

Nodes Reference

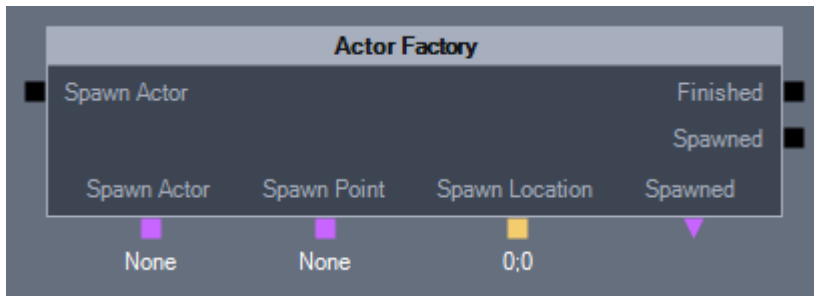
2D Platform Game Creator

Milan Rybář

CONTENTS

Contents	1
1 Actors	2
2 Audio	10
3 Conditions	12
4 Math	20
5 Misc	43
6 Physics	48
7 Time	59
8 Variables	61
9 Events	72

Actor Factory



Spawns the specified number of actors in the specified position during runtime. The spawned actor is in the initial state, not the current one during runtime.

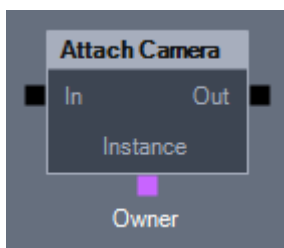
Signal Sockets

In Sockets	
Name	Description
Spawn Actor	Begins a one-time spawning of actors.
Out Sockets	
Name	Description
Finished	Fires when all actors have been successfully spawned.
Spawned	Fires for every spawned actor.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Spawn Actor	Actor to spawn.	Actor	False	None
Spawn Point	Position for the spawned actor from the specified actor position. Otherwise the SpawnPoint property is used.	Actor	False	None
Spawn Location	Position for the spawned actor.	Vector2	False	0;0
Spawn Count	The total number of actors to spawn.	Int	False	1
Spawn Delay	The amount of time to wait between spawning new actor.	Float	False	0.5
Variable Out Sockets				
Name	Description	Type		
Spawned	Outputs the spawned actor.	Actor		

Attach Camera



Attaches camera to the specified actor. The position of the specified actor will be in the center of the game window.

Signal Sockets

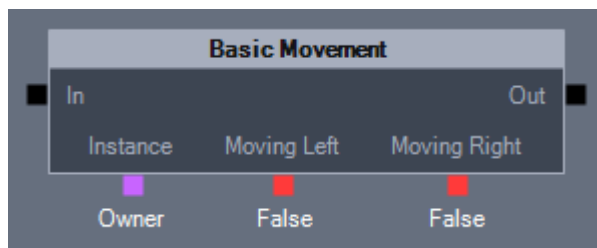
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actor to attach camera to.	Actor	False	Owner

Basic Movement



Provides basic movement for the specified actor. Should be used only when quick testing is needed because its SlowingCoefficient and GradualAcceleration property has negative behaviour on moving platform.

Signal Sockets

In Sockets	
Name	Description
In	Apply one-time movement of the specified actor by specified settings.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actor in physics simulation to apply basic movement.	Actor	False	Owner
Moving Left	Indicates whether the actor is moving to the left.	Bool	False	False
Moving Right	Indicates whether the actor is moving to the right.	Bool	False	False
Left Speed	Speed in meters per seconds to move the actor in the left.	Float	False	1
Right Speed	Speed in meters per seconds to move the actor in the right.	Float	False	1
Slowing Coefficient	Slowing coefficient to simulate slowing down of the actor.	Float	False	0.9
Gradual Acceleration	Simulates gradual acceleration of the actor. The actor accelerate by this value to max speed.	Float	False	0.5

Destroy



Destroys the specified actor.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

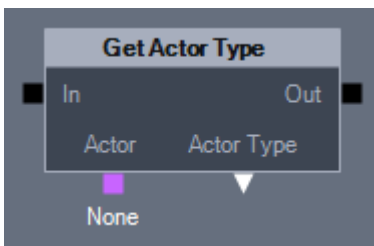
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Instance	Actors to destroy.	Actor	True	Owner

Get Actor Type



Gets the actor type of the specified actor.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

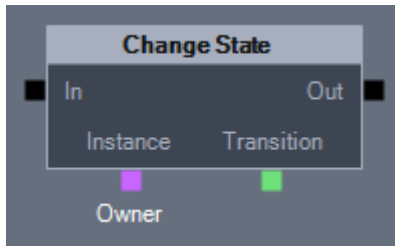
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the actor type from.	Actor	False	None

Variable Out Sockets		
Name	Description	Type
Actor Type	Outputs the actor type of the specified actor.	Actor Type

Change State



Changes state by the specified transition in the state machines of the specified actors.

Signal Sockets

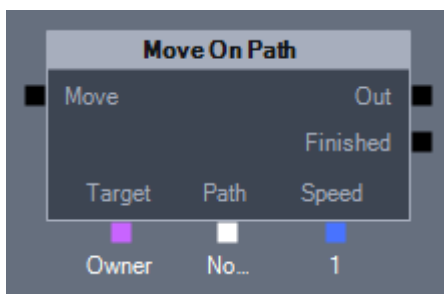
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors that will change state by the specified transition.	Actor	True	Owner
Transition	Name of the transition (event in) to change state of the specified actors.	String	False	

Move On Path



Moves the specified actor on the specified path. It is not recommended to use it for the actor with dynamic body.

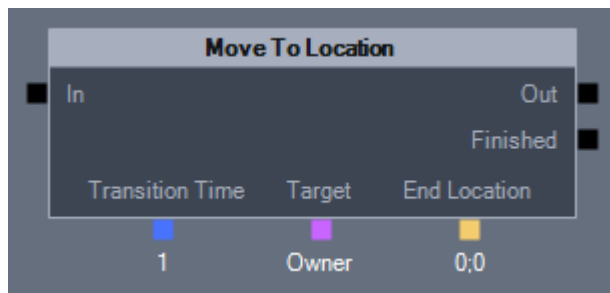
Signal Sockets

In Sockets	
Name	Description
Move	Begins movement of the actor on the specified path.
Out Sockets	
Name	Description
Out	Fires when the movement has begun.
Finished	Fires when the whole movement is finished.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actor to move on the specified path.	Actor	False	Owner
Path	Path to move the specified actor on.	Path	False	None
Speed	Speed in meters per seconds to move on the specified path.	Float	False	1
Move Right	Indicates whether the actor moves to the right (the next vertex from definition of the path) on the specified path. (Left is previous vertex.)	Bool	False	True
Loop	Indicates whether the actor moves in the loop.	Bool	False	False

Move To Location



Moves the specified actor to the specified location in specified time. It is not recommended to use it for the actor with dynamic body.

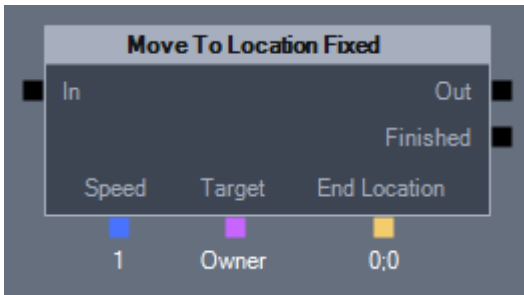
Signal Sockets

In Sockets	
Name	Description
In	Begins movement of the actor to the specified location.
Out Sockets	
Name	Description
Out	Fires when the movement has begun.
Finished	Fires when the whole movement is finished.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Transition Time	Total time in seconds to move to the specified location.	Float	False	1
Target	Actor to move to the specified location.	Actor	False	Owner
End Location	Location to move the specified actor to.	Vector2	False	0;0

Move To Location Fixed



Moves the specified actor to the specified location by specified speed. It is not recommended to use it for the actor with dynamic body.

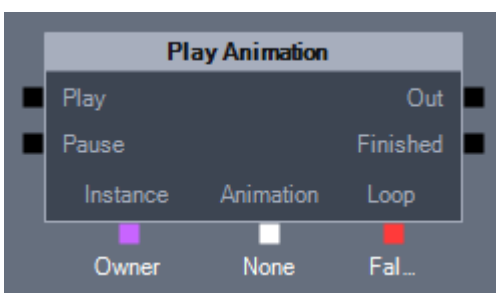
Signal Sockets

In Sockets	
Name	Description
In	Begins movement of the actor to the specified location.
Out Sockets	
Name	Description
Out	Fires when the movement has begun.
Finished	Fires when the whole movement is finished.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Speed	Speed in meters per seconds to move to the specified location.	Float	False	1
Target	Actor to move to the specified location.	Actor	False	Owner
End Location	Location to move the specified actor to.	Vector2	False	0;0

Play Animation



Plays animation. Sets the specified actors graphics to the specified animation.

Signal Sockets

In Sockets	
Name	Description
Play	Begins playing the specified animations as graphics in the specified actors.
Pause	Pauses playing the animation in the last set actor.

