Advanced Cluster Solution

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Overview

This solution represents an advanced 2D cluster example. It consists of various scenes that are necessary to represent an advanced Cluster. The Main Scene consists of gauges that can be manipulated with Controls and Behaviors. This documentation includes a tutorial of how this advanced gauges can be implemented without coding. Other scenes, like the coverflow, show some other interactions in the solution and how this can be achieved with Behaviors. Culture is also used to support switching between display languages. Furthermore, a scene with a dynamic list is included in the sample. The dynamic list is the result of the tutorial that can be found under Dynamic List.

Advanced Cluster Part 1 to Part 4 are step-by-step tutorial of customizing a gauge by using the built in controls as a base. More design elements and behaviors are used to change its look and extend its logic. The gauges represent the main scene of this sample solution.

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Advanced Cluster Part 1

This section of the Best Practice describes how to configure the **render target** for this solution. It shows how to imported images via **[Import Resources]**. Some of these images will be used in controls later. In order for them to correctly fit e.g. into a Gauge control they need to have their **pivot point** adjusted. Finally, a **Custom Gauge** control will be created based on Scene Composer's built-in Gauge control.

Create Solution and Setup Render Target

A new empty solution will be created and the render target configuration is performed.

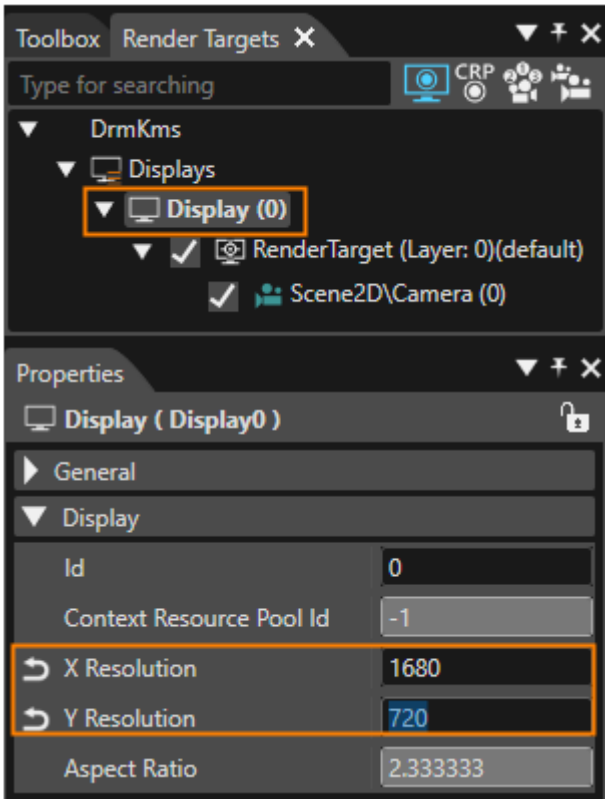
1. Create a **new solution** using the Empty Solution template and save it as shown in Creating a new Solution.
   - A new solution is created and saved.

2. In the Solution Explorer panel on the top left select "Scene3D" (under "Solution - Scenes") and delete it either using the <Del> key or via the context menu **[Delete]** as described in Delete a Scene.
   - A **[Delete Items]** dialog will popup.

3. Please resolve all dependencies with **[Delete Usage Item]** (which is the default) and click **[OK]**.
   - Scene3D will be deleted.

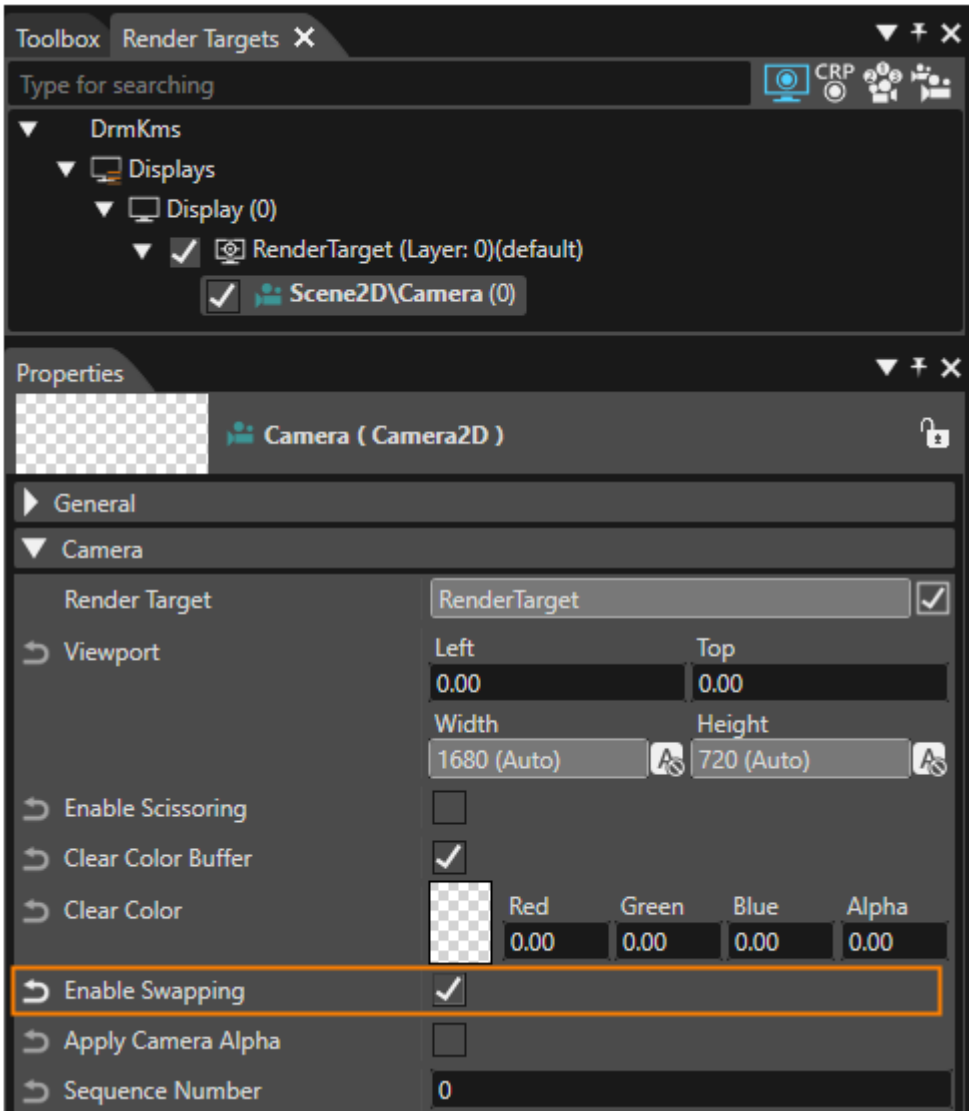
4. Activate the Render Targets panel on the top right and select **[Display (0)]**. In the Properties panel below change the display's X and Y Resolution.
   - The horizontal and vertical resolution of the display is defined.
   - The aspect ratio of the display will be calculated automatically.

Target Item	Setting Value
X Resolution	1680
Y Resolution	720



5. In the Render Targets panel select Scene2D\Camera (0). In the Properties panel check the checkbox to **Enable Swapping**.
   - Swapping has been enabled for Scene2D's camera.
   - The display will be refreshed after each time this scene is rendered.

