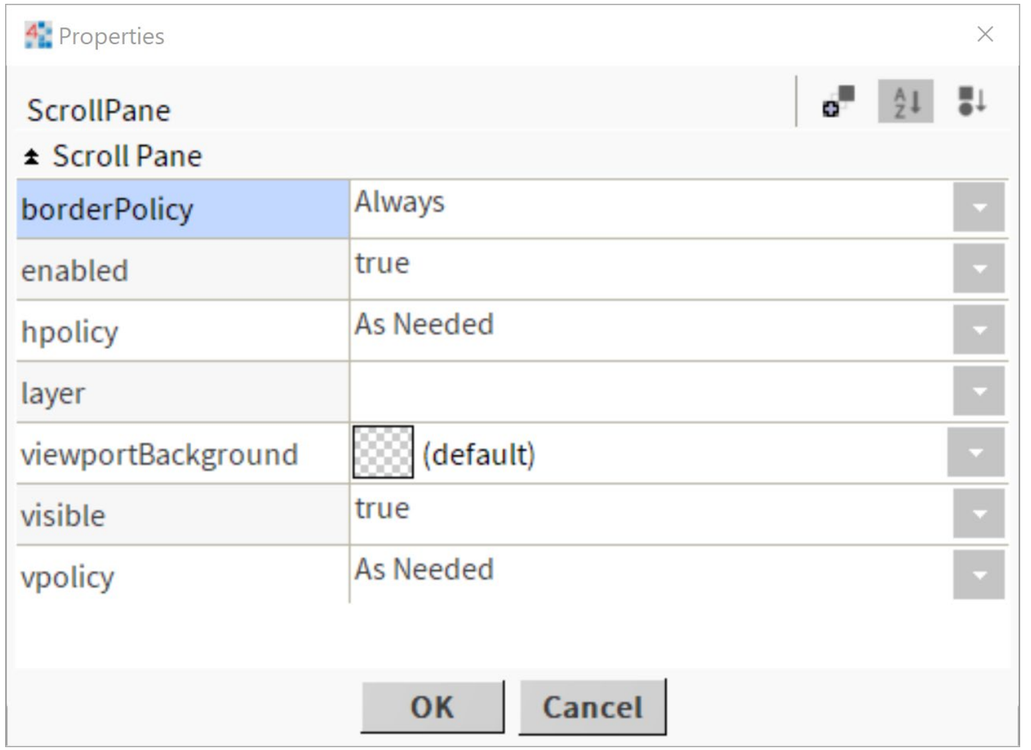
Responsive Tools



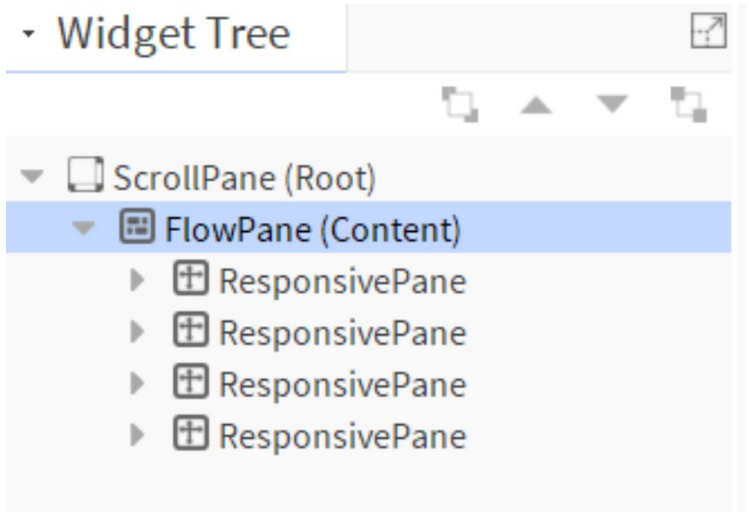
1. ScrollPane
2. FlowPane
3. ResponsivePane
4. CanvasPane