Out Sockets	
Name	Description
Out	Fires when the animation is set to the actors.
Finished	Fires when the playing of the animation is finished.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to set the specified animation to.	Actor	True	Owner
Animation	Animation to be used as graphics in the specified actors.	Animation	False	None
Loop	Indicates whether the animation will be looped.	Bool	False	False
Speed	Speed in milliseconds per frame of the animation. Value 0 use the set speed of the animation.	Float	False	0
Flip Horizontally	Indicates whether the animation will be flipped horizontally.	Bool	False	False
Flip Vertically	Indicates whether the animation will be flipped vertically.	Bool	False	False

Send Event



Sends event from the actor owner to the world.

Signal Sockets

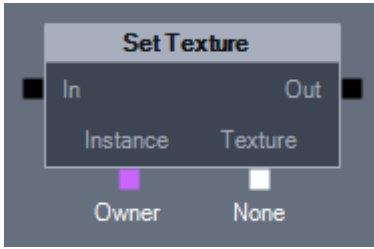
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Name	Name of the event (event out) to send.	String	False	

Set Texture



Sets the specified actors graphics to the specified texture.

Signal Sockets

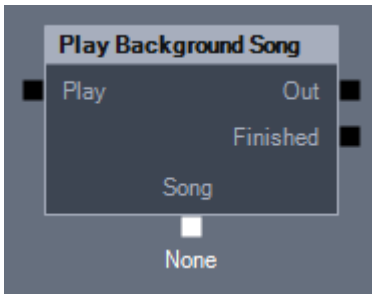
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to set the specified texture to.	Actor	True	Owner
Texture	Texture to be used as graphics in the specified actors.	Texture	False	None
Flip Horizontally	Indicates whether the animation will be flipped horizontally.	Bool	False	False
Flip Vertically	Indicates whether the animation will be flipped vertically.	Bool	False	False

Play Background Song



Plays the specified song as the background song. Only one song can be playing as the background song.

Signal Sockets

In Sockets

Name	Description
Play	Begins playing the specified song as the background song.

Out Sockets

Name	Description
Out	Fires when the song is set as background song.
Finished	Fires when the playing of the song is finished.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Song	Song to used as background song.	Song	False	None
Loop	Indicates whether the song will be looped.	Bool	False	False
Volume	Volume of the song. Value 1 is 100% volume.	Float	False	1

Play Sound



Plays the specified sound.

Signal Sockets

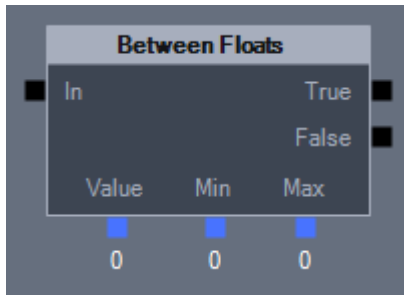
In Sockets	
Name	Description
Play	Begins playing the specified sound.
Stop	Stops playing the last used sound.

Out Sockets	
Name	Description
Out	Fires when the sound is set to play.
Stopped	Fires when the playing of the sound has been stopped.
Finished	Fires when the playing of the sound is finished.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Sound	Sound to play.	Sound	False	None
Loop	Indicates whether the sound will be looped.	Bool	False	False
Volume	Volume of the sound. Value 1 is 100% volume.	Float	False	1

Between Floats



Checks if the specified value is in the specified range.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

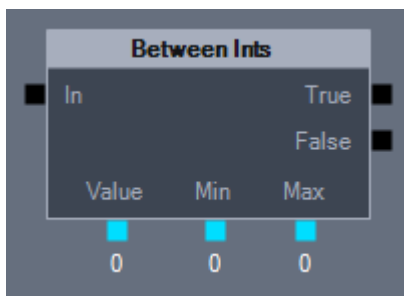
Name	Description
True	Fires when the specified value is in the specified range.
False	Fires when the specified value is not in the specified range.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Value	Value to check if it is in the specified range.	Float	False	0
Min	Minimum value of the range.	Float	False	0
Max	Maximum value of the range.	Float	False	0

Between Ints



Checks if the specified value is in the specified range.

Signal Sockets

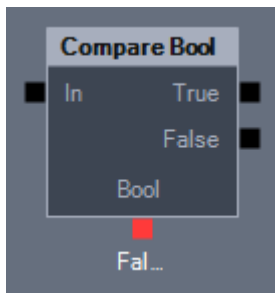
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
True	Fires when the specified value is in the specified range.
False	Fires when the specified value is not in the specified range.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Value to check if it is in the specified range.	Int	False	0
Min	Minimum value of the range.	Int	False	0
Max	Maximum value of the range.	Int	False	0

Compare Bool



Checks the value of the bool variable.

Signal Sockets

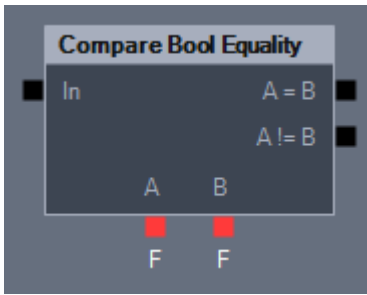
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
True	Fires if the specified value is true.
False	Fires if the specified value is false.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Bool	Value of the bool variable to check.	Bool	False	False

Compare Bool Equality



Compares two specified values.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First value to compare.	Bool	False	False
B	Second value to compare.	Bool	False	False

Compare Float



Compares two specified values.

Signal Sockets

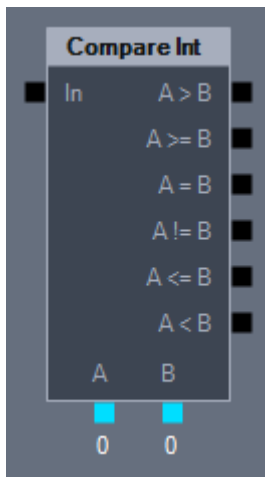
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
A > B	Fires if the first value is greater than the second value.
A >= B	Fires if the first value is greater than or equal to the second value.
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.
A <= B	Fires if the first value is less than or equal to the second value.
A < B	Fires if the first value is less than the second value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First value to compare.	Float	False	0
B	Second value to compare.	Float	False	0

Compare Int



Compares two specified values.

Signal Sockets

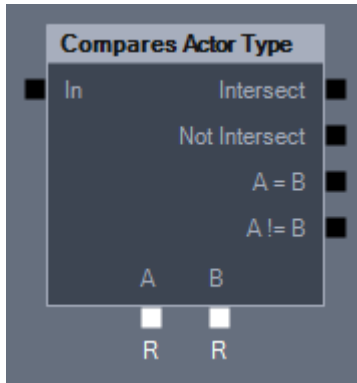
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
A > B	Fires if the first value is greater than the second value.
A >= B	Fires if the first value is greater than or equal to the second value.
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.
A <= B	Fires if the first value is less than or equal to the second value.
A < B	Fires if the first value is less than the second value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First value to compare.	Int	False	0
B	Second value to compare.	Int	False	0

Compares Actor Type



Compare two specified values.

Signal Sockets

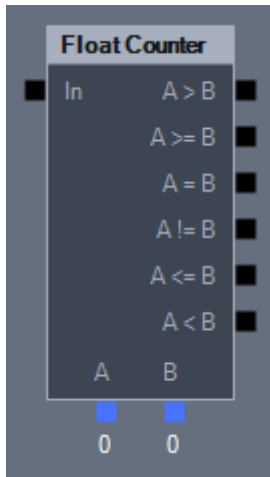
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Intersect	Fires if the first value intersects the second value.
Not Intersect	Fires if the first value does not intersect the second value.
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First value to compare.	Actor Type	False	Root
B	Second value to compare.	Actor Type	False	Root

Float Counter



Increments the first value and then compares two specified values.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

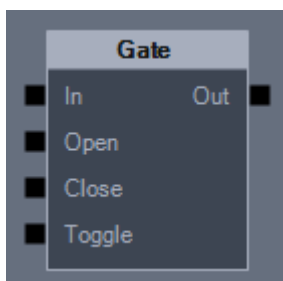
Name	Description
A > B	Fires if the first value is greater than the second value.
A >= B	Fires if the first value is greater than or equal to the second value.
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.
A <= B	Fires if the first value is less than or equal to the second value.
A < B	Fires if the first value is less than the second value.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
A	First value to compare.	Float	False	0
B	Second value to compare.	Float	False	0

Gate



This action allows you to pass through a signal to the Out signal out socket depending on the state of the gate. To change the state of the gate, send a signal to the Toggle input. To open or close the gate, send a signal to the Open or Close input, respectively. The Out output will be active when there is an 'In' signal AND the gate is opened. This is useful to combine inputs, e.g.: If two conditions must occur for an action to be triggered. This can be achieved by opening the gate when Condition 1 is met and firing 'In' signal when Condition 2 is met.

Signal Sockets

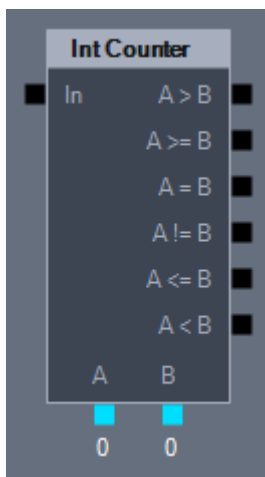
In Sockets	
Name	Description
In	Passes signal through to the Out signal out socket if the gate is currently in the open state.
Open	Sets the gate to the open state.
Close	Sets the gate to the closed state.
Toggle	Toggles the state of the gate.