Camera	Enable Swapping
Scene2D\Camera(0)	TRUE

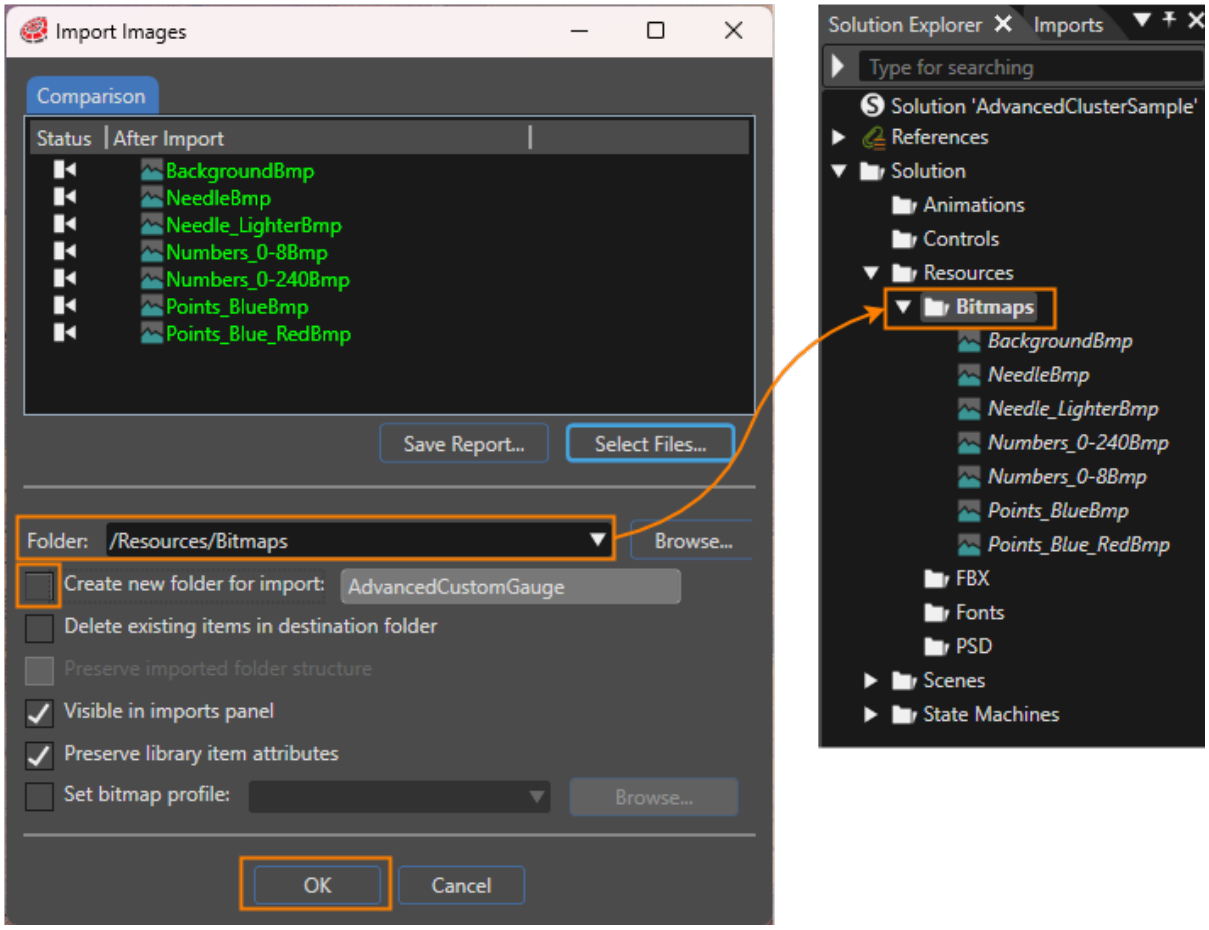


Import Images and Configure Pivot Hints

The images needed for this solution will be imported. They will later be used to build up the gauge control. For correct positioning and alignment inside the control, the Pivot Hints for these images need to be configured. Additionally, the Custom_Gauge control will be created.

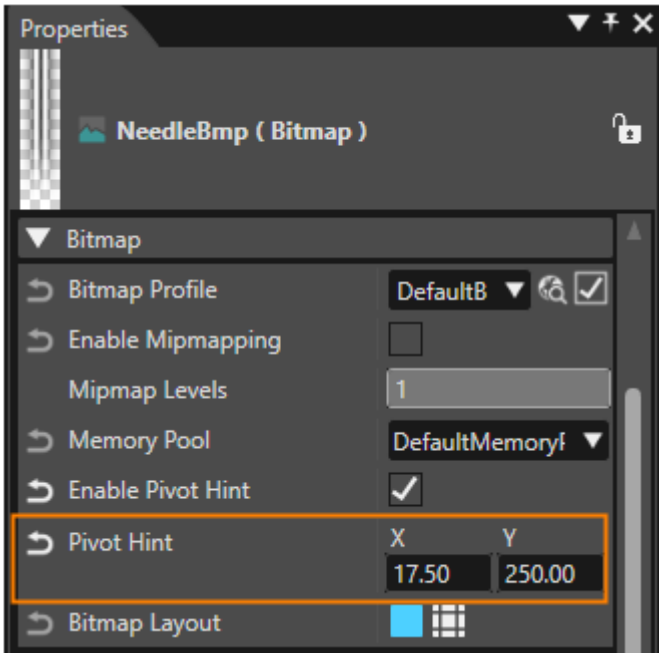
1. In the menu bar choose **[Import] - [Import Resources...]** as described in How to Import Resources.
   - **[Import Resources]** dialog will be opened
2. Navigate to the following folder, select all files provided in this folder and press **[Open]**.
   <cgi-studio-root>/cgi_studio_content/Resources/AdvancedCustomGauge
   - **[Import Images]** dialog will be opened as seen in the image below the next step.
3. Use the settings as shown in the screenshot below and press **[OK]**.
   - The images have been imported into the solution and are ready to be used.

> Select an item in the Solution Explorer panel to access its properties in the Properties panel.



4. To configure the Pivot Hint, select the image in the **Solution Explorer** panel. In the **Properties panel** under **[Bitmap]** you can adjust the image's **Pivot Hint settings**. Configure the images with the values given in the table below.
   - The images' Pivot Hints are correctly configured to be used in Scene Composer's Gauge Control: The needle images' Pivot Hints are their **central point of rotation**. The other images' Pivot Hints are configured to align the images correctly in the Gauge Control.

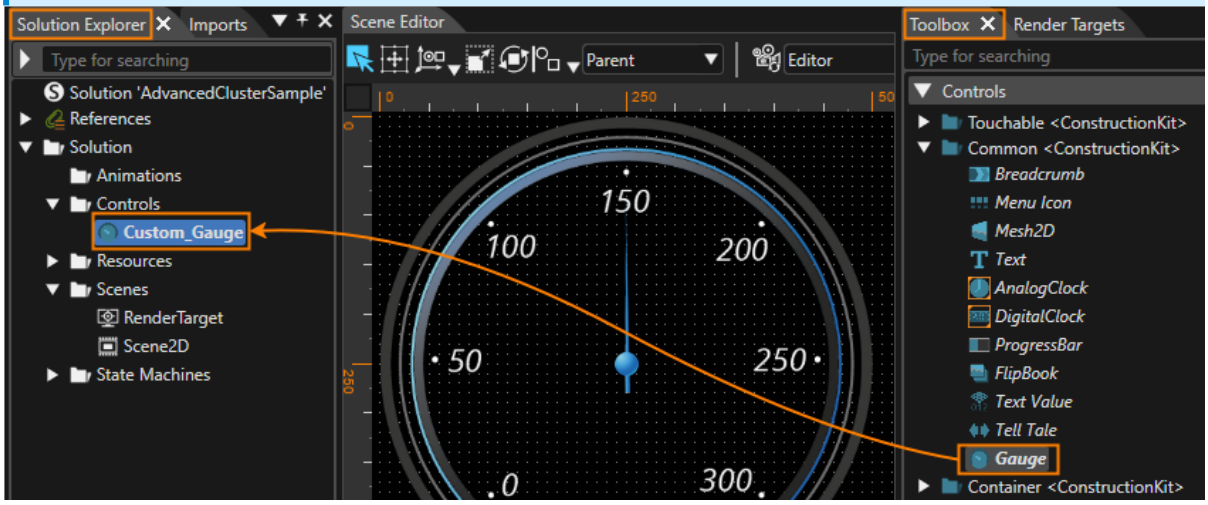
Image	Enable Pivot Hint	Pivot Hint	
		X	Y
NeedleBmp	TRUE	17.50	250.00
Needle_Lighter	TRUE	241.00	245.00
Numbers_0-24Bmp	TRUE	325.00	329.00
Numbers_0-8Bmp	TRUE	325.00	329.00
Points_BlueBmp	TRUE	282.00	282.00
Points_Blue_RedBmp	TRUE	282.00	282.00