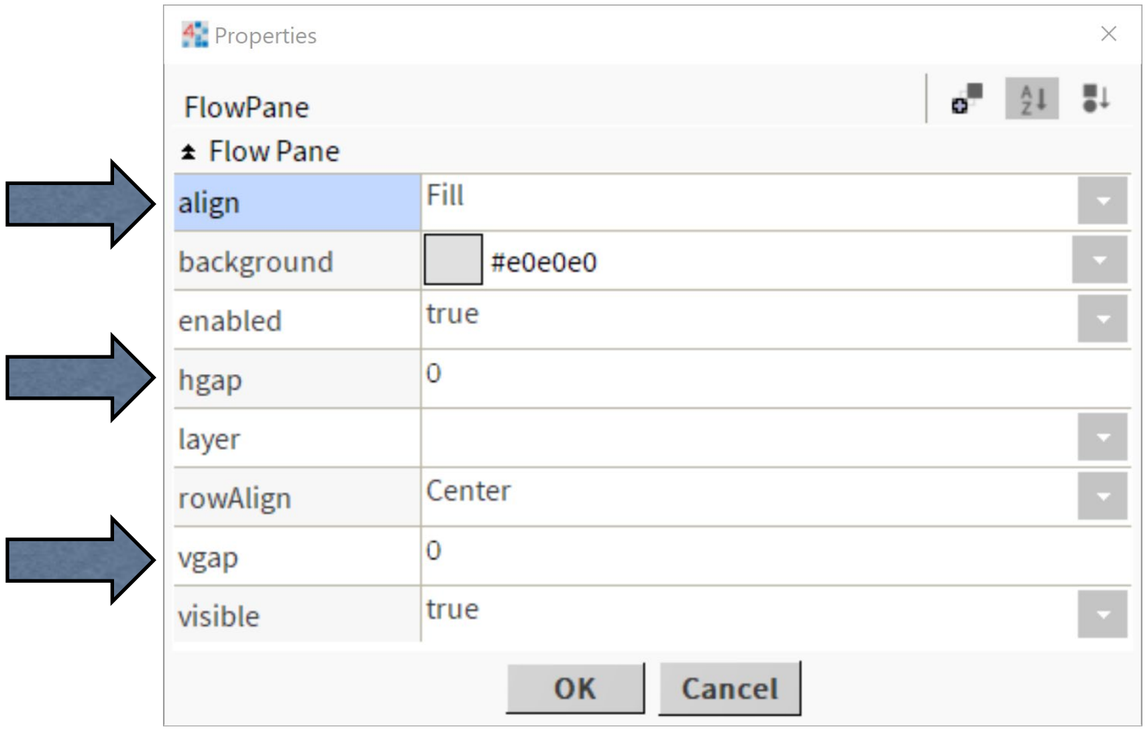
ScrollPane


Widget Tree
ScrollPane (Root)
FlowPane (Content)
ResponsivePane
ResponsivePane
ResponsivePane
ResponsivePane


Properties
ScrollPane
Scroll Pane
borderPolicy
Always
enabled
true
hpolicy
As Needed
layer
viewportBackground
(default)
visible
true
vpolicy
As Needed
OK
Cancel