Out Sockets	
Name	Description
Out	Fires when the signal went through the gate.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Open	Indicates whether the gate will initially be open.	Bool	False	True
Auto Close Count	Amount of times the gate can be activated before it closes automatically. A value of 0 disables this functionality.	Int	False	0

Int Counter



Increments the first value and then compares two specified values.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
A > B	Fires if the first value is greater than the second value.
A >= B	Fires if the first value is greater than or equal to the second value.
A = B	Fires if the first value is equal to the second value.
A != B	Fires if the first value is not equal to the second value.
A <= B	Fires if the first value is less than or equal to the second value.
A < B	Fires if the first value is less than the second value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First value to compare.	Int	False	0
B	Second value to compare.	Int	False	0

Timed Gate



This action allows you to pass through a signal to the Out signal out socket depending on the state of the gate. The gate is automatically closed for the specified time when a signal pass through the gate.

Signal Sockets

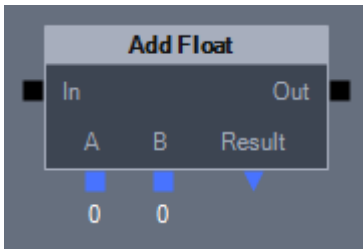
In Sockets	
Name	Description
In	Passes signal through to the Out signal out socket and closes the gate for the time of Duration property if the gate is currently in the open state.

Out Sockets	
Name	Description
Out	Fires when the signal went through the gate.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Duration	Time in seconds for how long the gate is closed before it opens automatically.	Float	False	1

Add Float



Adds float variables together and returns the result.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

Name	Description
Out	Fires when the action is completed.

Variable Sockets

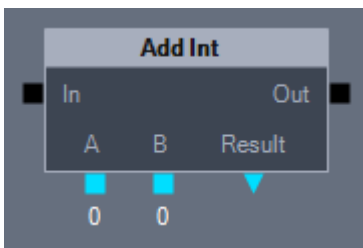
Variable In Sockets

Name	Description	Type	Array	Default Value
A	The first values to add.	Float	True	0
B	The second values to add.	Float	True	0

Variable Out Sockets

Name	Description	Type
Result	Outputs the result of the addition.	Float
Int Result	Outputs the result of the addition cast to an int variable.	Int

Add Int



Adds int variables together and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

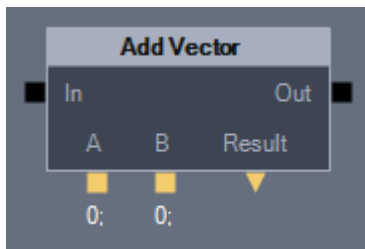
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first values to add.	Int	True	0
B	The second values to add.	Int	True	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the addition.	Int
Float Result	Outputs the result of the addition cast to a float variable.	Float

Add Vector



Adds vector variables together and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

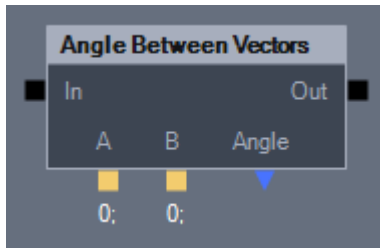
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first values to add.	Vector2	True	0;0
B	The second values to add.	Vector2	True	0;0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the addition.	Vector2

Angle Between Vectors



Computes angle between two vector variables and returns the result.

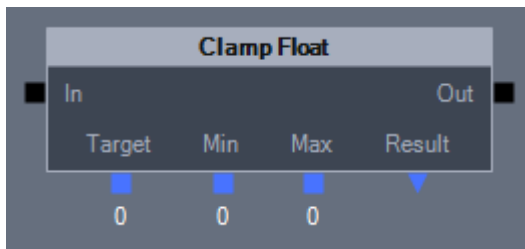
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first vector variable to compute angle.	Vector2	False	0;0
B	The second vector variable to compute angle.	Vector2	False	0;0
Variable Out Sockets				
Name	Description	Type		
Angle	Outputs the result angle between two vector variables.	Float		

Clamp Float



Clamps float variable and returns the result.

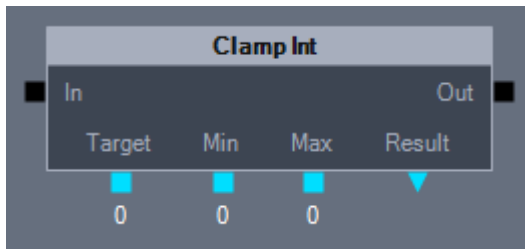
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Value to clamp.	Float	False	0
Min	Minimum value of the range.	Float	False	0
Max	Maximum value of the range.	Float	False	0
Variable Out Sockets				
Name	Description	Type		
Result	Outputs the result of the clamping.	Float		
Int Result	Outputs the result of the clamping cast to an int variable.	Int		

Clamp Int



Clamps int variable and returns the result.

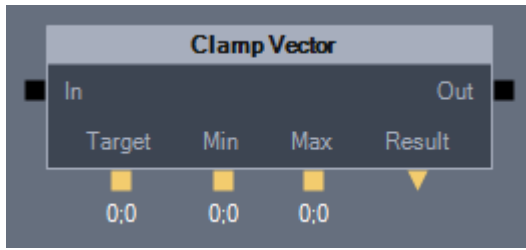
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Value to clamp.	Int	False	0
Min	Minimum value of the range.	Int	False	0
Max	Maximum value of the range.	Int	False	0
Variable Out Sockets				
Name	Description	Type		
Result	Outputs the result of the clamping.	Int		
Float Result	Outputs the result of the clamping cast to a float variable.	Float		

Clamp Vector



Clamps vector variable and returns the result.

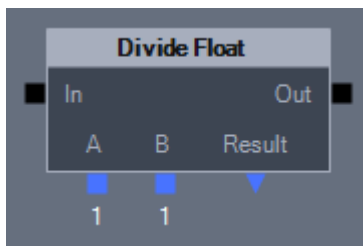
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Value to clamp.	Vector2	False	0;0
Min	Minimum value of the range.	Vector2	False	0;0
Max	Maximum value of the range.	Vector2	False	0;0
Variable Out Sockets				
Name	Description	Type		
Result	Outputs the result of the clamping.	Vector2		

Divide Float



Divides float variables and returns the result.

Signal Sockets

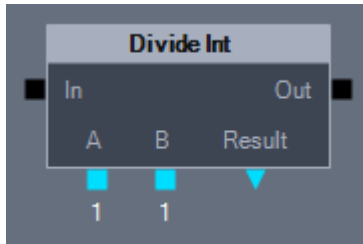
In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	Multiplication of given values is dividend.	Float	True	1
B	Multiplication of given values is divisor.	Float	True	1

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the dividing.	Float
Int Result	Outputs the result of the dividing cast to an int variable.	Int

Divide Int



Divides int variables together and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

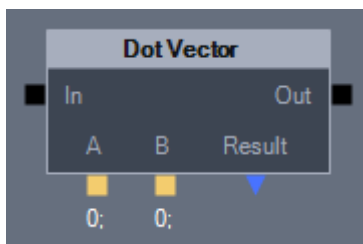
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	Multiplication of given values is dividend.	Int	True	1
B	Multiplication of given values is divisor.	Int	True	1

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the dividing.	Int
Float Result	Outputs the result of the dividing cast to a float variable.	Float

Dot Vector



Calculates the dot product of two vector variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

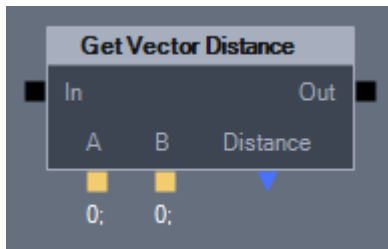
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first vector variable for dot product.	Vector2	False	0;0
B	The second vector variable for dot product.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the dot product.	Float

Get Vector Distance



Calculates the distance between two vector variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

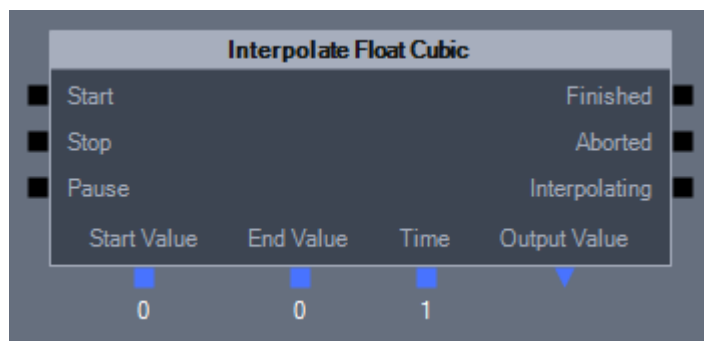
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first vector variable for calculating distance.	Vector2	False	0;0
B	The second vector variable for calculating distance.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Distance	Outputs the distance between two specified vector variables.	Float

Interpolate Float Cubic



Interpolates between two values using a cubic equation.