5. In the Toolbox panel's **[Controls]** section under "Common" **copy** the **Gauge Control** either via the context menu entry "Copy" or via the keyboard <Ctrl>+C. **Paste** the Gauge Control into the Solution Explorer's folder "Solution > Controls" either via the context menu entry "Paste" or via the keyboard <Ctrl>+V.
   - A copy of the Gauge Control has been created in the Scene Composer solution's Controls folder.

6. In the Solution Explorer panel **rename** the newly copied Gauge to **"Custom_Gauge"** either via the context menu entry "Rename" or via the keyboard <F2>.
   - The copy of the Gauge Control in the Solution Explorer's Controls folder is called "Custom_Gauge".

   > The image below shows where to copy the Gauge Control from and where to copy it to.



Advanced Cluster Part 2

In this part of the Advanced Cluster Best Practice the Custom_Gauge control will be extended with a ForegroundImage and a NeedleEffectImage and new images will be configured to change the control's appearance completely.

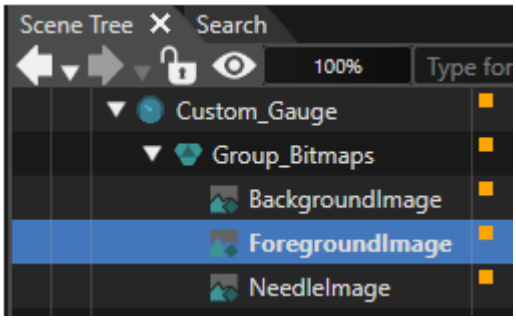
Restructuring Custom_Gauge Control

1. In the Solution Explorer double-click the "**Custom_Gauge**".
   - The control "**Custom_Gauge**" will be opened in the Scene Editor, ready to be edited.
   - Scene Tree will display the tree of nodes the control is composed of.

2. In the Scene Tree panel rename the "Group" node to "**Group_Bitmaps**".
   - In the Scene Tree panel the Group node has been renamed.

Rename from	Rename to
Group	Group_Bitmaps

3. In the Scene Tree panel select the root node Custom_Gauge. In the Properties panel's **[Layouter]** section change the Layout type from "Overlay" to "None".
   - The Layout Type has been changed.
4. In the Scene Tree panel right-click on the "BackgroundImage" and choose **[Clone...]** from the context menu. In the opening "Clone Item" dialog enter "ForegroundImage" as name and press **[OK]**.
   - A clone of "BackgroundImage" has been created. Its name is "ForegroundImage". The Scene Tree now looks as in the image below.

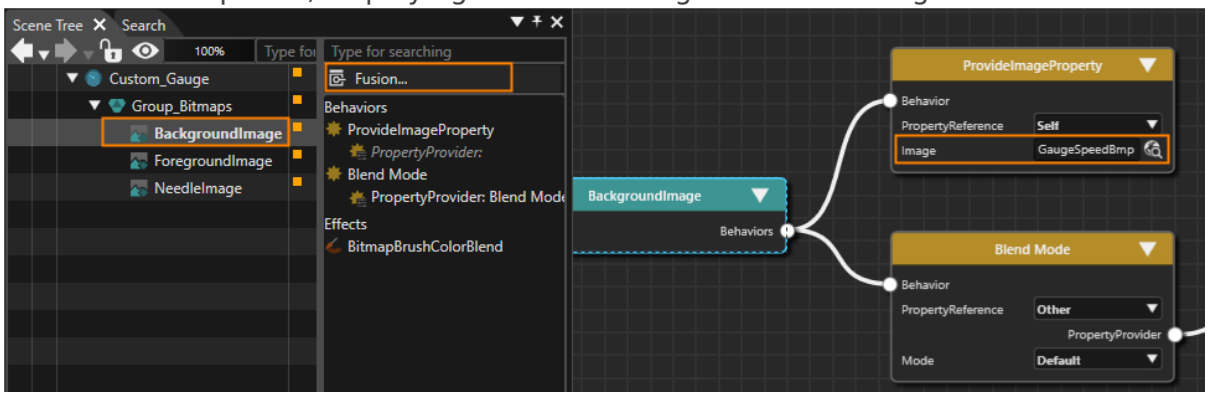


Exchanging Custom_Gauge Control's Images

In steps 1 - 3 of this section the Custom_Gauge new images for the **ForegroundImage** and **BackgroundImage** nodes will be configured. These steps need to be performed for the BackgroundImage node as well as for the Foreground Image node.

In steps 4 - 5 of this section the NeedleImage will be cloned and the images of NeedleImage and NeedleEffectImage will be exchanged.

1. In the Scene Tree panel select the image. In the right side of the Scene Tree click on the **[Fusion...]** button.
   - Fusion will be opened, displaying the Fusion diagram for the image.



2. In the Fusion diagram change the ProvideImageProperty's image by clicking the magnifying glass icon to the property's right.
   - The **[Choose Item]** dialog will be displayed.

3. In the **[Choose Item]** dialog choose the appropriate new image given in the table below and click **[OK]**.
   - The images displayed by the BackgroundImage and ForegroundImage nodes have been changed.
   - When activating the Scene Editor the Custom_Gauge with new Foreground and Background image can be viewed. It should look like the image below.

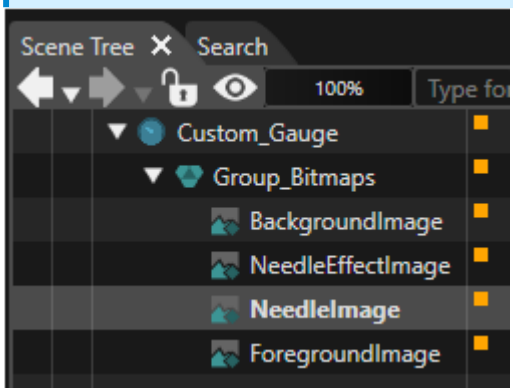
> To switch to the Fusion diagram of the second image simply double click it in the Scene Tree panel.

Node	new ProvideImageProperty image
BackgroundImage	Solution > Resources > Bitmaps > Points_Blue_RedBmp
ForegroundImage	Solution > Resources > Bitmaps > Numbers_0-8Bmp



4. In the Scene Tree panel create a clone of the "NeedleImage" and name it "NeedleEffectImage".
   - A clone of "NeedleImage" has been created. Its name is "NeedleEffectImage". The Scene tree looks as in the image below.