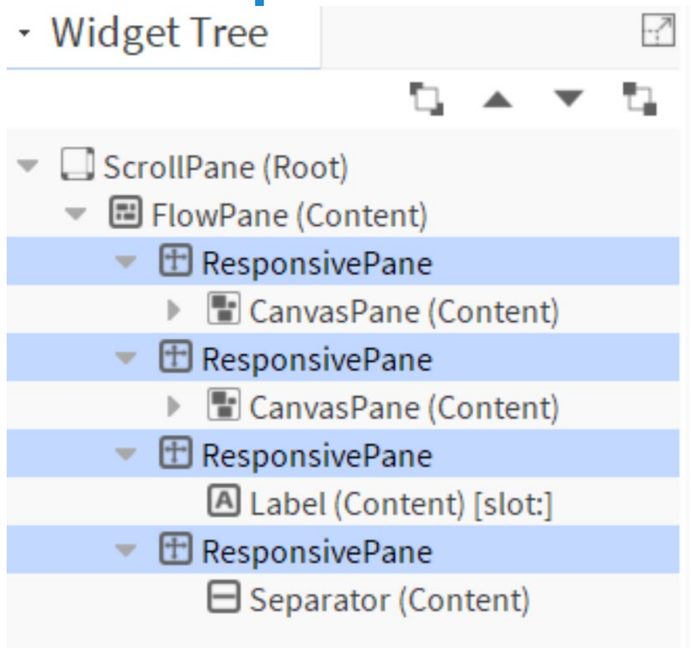
FlowPane

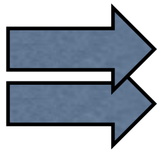


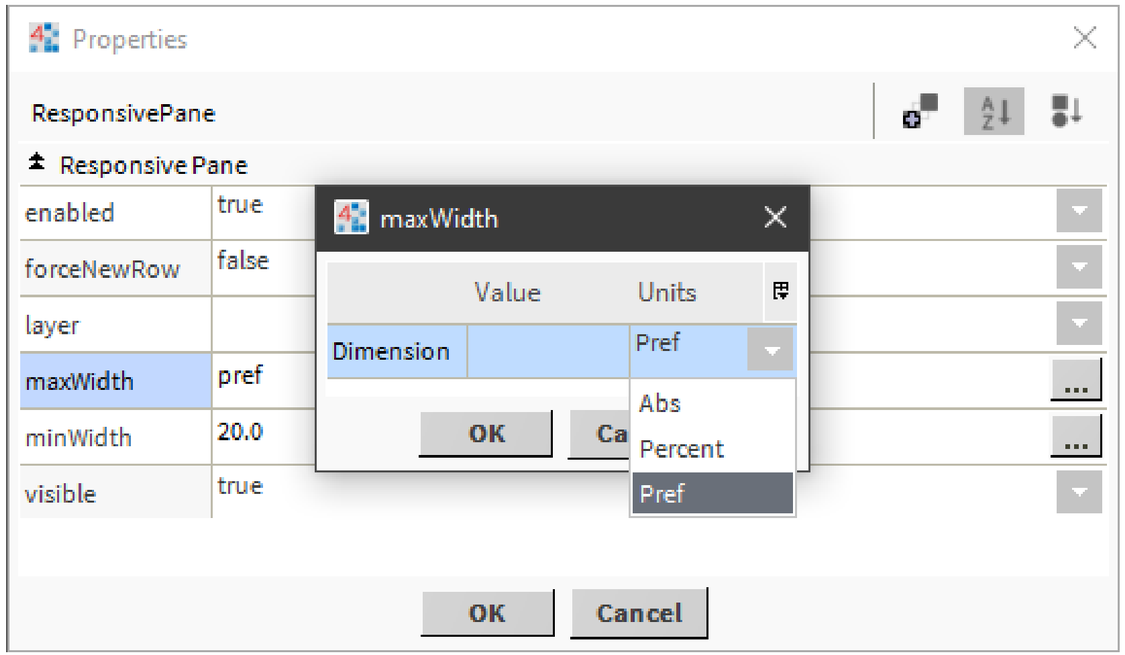


Left
Center
Right
Fill

ResponsivePane

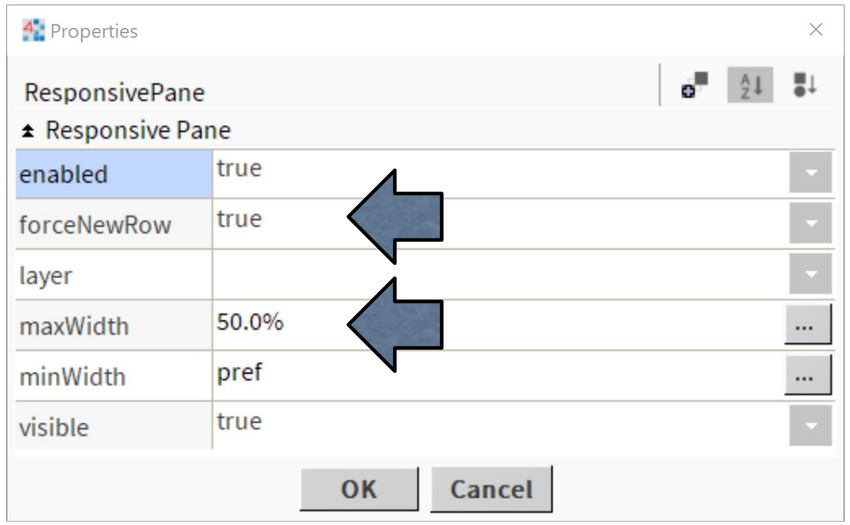




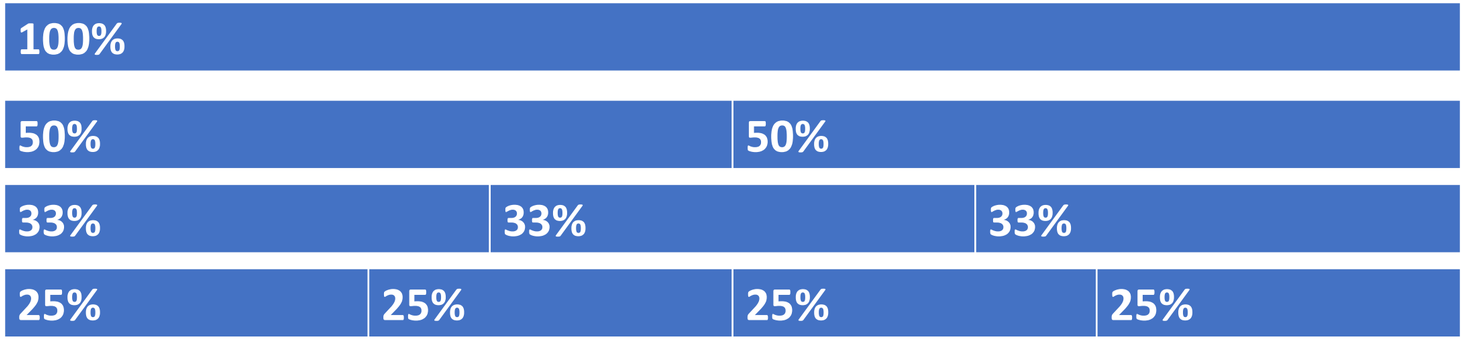


Preferred (Pref)
Absolute (Abs)
Precent (Percent)