Signal Sockets

In Sockets	
Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

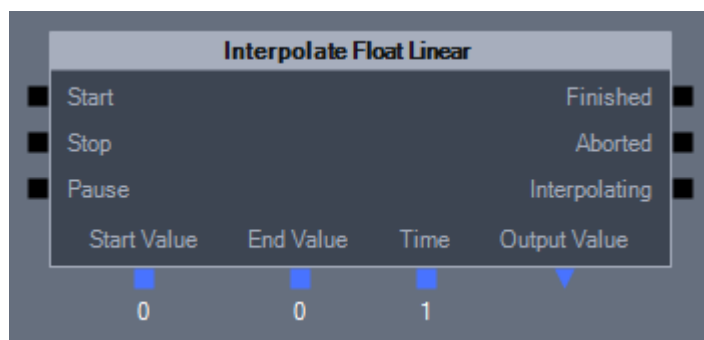
Out Sockets	
Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Float	False	0
End Value	End value for the interpolation.	Float	False	0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Output Value	Outputs the interpolated value.	Float

Interpolate Float Linear



Linearly interpolates between two values.

Signal Sockets

In Sockets	
Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

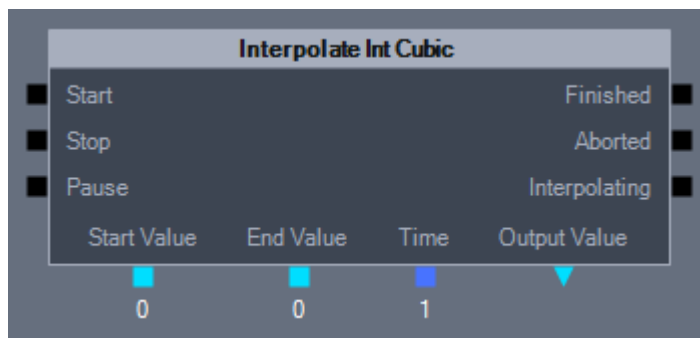
Out Sockets	
Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Float	False	0
End Value	End value for the interpolation.	Float	False	0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Output Value	Outputs the interpolated value.	Float

Interpolate Int Cubic



Interpolates between two values using a cubic equation.

Signal Sockets

In Sockets	
Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

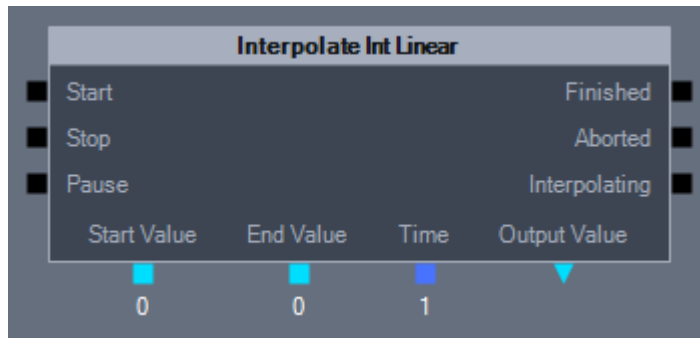
Out Sockets	
Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Int	False	0
End Value	End value for the interpolation.	Int	False	0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Output Value	Outputs the interpolated value.	Int

Interpolate Int Linear



Linearly interpolates between two values.

Signal Sockets

In Sockets	
Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

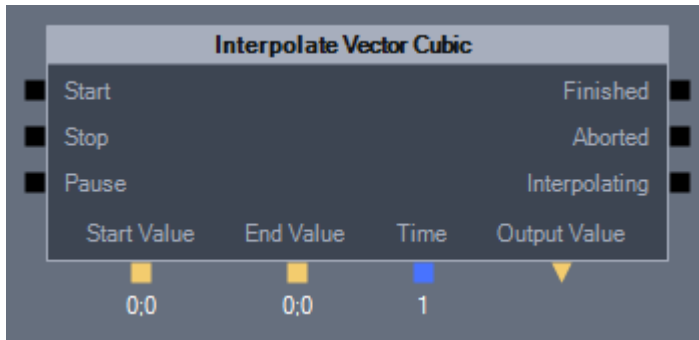
Out Sockets	
Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Int	False	0
End Value	End value for the interpolation.	Int	False	0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Output Value	Outputs the interpolated value.	Int

Interpolate Vector Cubic



Interpolates between two values using a cubic equation.

Signal Sockets

In Sockets

Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

Out Sockets

Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

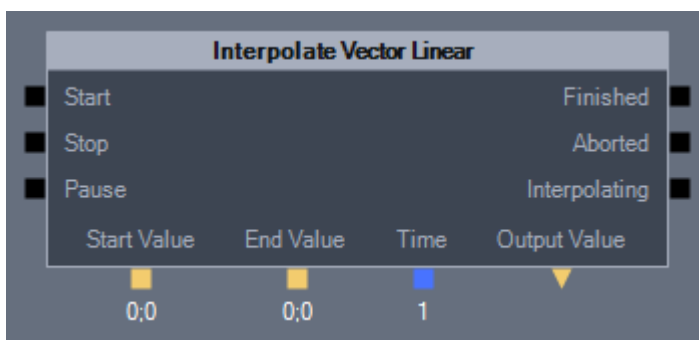
Variable In Sockets

Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Vector2	False	0;0
End Value	End value for the interpolation.	Vector2	False	0;0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets

Name	Description	Type
Output Value	Outputs the interpolated value.	Vector2

Interpolate Vector Linear



Linearly interpolates between two values.

Signal Sockets

In Sockets	
Name	Description
Start	Starts the interpolation between two specified values.
Stop	Stops the running interpolation if any is in progress.
Pause	Pauses or resumes the last interpolation if any is available.

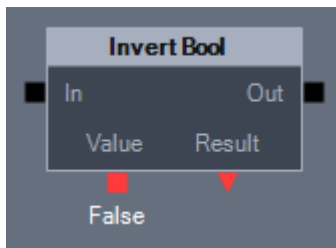
Out Sockets	
Name	Description
Finished	Fires when the interpolation is completed.
Aborted	Fires when the interpolation is aborted.
Interpolating	Fires for every interpolated value.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start Value	Start value for the interpolation.	Vector2	False	0;0
End Value	End value for the interpolation.	Vector2	False	0;0
Time	Amount of time in seconds for the interpolation.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Output Value	Outputs the interpolated value.	Vector2

Invert Bool



Inverts the bool variable and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

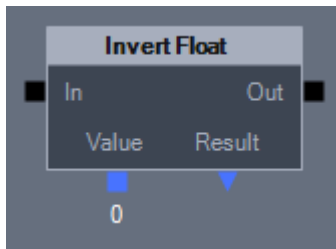
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Bool variable to invert.	Bool	False	False

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the inverting.	Bool

Invert Float



Inverts the float variable and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

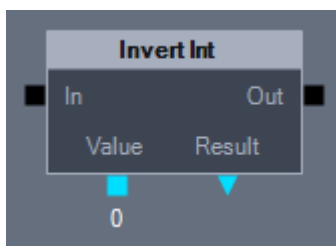
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Float variable to invert.	Float	False	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the inverting.	Float
Int Result	Outputs the result of the inverting cast to an int variable.	Int

Invert Int



Inverts the int variable and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

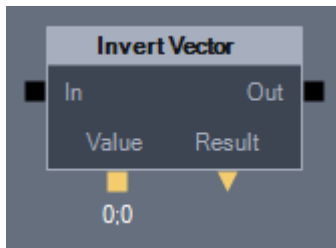
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Int variable to invert.	Int	False	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the inverting.	Int
Float Result	Outputs the result of the inverting cast to a float variable.	Float

Invert Vector



Inverts the vector variable and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

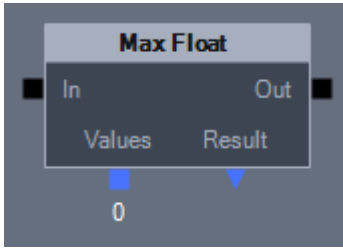
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Vector variable to invert.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the inverting.	Vector2

Max Float



Computes the maximum value among float variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

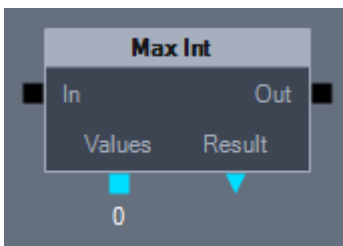
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Values	Values to compute the maximum value from.	Float	True	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the maximum value of the specified values.	Float
Int Result	Outputs the maximum value of the specified values cast to an int variable.	Int

Max Int



Computes the maximum value among int variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

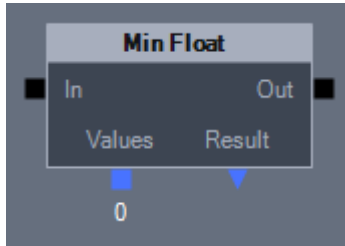
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Values	Values to compute the maximum value from.	Int	True	0

Variable Out Sockets		Type
Name	Description	Type
Result	Outputs the maximum value of the specified values.	Int
Float Result	Outputs the maximum value of the specified values cast to a float variable.	Float

Min Float



Computes the minimum value among float variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

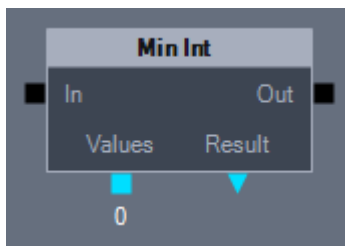
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Values	Values to compute the minimum value from.	Float	True	0

Variable Out Sockets		Type
Name	Description	Type
Result	Outputs the minimum value of the specified values.	Float
Int Result	Outputs the minimum value of the specified values cast to an int variable.	Int

Min Int



Computes the minimum value among int variables and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

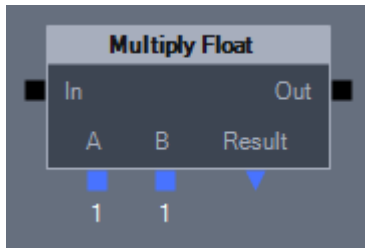
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Values	Values to compute the minimum value from.	Int	True	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the minimum value of the specified values.	Int
Float Result	Outputs the minimum value of the specified values cast to a float variable.	Float

Multiply Float



Multiplies float variables together and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

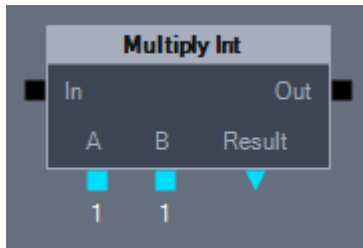
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first values to multiply.	Float	True	1
B	The second values to multiply.	Float	True	1

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the multiplication.	Float
Int Result	Outputs the result of the multiplication cast to an int variable.	Int

Multiply Int



Multiplies int variables together and returns the result.