     > Please follow the order of the nodes in the scene tree to ensure their proper visibility.



5. Let's change the images displayed by NeedleImage and NeedleEffectImage. This can be done similarly to above. Select the image, open Fusion and click on the magnifying glass next to the ProvideImageProperty's image property. Configure the images given in the table below.
   - The images displayed by the NeedleImage and NeedleEffectImage nodes have been changed.
   - When activating the Scene Editor the Custom_Gauge with new Needle and NeedleEffect image can be viewed. It should look like the image below (the needle is pointing to 3 o'clock).

Node	ProvideImageProperty's image
NeedleImage	Solution > Resources > Bitmaps > NeedleBmp

NeedleEffectImage	Solution > Resources > Bitmaps > Needle_LighterBmp



Configuring the Gauge Needle's Rotation Behavior

1. In the Scene Tree panel select the NeedleImage node. In the Scene Tree panel's right side rename the existing SetRotation behavior according to the table below. Repeat the same steps for the NeedleEffectImage node.
   - The SetRotation behaviors of NeedleImage and NeedleEffectImage have been renamed.

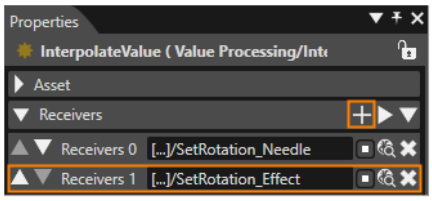
Node	New Name of SetRotation Behavior
NeedleImage	SetRotation_Needle
NeedleEffectImage	SetRotation_Effect

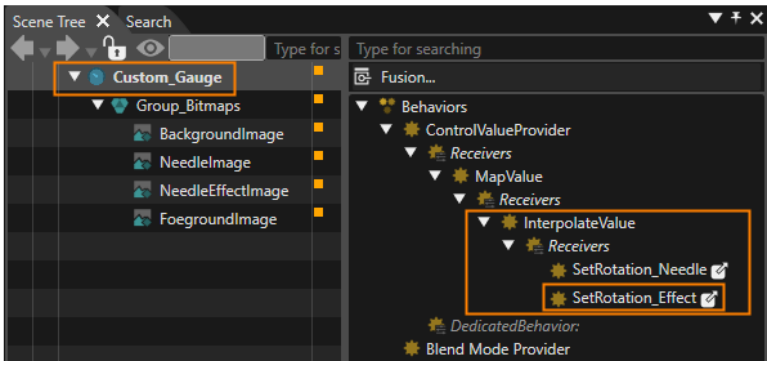
2. In the Scene Tree panel select the **Custom_Gauge** node. In the Scene Tree panel's right side select the **InterpolateValue** behavior. In the Properties panel's **[Receivers]** section press the **[+]** button in the top right corner. This **[+]** button is marked in orange in the image of step 4.
   - In the Properties panel's Receivers section you can see that a new line for a **new Receiver** is added for the InterpolateValue behavior.

3. Press the magnifying glass icon next to the new **Receivers 1** entry.
   - The **[Choose Item]** dialog will be opened.

4. Select the behavior SetRotation_Effect, which can be found under the path given below, and click **[OK]**.
   - The NeedleEffectImage's **SetRotation_Effect** is referenced as one of the Receivers of the **CustomGauge's InterpolateValue** behavior as you can see in the imaged below.

Set Rotation_Effect	Path
	Custom_Gauge > Group_Bitmaps > NeedleEffectImage > **SetRotation_Effect**





Configuring Effects and MapValue Behavior's Limits

1. In the Scene Tree panel select the **NeedleEffectImage** node. In the Scene Tree panel's right side under **[Behaviors]** select "**Blend Mode**" and press Delete on your keyboard to delete this behavior.
   - The behavior Blend Mode has been deleted.

2. While **NeedleEffectImage** is selected in the Scene Tree panel select the **BitmapBrushColorBlend** effect in the Scene Tree panel's right side and adjust its properties in the Properties panel according to the table below.
   - The BitmapBrushColorBlend effect is configured correctly.
   - In the Scene Editor you can see that the **NeedleEffectImage** is not a white gradient anymore. You can rather **perceive a slight change of color** compared to the original BackgroundImage (see image below, the needle is pointing to 3 o'clock).

BitmapBrushColorBlend Property	Value
ColorBlendFactorSrc	DestColor
ColorBlendFactorDst	SourceAlpha



3. In the Scene Tree panel select the **Custom_Gauge** node. In the Scene Tree panel's right side select the **MapValue** behavior. In the **Properties** panel configure its properties according to the table below.
   - The MapValue behavior's minimum and maximum value have been configured.

MapValue Properties	Value
OutputMin	-128.50
OutputMax	128.50

Advanced Cluster Part 3

In part 3 of this Best Practice the Custom_Gauge control will be further customized adding controls:

- A **TextValue control** to display the gauge's current value numerically
- A **Text control** above of the numeric value to display the gauge's scope (e.g. speed)
- Another **Text control** below the numeric value, which can be used to display the unit (e.g. km/h)

In order to make our control more versatile, various properties of our configured Custom_Gauge (like all images and text styles) will be made public.

> **Public Control Properties** are those that can be configured when using a Custom_Gauge in a scene.

Create and Configure Two TextNodes and a TextValue Node

1. In Scene Composer's Solution Explorer navigate to the path below and double-click on the "Custom_Gauge" control.
   - The Scene Tree panel shows the Custom_Gauge control's tree.
   - Scene editor displays the Custom_Gauge control.

Path in Solution Explorer	Control
Solution/Controls	Custom_Gauge

2. From the **Toolbox** panel's **Nodes 2D** section drag and drop a **StackLayout** into the Scene Tree panel directly onto the Custom_Gauge node.
   - In the Scene Tree panel you can see that a **StackLayout** has been created directly under the Custom_Gauge node.

3. From the **Toolbox** panel's **Controls** section under Common drag and drop **2 Text** controls and **1 Text Value** control into the Scene Tree panel directly onto the StackLayout.
   - In the Scene Tree panel you can see the **2 Text** controls and the **Text Value** control directly under the StackLayout.

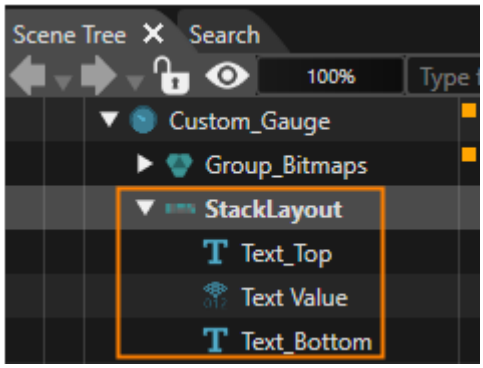
4. In the Scene Tree panel select the **StackLayout** as well as the **2 Text** controls one after the other and rename them according to the table below either via the context menu

entry "Rename" or by pressing <F2> on your keyboard.

- In the Scene Tree panel you can see that the Controls have been renamed.

Target Item	New Name
StackLayout	StackLayout_Texts
Text	Text_Top
Text_1	Text_Bottom

5. In the Scene Tree panel re-arrange StackLayout_Texts and its contents via drag and drop until it looks like in the image below.
   - The Scene Tree looks as in the image below.



6. In the Scene Tree panel select StackLayout_Texts controls. In the **Properties** panel under **Layouter** and **Layout** adjust the properties as in the table below.
   - In the Properties panel you can see that the correct values are set.