ResponsivePane
(how you get columns / rows)



maxWidth Examples

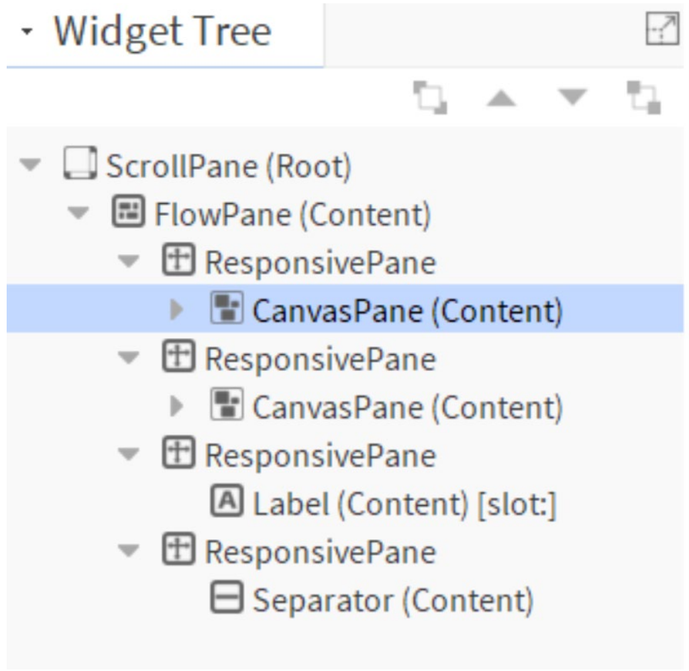


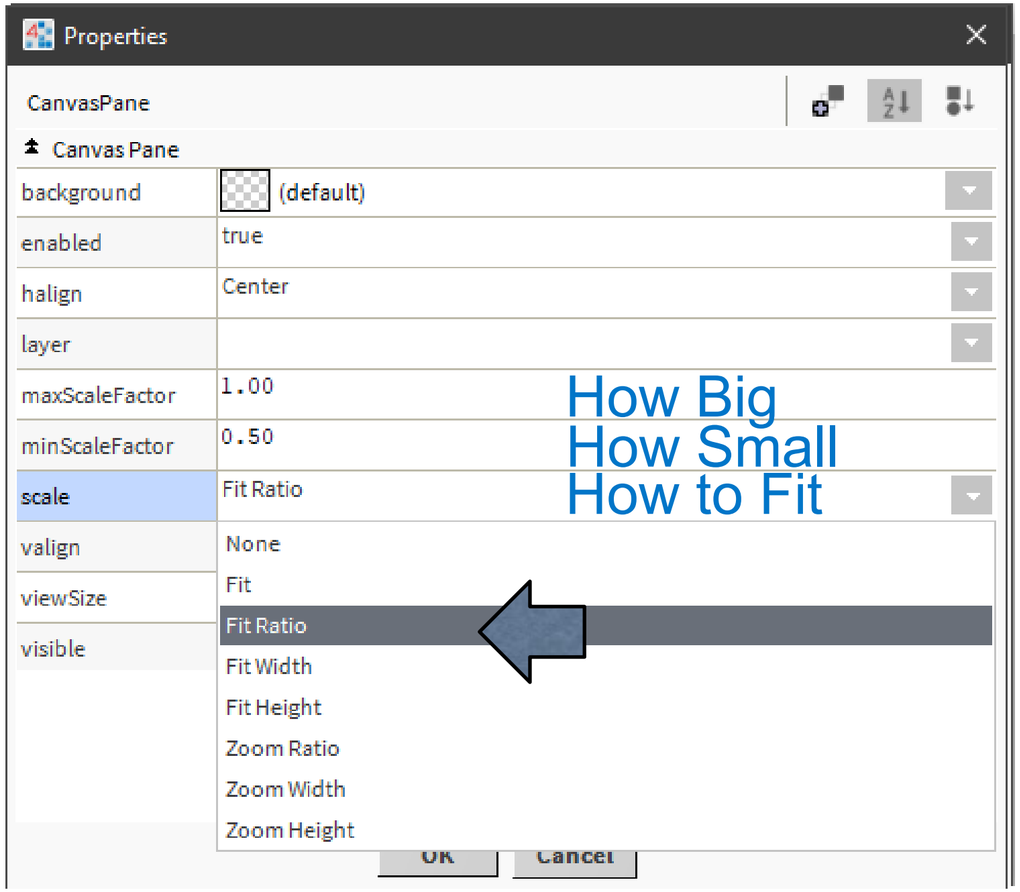
Columns: maxWidth

Formula: 100 / (Columns)