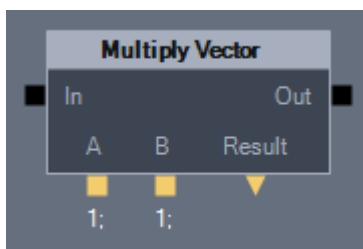
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first values to multiply.	Int	True	1
B	The second values to multiply.	Int	True	1
Variable Out Sockets				
Name	Description	Type		
Result	Outputs the result of the multiplication.	Int		
Float Result	Outputs the result of the multiplication cast to a float variable.	Float		

Multiply Vector



Multiplies vector variables together and returns the result.

Signal Sockets

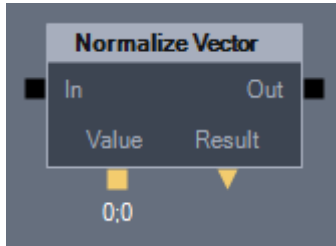
In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	The first values to multiply.	Vector2	True	1;1
B	The second values to multiply.	Vector2	True	1;1

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the multiplication.	Vector2

Normalize Vector



Normalizes vector variable and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

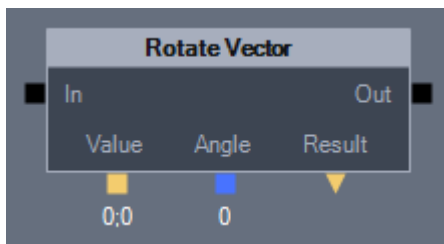
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Vector to normalize.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the normalized vector.	Vector2

Rotate Vector



Rotates the vector by the specified angle and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

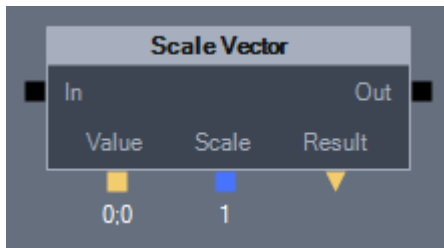
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Vector to rotate by the specified angle.	Vector2	False	0;0
Angle	Angle to rotate the specified vector by.	Float	False	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the rotated vector by the specified angle.	Vector2

Scale Vector



Scales vector by the specified scale coefficient (multiplies the vector by the scalar value) and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

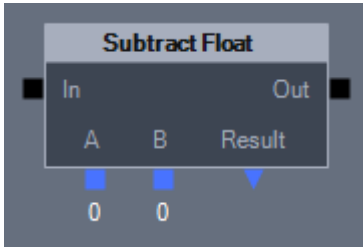
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Vector to scale by the specified scale coefficient.	Vector2	False	0;0
Scale	Scale coefficient to scale the specified vector by.	Float	False	1

Variable Out Sockets		
Name	Description	Type
Result	Outputs the scaled vector by the specified scale coefficient.	Vector2

Subtract Float



Subtracts one float variable from another and returns the result.

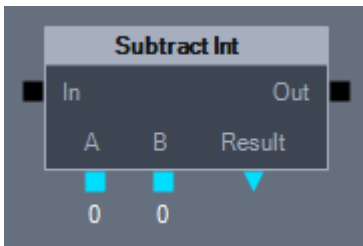
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	Sum of given values is minuend.	Float	True	0
B	Sum of given values is subtrahend.	Float	True	0
Variable Out Sockets				
Name	Description	Type		
Result	Outputs the result of the subtraction.	Float		
Int Result	Outputs the result of the subtraction cast to an int variable.	Int		

Subtract Int



Subtracts one int variable from another and returns the result.

Signal Sockets

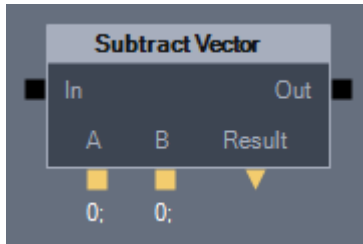
In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	Sum of given values is minuend.	Int	True	0
B	Sum of given values is subtrahend.	Int	True	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the subtraction.	Int
Float Result	Outputs the result of the subtraction cast to a float variable.	Float

Subtract Vector



Subtracts one vector variable from another and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

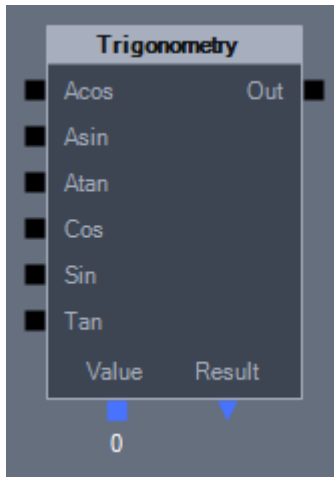
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	Sum of given values is minuend.	Vector2	True	0;0
B	Sum of given values is subtrahend.	Vector2	True	0;0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the subtraction.	Vector2

Trigonometry



Computes trigonometry function and returns the result.

Signal Sockets

In Sockets	
Name	Description
Acos	Computes Acos function by specified value and returns the result.
Asin	Computes Asin function by specified value and returns the result.
Atan	Computes Atan function by specified value and returns the result.
Cos	Computes Cos function by specified value and returns the result.
Sin	Computes Sin function by specified value and returns the result.
Tan	Computes Tan function by specified value and returns the result.

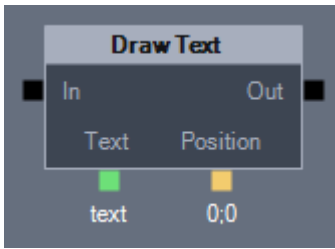
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Value for the trigonometry function.	Float	False	0

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of the trigonometry function.	Float

Draw Text



Draws text on the specified position for the specified duration.

Signal Sockets

In Sockets

Name	Description
In	Draws text on the specified position for the specified duration.

Out Sockets

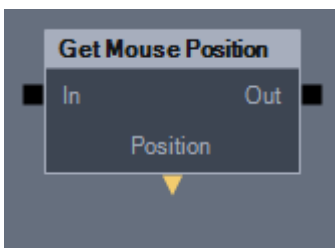
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Text	Text to draw on the specified position.	String	False	text
Position	Position to draw the specified text on.	Vector2	False	0;0
Color Red	Red part of a color (in RGB) for the drawn text.	Int	False	0
Color Green	Green part of a color (in RGB) for the drawn text.	Int	False	0
Color Blue	Blue part of a color (in RGB) for the drawn text.	Int	False	0
Duration	Amount of time in seconds for how long the specified text is drawn during runtime.	Float	False	0
Large Font	Indicated whether the drawn text uses a large font.	Bool	False	False

Get Mouse Position



Gets the mouse position in scene units.

Signal Sockets

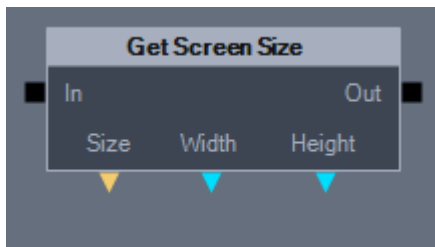
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable Out Sockets		
Name	Description	Type
Position	Outputs the mouse position.	Vector2
Position X	Outputs the x coordinate of the mouse position.	Float
Position Y	Outputs the y coordinate of the mouse position.	Float

Get Screen Size



Gets the size in pixels of the screen (game window).

Signal Sockets

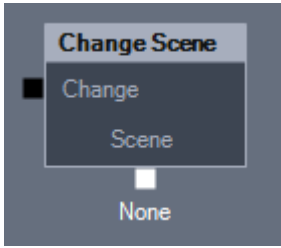
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable Out Sockets		
Name	Description	Type
Size	Outputs the size in pixel of the screen as vector variable.	Vector2
Width	Outputs the width in pixel of the screen.	Int
Height	Outputs the height in pixel of the screen.	Int

Change Scene



Changes scene by the specified scene.

Signal Sockets

In Sockets

Name	Description
------	-------------

Change	Changes scene by the specified scene.
--------	---------------------------------------

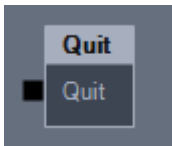
Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
------	-------------	------	-------	---------------

Scene	Scene to change to.	Scene	False	None
-------	---------------------	-------	-------	------

Quit



Quits the game application.