Property	Value	
Layouter		
Arrangement	Vertical	
Layout		
Vertical Alignment	VCenter	
MinimumSize	**X**	250.00
	Y	0.00

7. In the Scene tree panel select **Text_Top**, **Text Value** and **Text_Bottom** one after the other. In the **Properties** panel under Layout and Control configure the properties as in the table below.
   - In the Properties panel you can see that the correct values are set.
   - In the Scene Editor the texts are centered and the Text Value appears in a bigger font.

Property	Text_Top	Text Value	Text_Bottom
Layout			

VerticalAlignment	VCenter	VCenter	VCenter
HorizontalAlignment	HCenter	HCenter	HCenter
Control			
Text	RPM	-	<empty String>
Text Style	OpenSans35	Vera96	OpenSans35
Text Alignment	Center	Center	Center
Text Format	-	%04d	-

Configure the TextNodes' and TextValue Node's Position

1. In the Scene Tree panel select **StackLayout_Texts**. In the Scene Tree panel's right side click on the **[Fusion...]** button.
   - Fusion will be opened covering the Scene Editor.
   - StackLayout_Texts Fusion diagram will be displayed. It only has one Fusion Node.

2. In Fusion use the StackLayout_Texts' "Behaviors" connector to add 2 new Fusion Nodes: Connect **2 Value Processing > Value** behaviors to the StackLayout_Texts Fusion Node.

   > Please check Fusion's Basic Operations documentation on how to add Fusion Nodes.

   - In Fusion 2 new Fusion Nodes "**Value**" and "**Value_1**" have been created.

3. In Fusion select and right-click on the behavior nodes and rename them according to the table below.
   - In Fusion the Value behavior fusion nodes have been renamed.

Target Item	New Name
Value	Value_TextPos_X
Value_1	Value_TextPos_Y

4. In Fusion use the Value behaviors' "Receivers" connectors to add a **Value Processing > Transformation > SetPosition** Fusion Node to each of them.
   - In Fusion 2 new Fusion Nodes "**Set Position**" have been created, one of which is connected to Value_TextPos_X, the other to Value_TextPos_Y.

5. In Fusion select and right-click on the behavior nodes and rename them according to the table below.
   - In Fusion the **Set Position** behavior fusion nodes have been renamed.

Target Item	New Name

Value_TextPos_X > Set Position	Set Position_X
Value_TextPos_Y > Set Position	Set Position_Y

6. In Fusion configure the behaviors' Fusion Nodes according to the table below.
   - In Fusion the Fusion Nodes' Properties have been changed.
   - In Scene Editor the position of StackLayout_Texts has been changed. The texts are now neatly placed inside the Custom_Gauge control as you can see in the image below.

	Fusion Node	
Property	**Set Position_X**	**Set Position_Y**
TargetNode	Custom_Gauge > StackLayout_Texts	Custom_Gauge > StackLayout_Texts
TranslationAxis2D	AxisX	AxisY
Property	**Value_TextPosX**	**Value_TextPosY**
Variant	(Float) 205	(Float) 230



Configure Value Forwarding and Maximum Value

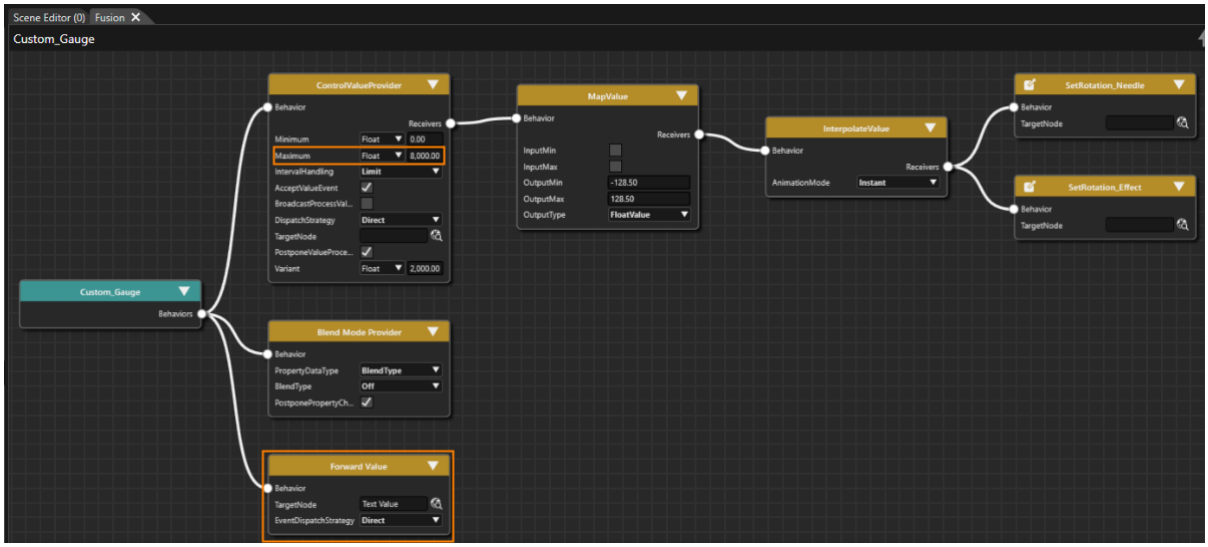
1. In Fusion add a **Value Processing > Forward Value** behavior to the **Behaviors** connector of the **Custom_Gauge** Fusion Node. Configure its **TargetNode** according to the table below.
   - In Fusion the property will be changed accordingly.

Forward Value Fusion Node	
Property	**Value**

TargetNode	Custom_Gauge > StackLayout_Texts > Text Value

2. In Fusion in the **ControlValueProvider** Fusion Node configure the property **Maximum** according to the table below.
   - In Fusion the the property is changed accordingly.
   - Custom_Gauge's Fusion diagram will look as in the image below.

ControlValueProvider	
Property	**Value**
Maximum	(Float) 8000.00



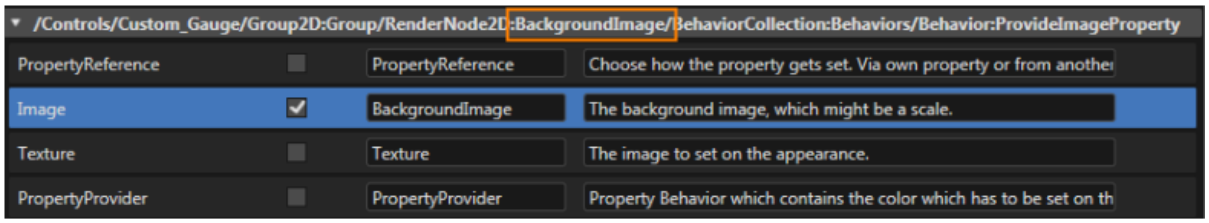
Configure Public Control Properties

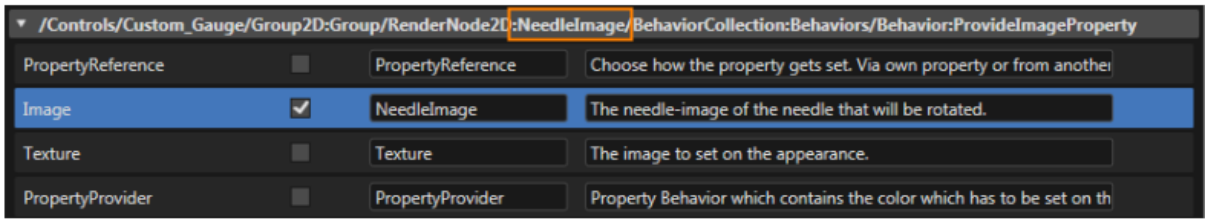
1. In the Scene Tree panel right click "Custom_Gauge" and select "**Control Properties...**" from the context menu.
   - The Configure Public Control Properties dialog will be opened.