Rows: forceNewRow: true / false

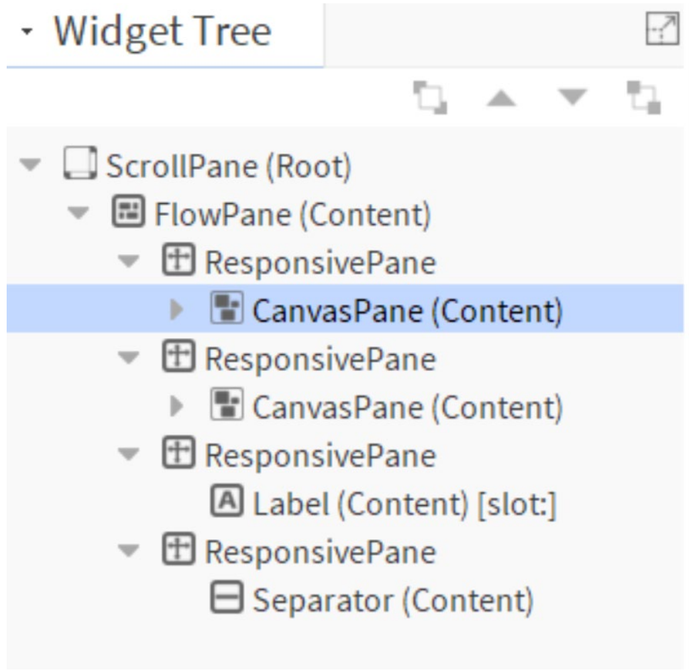
CanvasPane

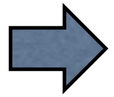


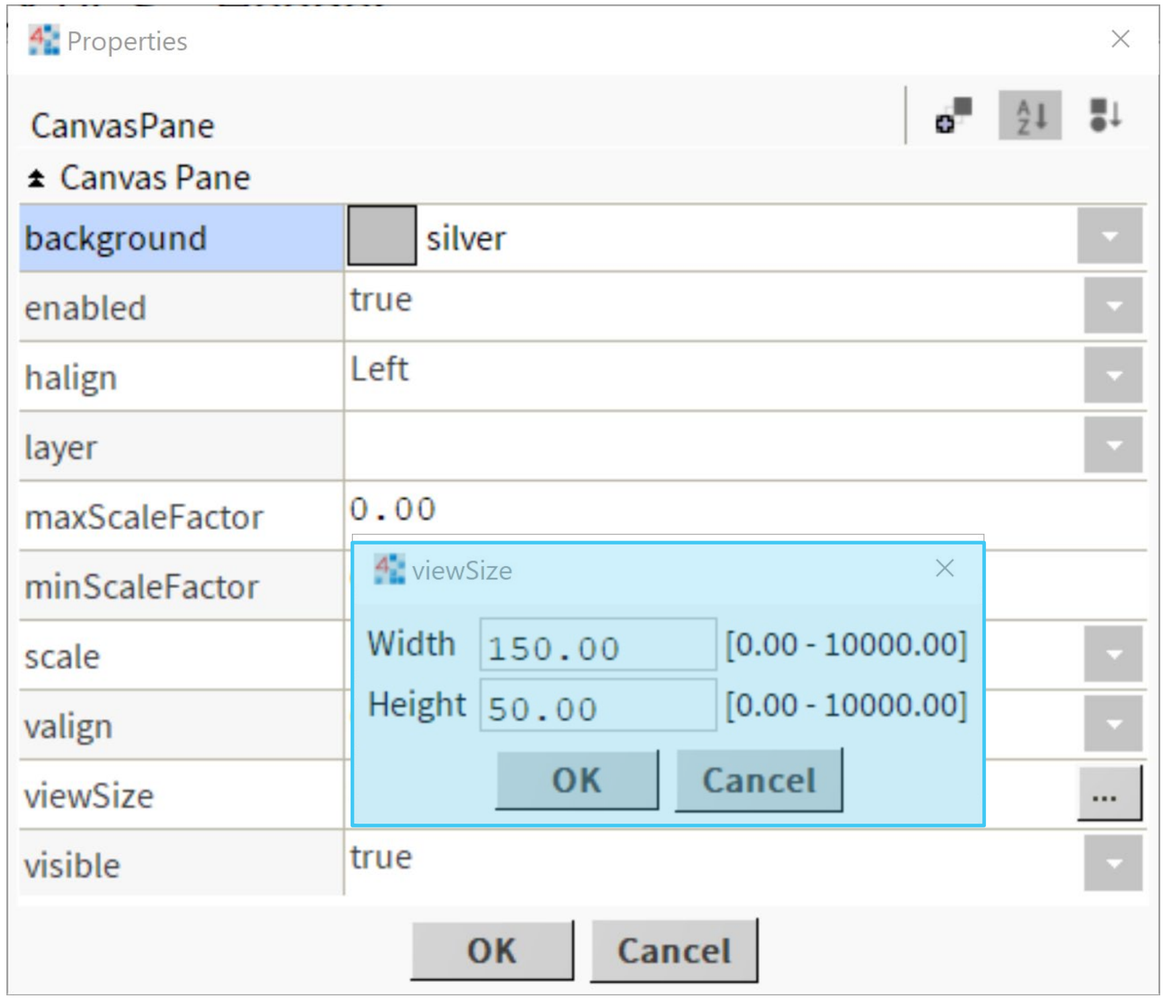


Zoom was added to 4.11

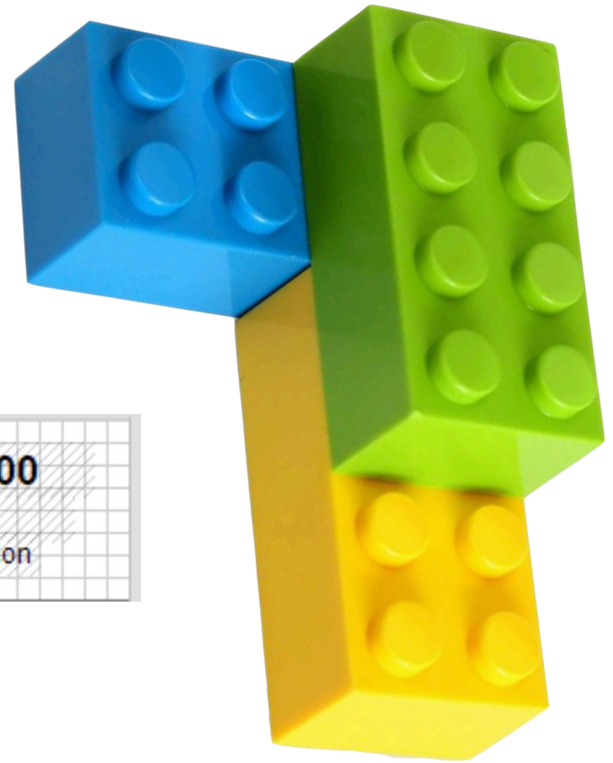
CanvasPane

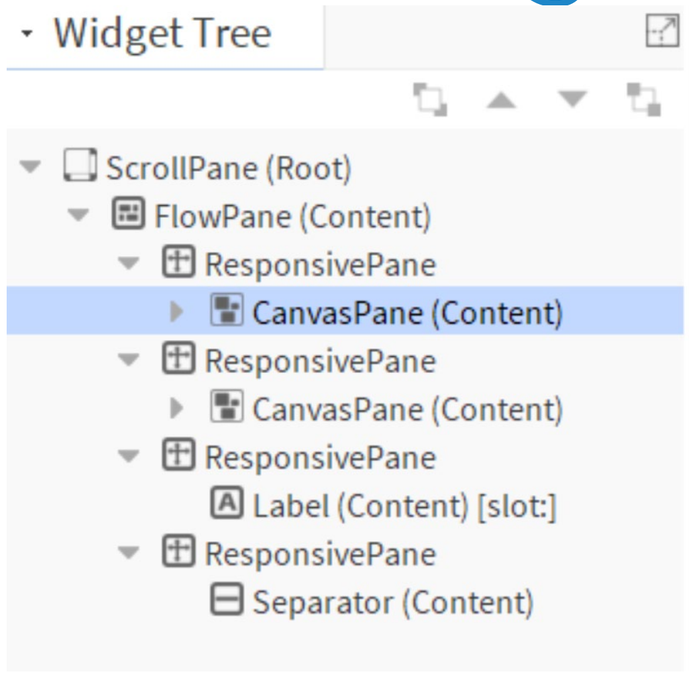

Widget Tree
ScrollPane (Root)
FlowPane (Content)
ResponsivePane
CanvasPane (Content)
ResponsivePane
CanvasPane (Content)
ResponsivePane
Label (Content) [slot:]
ResponsivePane
Separator (Content)

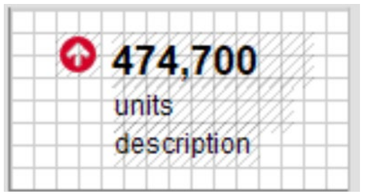



Properties
CanvasPane
Canvas Pane
background
silver
enabled
true
halign
Left
layer
maxScaleFactor
0.00
minScaleFactor
scale
valign
viewSize
visible
true
viewSize
Width
150.00
[0.00 - 10000.00]
Height
50.00
[0.00 - 10000.00]
OK
Cancel
OK
Cancel