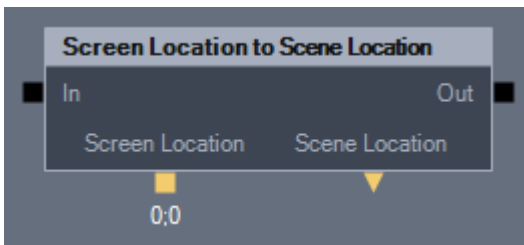
Signal Sockets

In Sockets

Name	Description
------	-------------

Quit	Quits the game.
------	-----------------

Screen Location to Scene Location



Converts the location in the screen units (pixels) to the scene units (meters) and returns the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

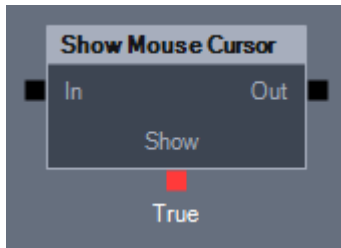
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Screen Location	Location in the screen units (pixel) to convert.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Scene Location	Outputs the converted location in the scene units (meters).	Vector2

Show Mouse Cursor



Shows or hides the mouse cursor.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Show	Indicates whether the mouse cursor will be shown.	Bool	False	True

Toggle



Toggles the specified values.

Signal Sockets

In Sockets

Name	Description
Turn On	Sets the specified bool variables to true.
Turn Off	Sets the specified bool variables to false.
Toggle	Toggles the specified bool variables.

Out Sockets

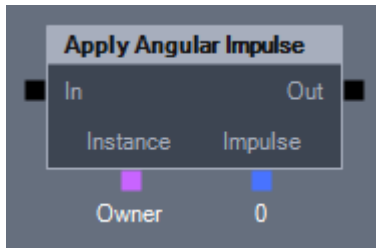
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Bool	Bool variables to toggle.	Bool	True	False

Apply Angular Impulse



Applies an angular impulse to the dynamic body of the specified actors.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

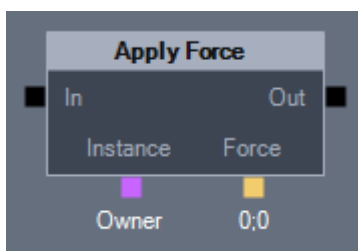
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Instance	Actors to apply an angular impulse to.	Actor	True	Owner
Impulse	Angular impulse in units of $\text{kg} \cdot \text{m}^2 / \text{s}$ to apply to the specified actors.	Float	False	0
Multiply By Inertia	Indicates whether angular impulse is multiplied by the actor inertia before applying to the specified actors.	Bool	False	True

Apply Force



Applies a force to the dynamic body of the specified actors.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

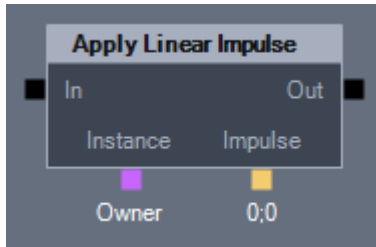
Out Sockets

Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to apply a force to.	Actor	True	Owner
Force	Force in units of Newtons (N) to apply to the specified actors.	Vector2	False	0;0
Multiply By Mass	Indicates whether force is multiplied by the actor mass before applying to the specified actors.	Bool	False	True

Apply Linear Impulse



Applies a linear impulse to the dynamic body of the specified actors.

Signal Sockets

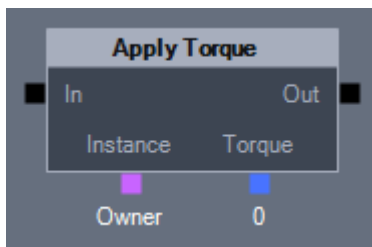
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to apply a linear impulse to.	Actor	True	Owner
Impulse	Linear impulse usually in N-seconds or kg-m/s to apply to the specified actors.	Vector2	False	0;0
Multiply By Mass	Indicates whether linear impulse is multiplied by the actor mass before applying to the specified actors.	Bool	False	True

Apply Torque



Applies a torque to the dynamic body of the specified actors.

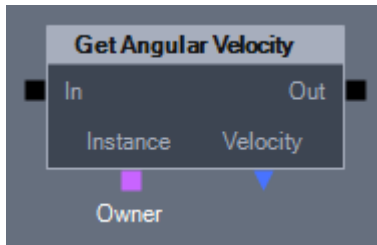
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to apply a torque to.	Actor	True	Owner
Torque	Torque in units of N-m to apply to the specified actors.	Float	False	0
Multiply By Inertia	Indicates whether torque is multiplied by the actor inertia before applying to the specified actors.	Bool	False	True

Get Angular Velocity



Gets the angular velocity of the body of the specified actor.

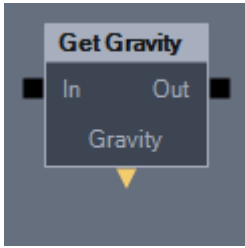
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actor to get the angular velocity from.	Actor	False	Owner
Variable Out Sockets				
Name	Description	Type		
Velocity	Outputs the angular velocity in radians/second of the specified actor.	Float		

Get Gravity



Gets the gravity from the physics simulation world.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

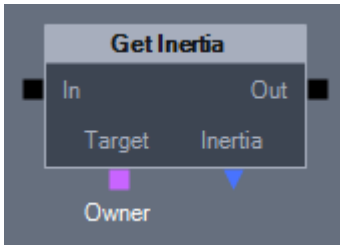
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable Out Sockets

Name	Description	Type
Gravity	Outputs the gravity in units of Newtons (N) from the world.	Vector2

Get Inertia



Gets the rotational inertia of the body of the specified actor.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

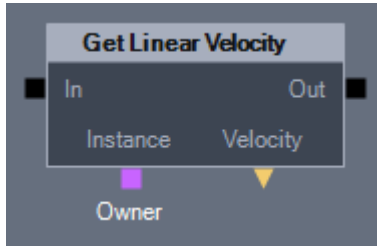
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actor to get the inertia from.	Actor	False	Owner

Variable Out Sockets		Type
Inertia	Outputs the rotational inertia in kg-m*m of the specified actor.	Float

Get Linear Velocity



Gets the linear velocity of the body of the specified actor.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

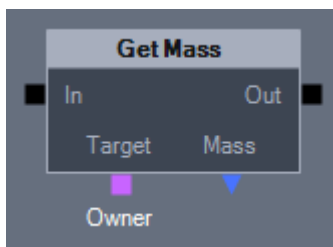
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actor to get the linear velocity from.	Actor	False	Owner

Variable Out Sockets		Type
Velocity	Outputs the linear velocity in Newtons (N) of the specified actor.	Vector2

Get Mass



Gets the mass of the body of the specified actor.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

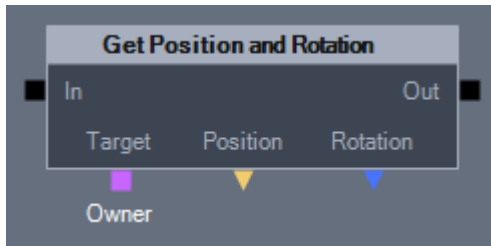
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actor to get the mass from.	Actor	False	Owner

Variable Out Sockets		
Name	Description	Type
Mass	Outputs the mass in kilograms (kg) of the specified actor.	Float

Get Position and Rotation



Gets the position and the rotation of the specified actor.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

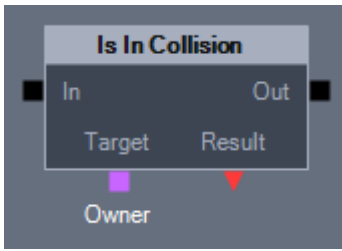
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actor to get the position and the rotation from.	Actor	False	Owner

Variable Out Sockets		
Name	Description	Type
Position	Outputs the positions in meters of the specified actor.	Vector2
Rotation	Outputs the rotation angle in radians of the specified actor.	Float

Is In Collision



Checks if the specified actor is in collision with any other actor.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

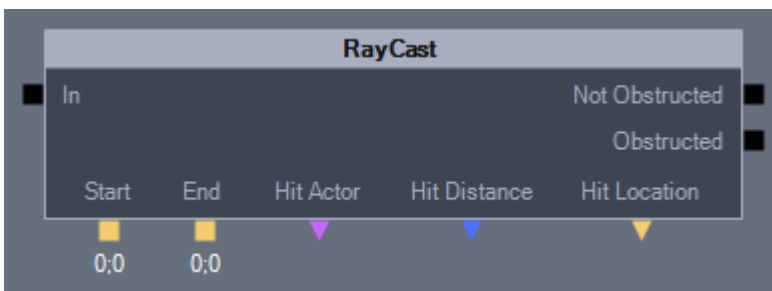
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actor to check if it is in collision.	Actor	False	Owner

Variable Out Sockets		
Name	Description	Type
Result	Indicates whether the specified actor is in collision with any other actor.	Bool

RayCast



Performs a ray-cast from the starting point to the end point, determines if anything was hit along the way, and fires the associated output socket. The first hit actor is returned as well as the distance to the hit object and the location of the hit. The ray-cast ignores the actor that contains the starting point.