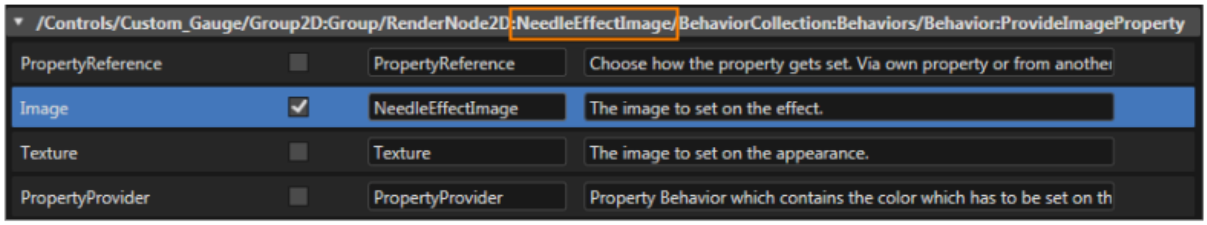
2. In the Configure Public Properties dialog the Properties which should be public to the user of the Custom_Gauge control need to be marked with the "Is Public" checkbox. Check the "Is Public" checkbox and eventually change the image properties' names according to the table and images below.
   - Image properties necessary for using and configuring the Custom_Gauge will be made public.
   - The Custom_Gauge control is now fully configured and ready to use.

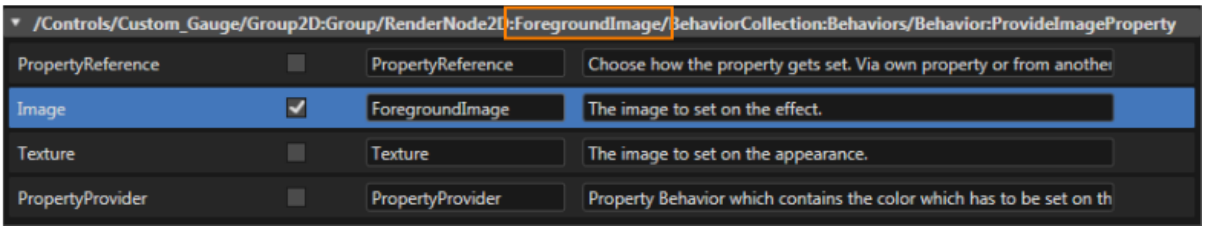
Custom_Gauge > Group_Bitmaps >			
Property	**Is Public**	**Source**	**Name**
BackgroundImage > ProvideImageProperty	x	Image	BackgroundImage
NeedleImage > ProvideImageProperty	x	Image	NeedleImage

NeedleEffectImage > ProvideImageProperty	x	Image	NeedleEffectImage
ForegroundImage > ProvideImageProperty	x	Image	ForegroundImage







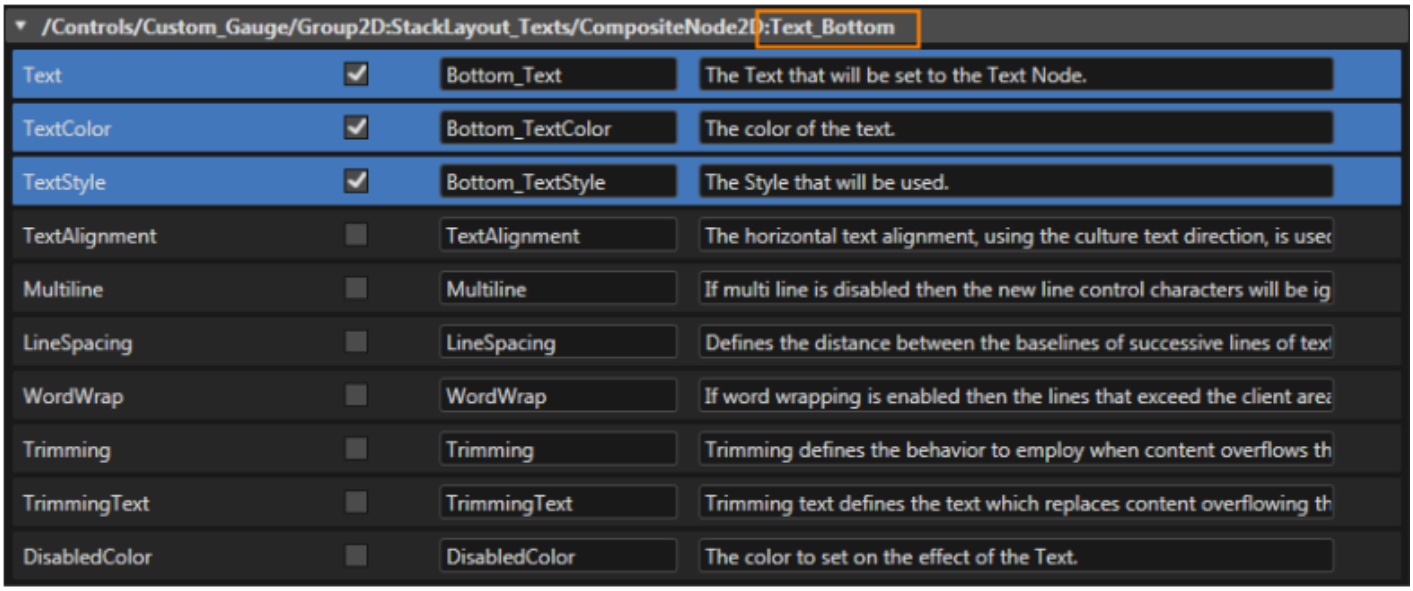


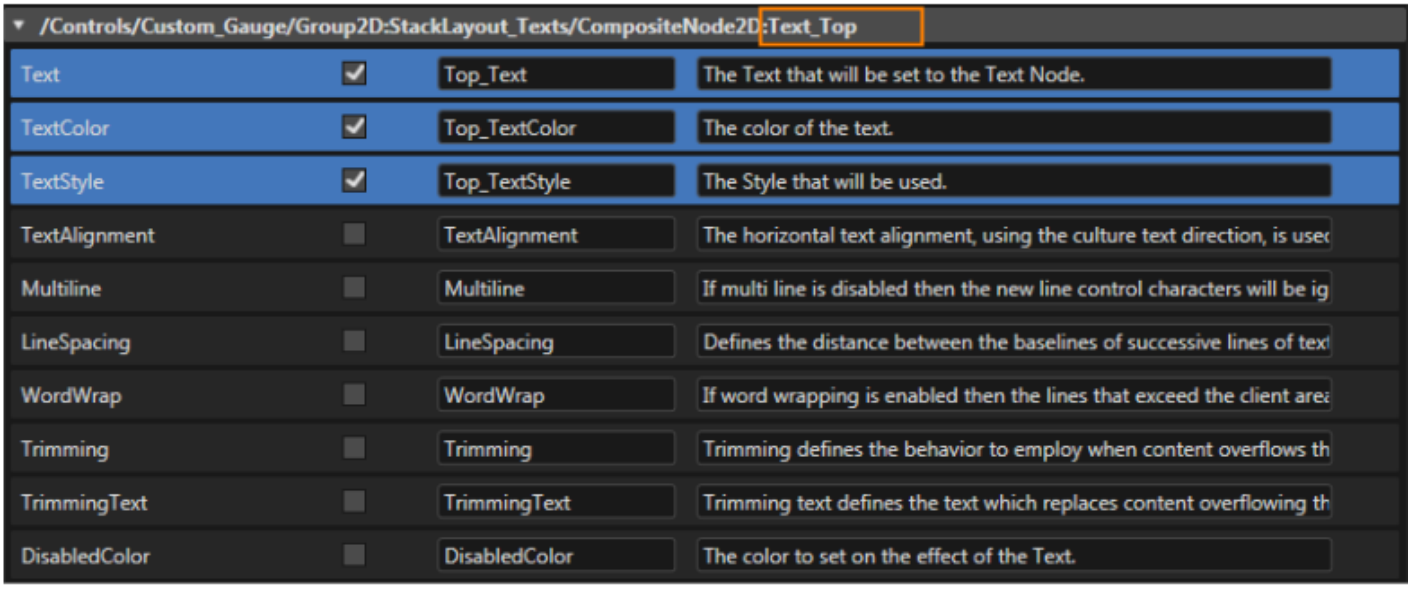
3. In the Configure Public Properties dialog check the "Is Public" checkbox and perform other configurations according to the table and images below.
   - Image properties necessary for using and configuring the Custom_Gauge will be made public.
   - The Custom_Gauge control is now fully configured and ready to use.