Think Lego Blocks







Browser Tools

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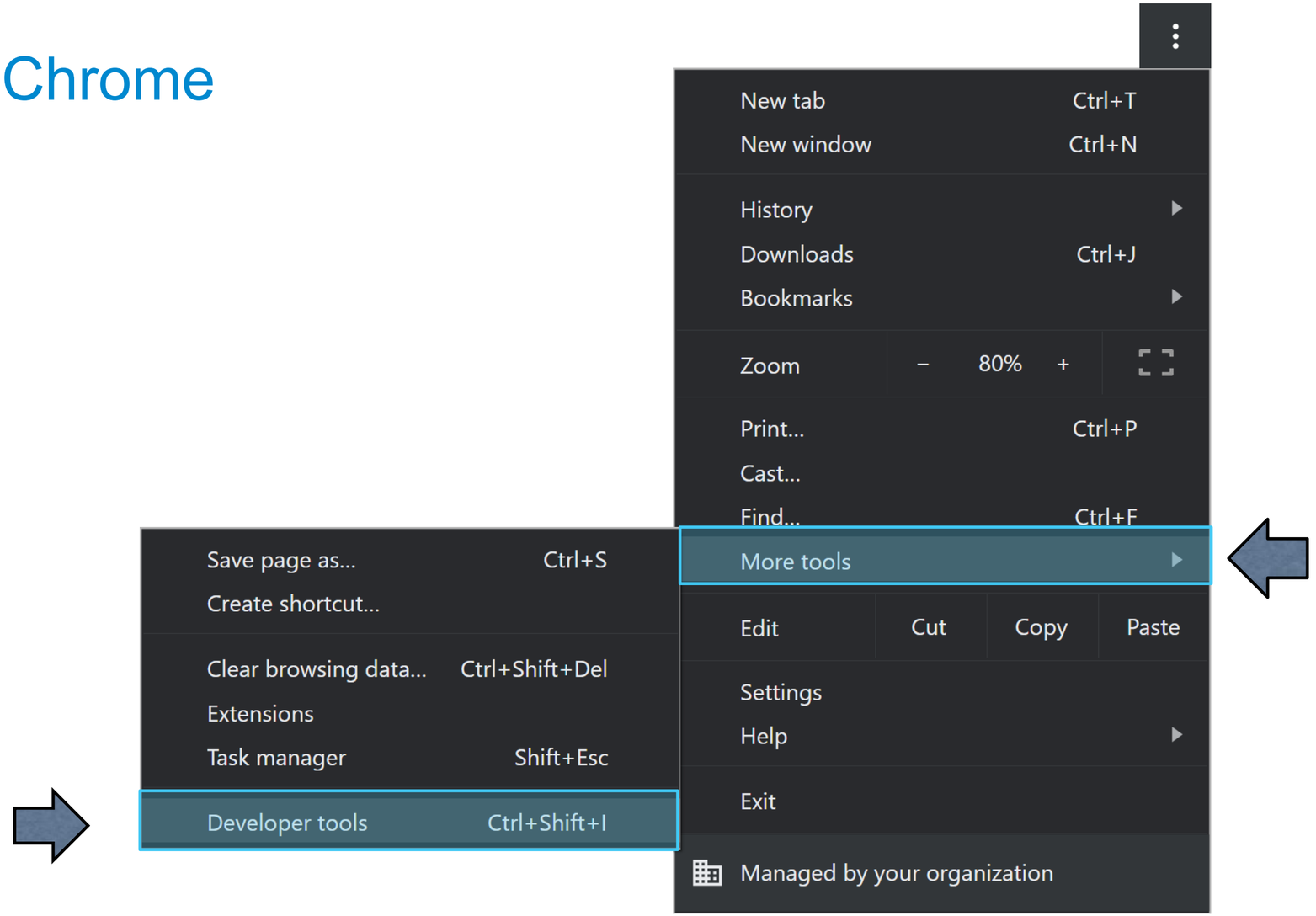
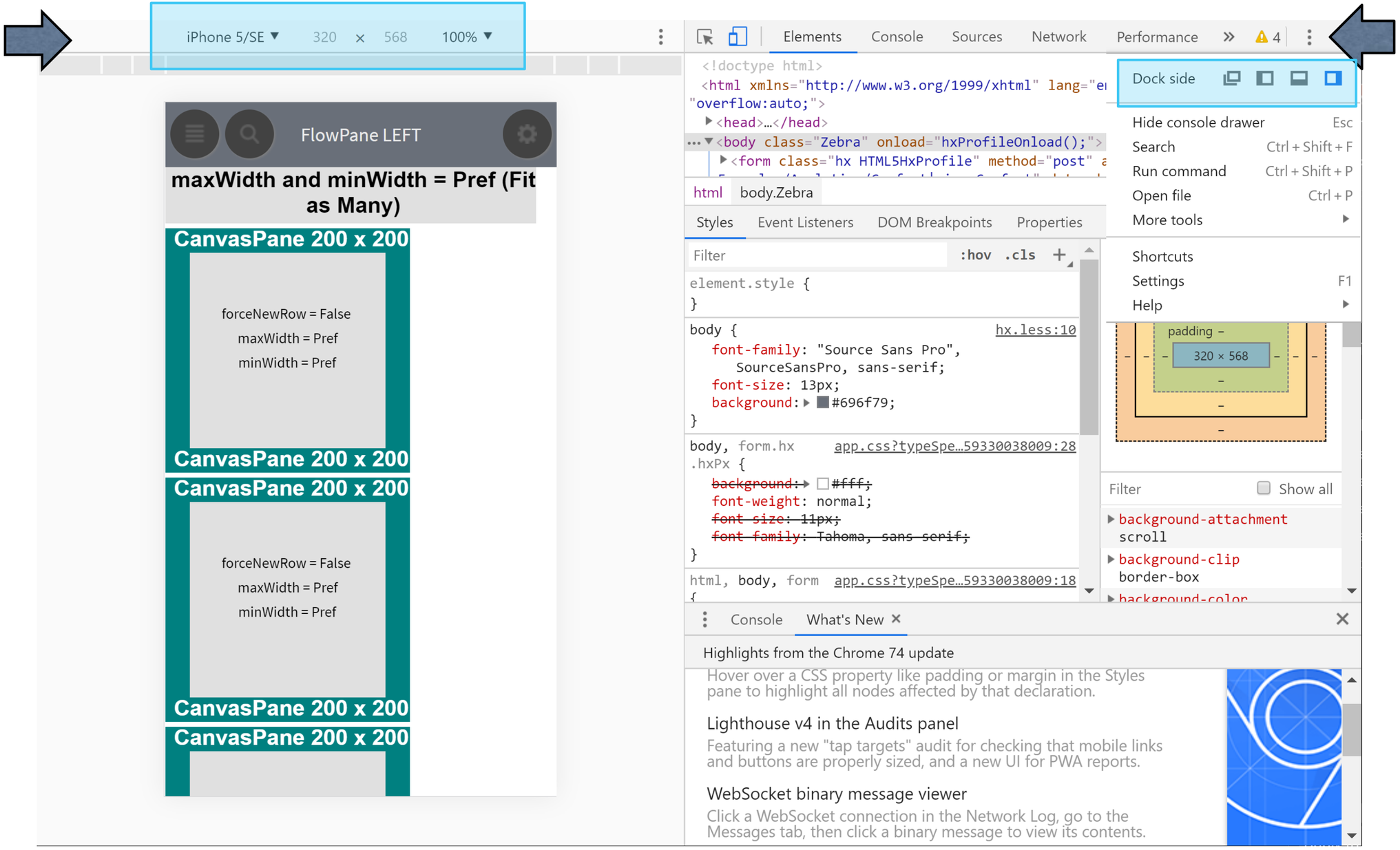
Google Chrome