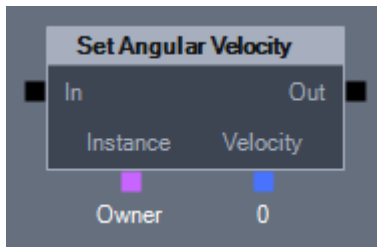
Signal Sockets

In Sockets	
Name	Description
In	Performs a ray-cast from the starting point to the end point.
Out Sockets	
Name	Description
Not Obstructed	Fires if the ray-cast hit nothing.
Obstructed	Fires if the ray-cast hit something.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Start	The starting point for the ray-cast.	Vector2	False	0;0
End	The end point for the ray-cast.	Vector2	False	0;0
Variable Out Sockets				
Name	Description	Type		
Hit Actor	Outputs the actor hit by the ray-cast, if any.	Actor		
Hit Distance	Outputs the distance from the starting point to the Hit Actor.	Float		
Hit Location	Outputs the point of intersection of the hit actor.	Vector2		
Hit Normal	Outputs the unit normal vector of the hit actor.	Vector2		

Set Angular Velocity



Sets the angular velocity to the body of the specified actors.

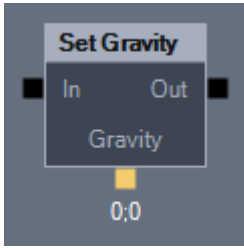
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to set the angular velocity to.	Actor	True	Owner
Velocity	Angular velocity in radians/second to set to the body of the specified actors.	Float	False	0

Set Gravity



Sets the gravity to the physics simulation world.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

Out Sockets

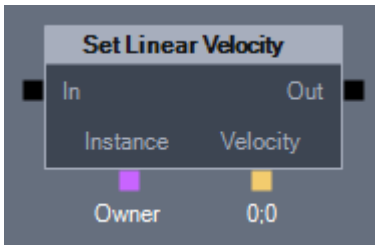
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Gravity	Gravity in units of Newtons (N) to set to the world.	Vector2	False	0;0

Set Linear Velocity



Sets the linear velocity to the body of the specified actors.

Signal Sockets

In Sockets

Name	Description
In	Activates the action.

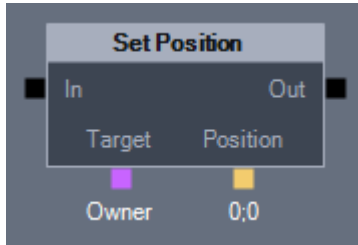
Out Sockets

Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors to set the linear velocity to.	Actor	True	Owner
Velocity	Linear velocity in Newtons (N) to set to the body of the specified actors.	Vector2	False	0;0

Set Position



Sets the position to the specified actors.

Signal Sockets

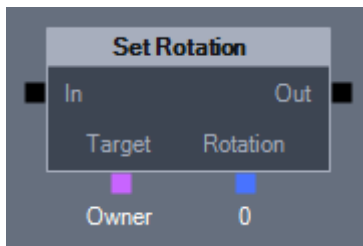
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actors to set the position to.	Actor	True	Owner
Position	Positions in meters to set to the specified actors.	Vector2	False	0;0

Set Rotation



Sets the rotation to the specified actors.

Signal Sockets

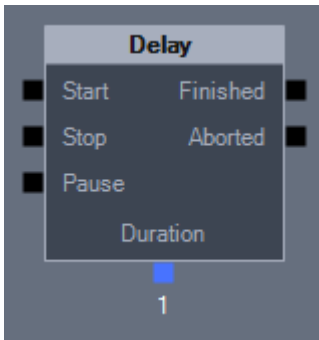
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Target	Actors to set the rotation to.	Actor	True	Owner
Rotation	Rotation angle in radians to to the specified actors.	Float	False	0

Delay



Causes a delay in a sequence with a variable duration. Delays can be paused, restarted and aborted.

Signal Sockets

In Sockets

Name	Description
Start	Starts the timer for the delay.
Stop	Resets the time and aborts the delay.
Pause	Pauses and resumes the timer without aborting the delay.

Out Sockets

Name	Description
Finished	Fires when the timer runs out.
Aborted	Fires when the delay is aborted.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Duration	Duration in seconds how long the action will wait before firing the Finished output signal.	Float	False	1

Get Delta Time



Gets the current delta time (time elapsed from the previous game frame).

Signal Sockets

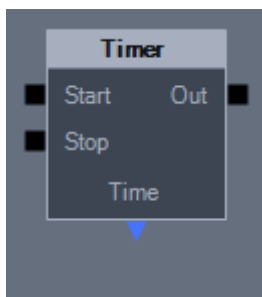
In Sockets	
Name	Description
In	Activates the action.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable Out Sockets		
Name	Description	Type
Delta Time	Outputs the delta time in seconds.	Float

Timer



Counts the amount of time that elapses between starting and stopping.

Signal Sockets

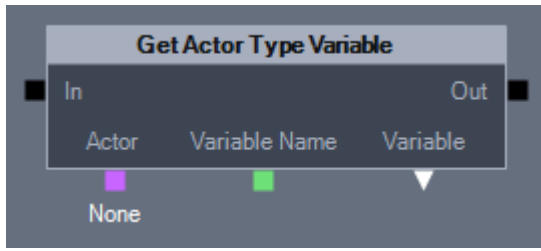
In Sockets	
Name	Description
Start	Begins counting the elapsed time.
Stop	Stops counting the elapsed time.

Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable Out Sockets		
Name	Description	Type
Time	Outputs the amount of time in seconds elapsed.	Float

Get Actor Type Variable



Gets the actor type variable from the specified actor by specified variable name.

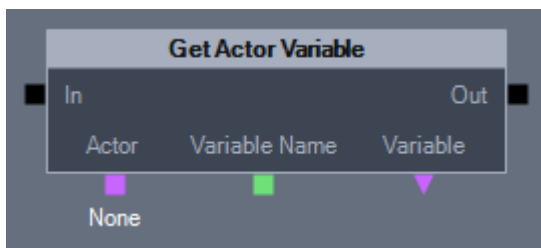
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	
Variable Out Sockets				
Name	Description	Type		
Variable	Outputs the variable specified by the name and actor, if any.	Actor Type		

Get Actor Variable



Gets the actor variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

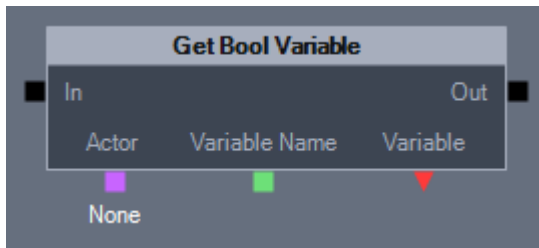
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	Actor

Get Bool Variable



Gets the bool variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

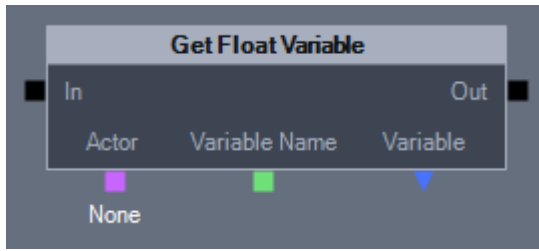
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	Bool

Get Float Variable



Gets the float variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

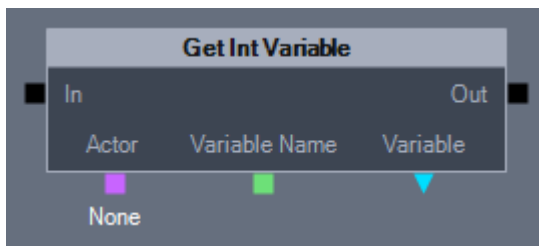
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	Float

Get Int Variable



Gets the int variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

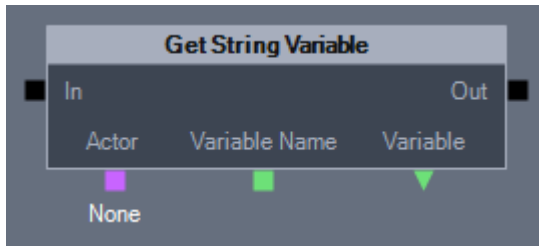
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	Int

Get String Variable



Gets the string variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

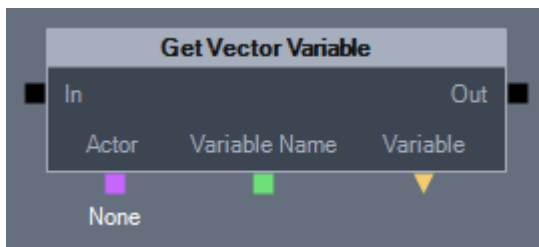
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	String

Get Vector Variable



Gets the vector variable from the specified actor by specified variable name.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

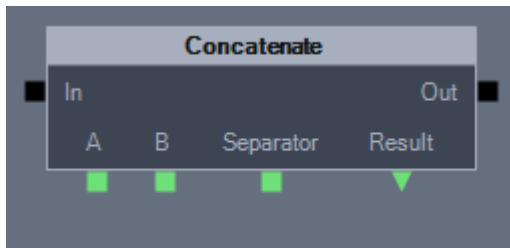
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Actor	Actor to get the variable from.	Actor	False	None
Variable Name	Name of the variable from the specified actor.	String	False	

Variable Out Sockets		
Name	Description	Type
Variable	Outputs the variable specified by the name and actor, if any.	Vector2

Concatenate



Concatenates string variables together and return the result.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

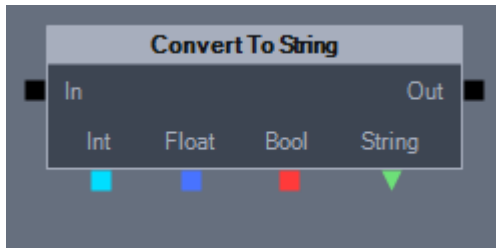
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
A	First string variables to concatenate.	String	True	
B	Second string variables to concatenate.	String	True	
Separator	Separator used for separating one string variable from the next.	String	False	

Variable Out Sockets		
Name	Description	Type
Result	Outputs the result of concatenation.	String

Convert To String



Converts specified variables to the string variable.