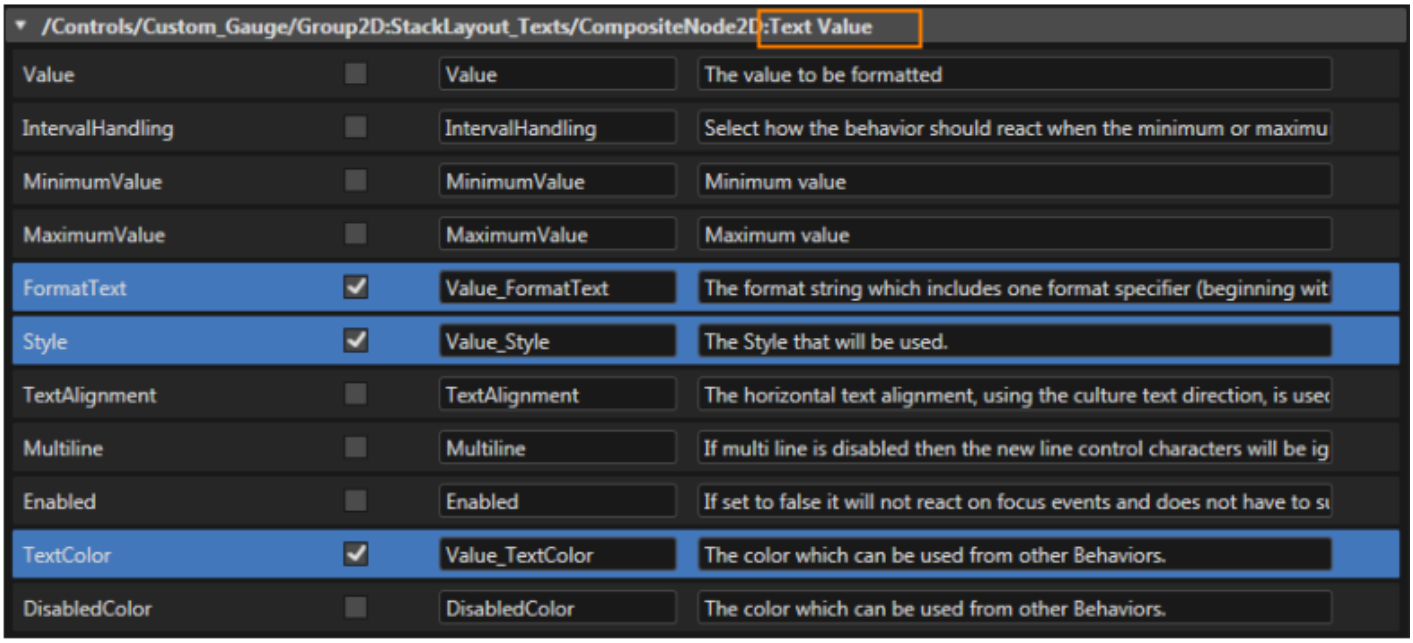
   > The properties made public in this **Configure Public Properties** dialog will be configurable in the **Properties panel's Controls section**.

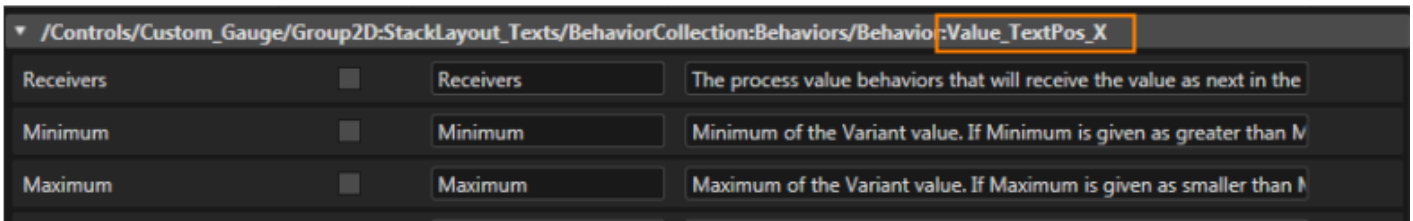
Custom_Gauge > StackLayout_Texts >			
Property	**IsPublic**	**Source**	**Name**
TextBottom	x	Text	Bottom_Text
	x	TextColor	Bottom_TextColor
	x	TextStyle	Bottom_TextStyle
Text_Top	x	Text	Top_Text

	x	TextColor	Top_TextColor
	x	TextStyle	Top_TextStyle
Text Value	x	FormatText	Value_FormatText
	x	Style	Value_Style
	x	TextColor	Value_TextColor
Behaviors > Value_TextPos_X	x	Variant	TextPosX
Behaviors > Value_TextPos_Y	x	Variant	TextPosY


/Controls/Custom_Gauge/Group2D:StackLayout_Texts/CompositeNode2D:Text_Bottom
Text
Bottom_Text
The Text that will be set to the Text Node.
TextColor
Bottom_TextColor
The color of the text.
TextStyle
Bottom_TextStyle
The Style that will be used.
TextAlignment
TextAlignment
The horizontal text alignment, using the culture text direction, is usec
Multiline
Multiline
If multi line is disabled then the new line control characters will be ig
LineSpacing
LineSpacing
Defines the distance between the baselines of successive lines of text
WordWrap
WordWrap
If word wrapping is enabled then the lines that exceed the client area
Trimming
Trimming
Trimming defines the behavior to employ when content overflows th
TrimmingText
TrimmingText
Trimming text defines the text which replaces content overflowing th
DisabledColor
DisabledColor
The color to set on the effect of the Text.


/Controls/Custom_Gauge/Group2D:StackLayout_Texts/CompositeNode2D:Text_Top
Text
Top_Text
The Text that will be set to the Text Node.
TextColor
Top_TextColor
The color of the text.
TextStyle
Top_TextStyle
The Style that will be used.
TextAlignment
TextAlignment
The horizontal text alignment, using the culture text direction, is usec
Multiline
Multiline
If multi line is disabled then the new line control characters will be ig
LineSpacing
LineSpacing
Defines the distance between the baselines of successive lines of text
WordWrap
WordWrap
If word wrapping is enabled then the lines that exceed the client area
Trimming
Trimming
Trimming defines the behavior to employ when content overflows th
TrimmingText
TrimmingText
Trimming text defines the text which replaces content overflowing th
DisabledColor
DisabledColor
The color to set on the effect of the Text.