iPhone 5/SE 320 × 568 100%
FlowPane LEFT
maxWidth and minWidth = Pref (Fit as Many)
CanvasPane 200 x 200
forceNewRow = False
maxWidth = Pref
minWidth = Pref
CanvasPane 200 x 200
CanvasPane 200 x 200
forceNewRow = False
maxWidth = Pref
minWidth = Pref
CanvasPane 200 x 200
CanvasPane 200 x 200
Elements Console Sources Network Performance
Dock side
Hide console drawer Esc
Search Ctrl + Shift + F
Run command Ctrl + Shift + P
Open file Ctrl + P
More tools
Shortcuts
Settings F1
Help
html body.Zebra
Styles Event Listeners DOM Breakpoints Properties
element.style {
body { hx.less:10
font-family: "Source Sans Pro", SourceSansPro, sans-serif;
font-size: 13px;
background: #696f79;
body, form.hx app.css?typeSpe…59330038009:28
.hxPx {
background: #fff;
font-weight: normal;
font-size: 11px;
font-family: Tahoma, sans-serif;
html, body, form app.css?typeSpe…59330038009:18
padding
320 × 568
Filter Show all
background-attachment scroll
background-clip border-box
Console What's New
Highlights from the Chrome 74 update
Hover over a CSS property like padding or margin in the Styles pane to highlight all nodes affected by that declaration.
Lighthouse v4 in the Audits panel
Featuring a new "tap targets" audit for checking that mobile links and buttons are properly sized, and a new UI for PWA reports.
WebSocket binary message viewer
Click a WebSocket connection in the Network Log, go to the Messages tab, then click a binary message to view its contents.

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Deep Dive

Responsive Px

Live Walkthrough

Station: Bldg1 and UxExamples

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