/Controls/Custom_Gauge/Group2D:StackLayout_Texts/CompositeNode2D:Text Value
Value
Value
The value to be formatted
IntervalHandling
IntervalHandling
Select how the behavior should react when the minimum or maximu
MinimumValue
MinimumValue
Minimum value
MaximumValue
MaximumValue
Maximum value
FormatText
Value_FormatText
The format string which includes one format specifier (beginning wit
Style
Value_Style
The Style that will be used.
TextAlignment
TextAlignment
The horizontal text alignment, using the culture text direction, is usec
Multiline
Multiline
If multi line is disabled then the new line control characters will be ig
Enabled
Enabled
If set to false it will not react on focus events and does not have to st
TextColor
Value_TextColor
The color which can be used from other Behaviors.
DisabledColor
DisabledColor
The color which can be used from other Behaviors.


/Controls/Custom_Gauge/Group2D:StackLayout_Texts/BehaviorCollection:Behaviors/Behavio:Value_TextPos_X
Receivers
Receivers
The process value behaviors that will receive the value as next in the
Minimum
Minimum
Minimum of the Variant value. If Minimum is given as greater than M
Maximum
Maximum
Maximum of the Variant value. If Maximum is given as smaller than M

Advanced Cluster Part 4

The following steps describe how to use the Custom_Gauge control in a scene. Speed gauge and RPM gauge are realized with the same control. Using the public properties for customization these Gauge controls appear similar yet different.

Once the advanced cluster scene is fully configured, it's time to test its functionality using the Scene Composer's Player.

Create a Cluster Scene with 2 Custom_Gauge Controls

1. In the Solution Explorer navigate to the Scene2D and double click it.
   - Scene2D will be opened and visible in Scene Editor and Scene Tree panel.
   - In Scene Tree panel you can see that the scene contains a camera.

2. In the **Scene Editor's bottom toolbar** make sure that "**active rendering**" and "**widgets updating**" is enabled.
   - In the Scene Editor's bottom toolbar "**active rendering**" and "**widgets updating**" are highlighted as seen in the image below.



3. From the Toolbox panel under **[Nodes 2D]** drag a **Group node** into the Scene Tree panel or the Scene Editor.
   - In the Scene Tree panel you can see the newly created Group node.
   - In the Scene Editor you can see an indicator of the Group node's current position.

4. **Rename** the **Group node** according to the table below either via the context menu "Rename" or the keyboard shortcut <F2>.
   - The Group node has been renamed accordingly.

Old Name	New Name
Group	Group_Content

5. In the Scene Tree panel select the Group node. In the Properties panel's **[Transformations]** section reset the Position property according to the table below.
   - In the Scene Editor you can see the Group node's current position.

> A property can easily be **reset** in the Properties panel by clicking on the **curled arrow icon**on the property's left.

Target Item	Position	
	X	Y
Group_Content	0.00	0.00

6. From the Solution Explorer **drag** the **image** according to the table below into the Scene Tree panel **directly onto the Group_Content** node.
   - In Scene Tree panel you can see that a new RenderNode2D with a BitmapBrushBlend effect has been created inside Group_Content.
   - In Scene Editor you can see the rendered background image.

Path in Solution Explorer	Image
Solution > Resources > Bitmaps	BackgroundBmp

7. From the Solution Explorer drag **two Custom_Gauge** into the Scene Tree panel directly onto the **Group_Content**. The path to the Custom_Gauge control is given in the table below.
   - In the Scene Editor only one Custom_Gauge will be displayed since both controls are located at the same position and therefore are completely overlapping. One Custom_Gauge is hiding the other.
   - In the Scene Tree panel the Group_Content node contains a RenderNode2D and the newly created Custom_Gauges.

Path in Solution Explorer	Control
Solution > Controls	Custom_Gauge

8. **Rename** the **Custom_Gauge** nodes according to the table below either via the context menu "Rename" or the keyboard shortcut <F2>.
   - The Custom_Gauge node has been renamed accordingly.

Old Name	New Name
Custom_Gauge	Custom_Gauge_Speed
Custom_Gauge_1	Custom_Gauge_RPM

9. Select the **Custom_Gauge controls** one after the other. In the Properties panel **configure the properties** as given in the tables below.
   - In the Scene Editor the gauge controls for RPM and Speed are both visible.
   - The Scene2D starts to look like a cluster, see image below.

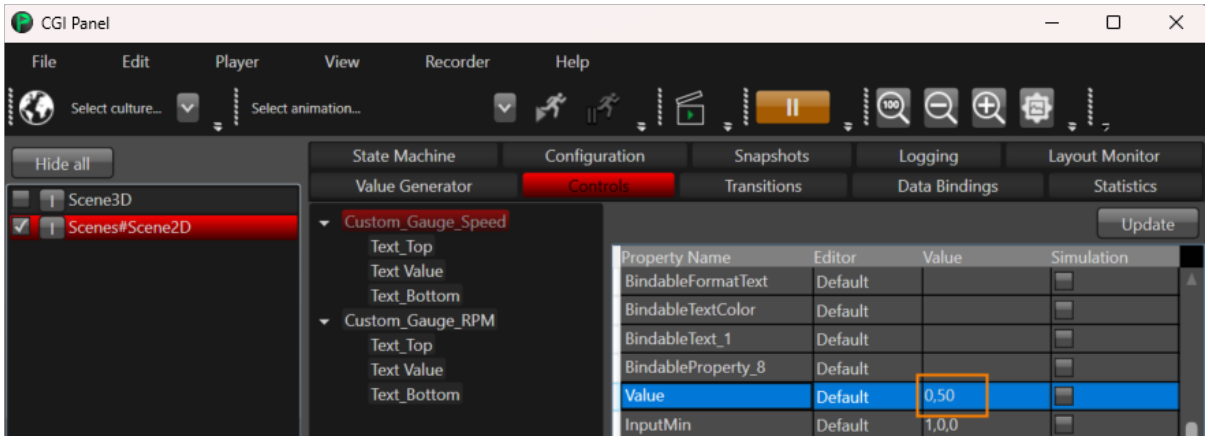
Custom_Gauge_RPM Property	Value
Transformation	
Position X	965.00
Position Y	30.00

Custom_Gauge_Speed Property	Value
Transformation	
Position X	60.00
Position Y	30.00
Control	
Value	120
Input Max	240
Top_Text	Speed
Value_Format Text	%d
Bottom_Text	km/h
BackgroundImage	Solution/Resources/Bitmaps/Points_BlueBmp
ForegroundImage	Solution/Resources/Bitmaps/Numbers_0-240Bmp



Check the Scene in the Player

1. **Save** your work and **start** the **Player** to test the functionality of your configuration. To do this, please perform similar steps to the ones described in the GettingStartedControls Best Practice.
   - The Speed Gauge can be tested by manipulating Custom_Gauge_Speed's Value Property (The property is changed to 50 in the image below).
   - The RPM Gauge can be tested by manipulating Custom_Gauge_RPM's Value Property.


CGI Panel
File
Edit
Player
View
Recorder
Help
Select culture...
Select animation...
Hide all
Scene3D
Scenes#Scene2D
State Machine
Configuration
Snapshots
Logging
Layout Monitor
Value Generator
Controls
Transitions
Data Bindings
Statistics
Custom_Gauge_Speed
Text_Top
Text Value
Text_Bottom
Custom_Gauge_RPM
Text_Top
Text Value
Text_Bottom
Update
Property Name
Editor
Value
Simulation
BindableFormatText
Default
BindableTextColor
Default
BindableText_1
Default
BindableProperty_8
Default
Value
Default
0,50
InputMin
Default
1,0,0