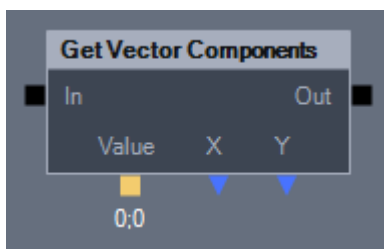
Signal Sockets

In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Int	Int variable to convert to the string variable.	Int	False	0
Float	Float variable to convert to the string variable.	Float	False	0
Bool	Bool variable to convert to the string variable.	Bool	False	False
Variable Out Sockets				
Name	Description	Type		
String	Outputs the converted string variable.	String		

Get Vector Components



Gets the individual X and Y components of the specified vector variable.

Signal Sockets

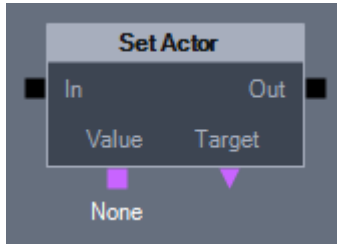
In Sockets	
Name	Description
In	Activates the action.
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Vector value from which to obtain the components.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
X	Outputs the X component of the specified vector.	Float
Y	Outputs the Y component of the specified vector.	Float

Set Actor



Sets the value of a actor variable using the value of another actor variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

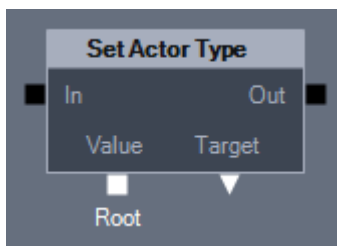
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Actor	False	None

Variable Out Sockets		
Name	Description	Type
Target	Sets the targeted variable to set the value of.	Actor

Set Actor Type



Sets the value of a actor type variable using the value of another actor type variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

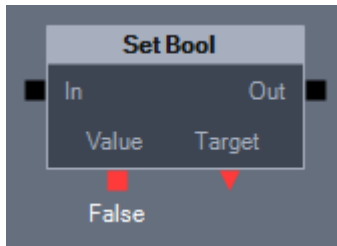
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Actor Type	False	Root

Variable Out Sockets		
Name	Description	Type
Target	Sets the targeted variable to set the value of.	Actor Type

Set Bool



Sets the value of a bool variable using the value of another bool variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

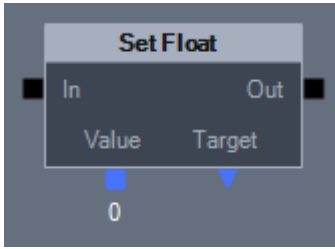
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Bool	False	False

Variable Out Sockets		
Name	Description	Type
Target	Sets the targeted variable to set the value of.	Bool

Set Float



Sets the value of a float variable using the value of another float variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

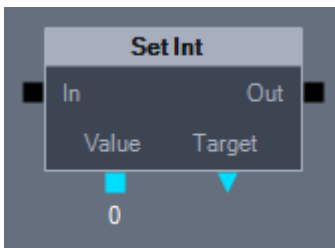
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Float	False	0

Variable Out Sockets		
Name	Description	Type
Target	Sets the targeted variable to set the value of.	Float

Set Int



Sets the value of a int variable using the value of another int variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

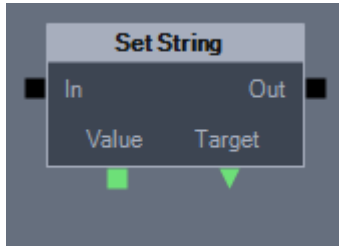
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Int	False	0

Variable Out Sockets		Type
Target	Sets the targeted variable to set the value of.	Int

Set String



Sets the value of a string variable using the value of another string variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

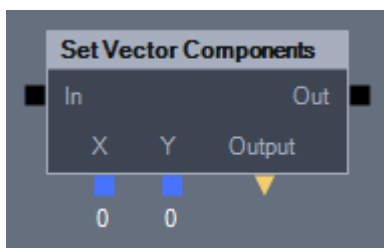
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	String	False	

Variable Out Sockets		Type
Target	Sets the targeted variable to set the value of.	String

Set Vector Components



Sets the value of a vector variable from two variables, X and Y.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

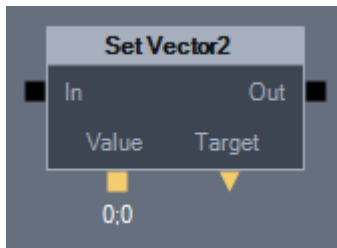
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
X	Value for the X component of the vector.	Float	False	0
Y	Value for the Y component of the vector.	Float	False	0

Variable Out Sockets		
Name	Description	Type
Output	Outputs the resulting vector from the combined components.	Vector2

Set Vector2



Sets the value of a vector variable using the value of another vector variable.

Signal Sockets

In Sockets	
Name	Description
In	Activates the action.

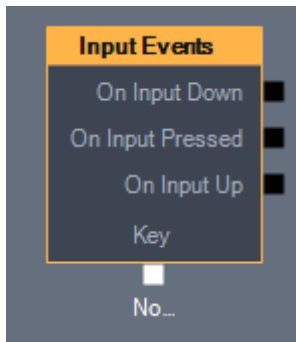
Out Sockets	
Name	Description
Out	Fires when the action is completed.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Value	Sets the value to set the targeted variable to.	Vector2	False	0;0

Variable Out Sockets		
Name	Description	Type
Target	Sets the targeted variable to set the value of.	Vector2

Input Events



Fires when the specified key is down/pressed/up.

Signal Sockets

Out Sockets

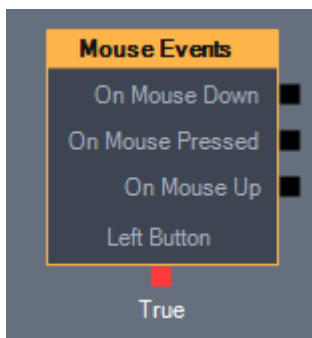
Name	Description
On Input Down	Fires when the specified key is down.
On Input Pressed	Fires when the specified key is pressed.
On Input Up	Fires when the specified key is up.

Variable Sockets

Variable In Sockets

Name	Description	Type	Array	Default Value
Key	Key to check.	Key	False	None

Mouse Events



Fires when the specified mouse button is down/pressed/up.

Signal Sockets

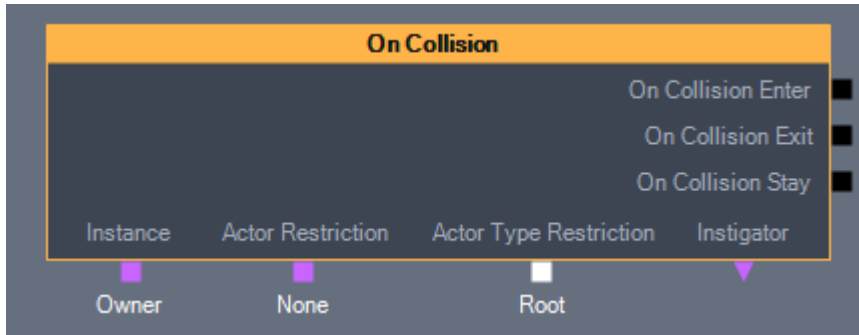
Out Sockets

Name	Description
On Mouse Down	Fires when the specified mouse button is down.
On Mouse Pressed	Fires when the specified mouse button is pressed.
On Mouse Up	Fires when the specified mouse button is up.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Left Button	Indicates whether left or right mouse button is checked.	Bool	False	True

On Collision



Fires when the specified actor is in collision/stays in collision/exits collision with the actor that goes through the specified restriction. Instigator must be one of the Actor Restriction property or must have actor type one of the Actor Type Restriction property.

Signal Sockets

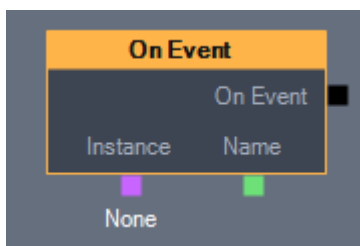
Out Sockets	
Name	Description
On Collision Enter	Fires when a collision occurs with the specified actor.
On Collision Exit	Fires when all actors exit the collisions with the specified actor.
On Collision Stay	Fires repeatedly while the specified actor is in collision.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actor to check collisions with.	Actor	False	Owner
Actor Restriction	Restrictions for the actors.	Actor	True	None
Actor Type Restriction	Restrictions for the actor types.	Actor Type	True	Root

Variable Out Sockets		
Name	Description	Type
Instigator	Outputs the actor which is/was in collision with the specified actor.	Actor

On Event



Fires when any of the specified event is invoked.

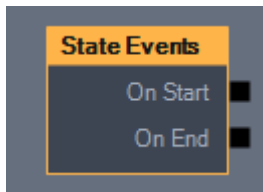
Signal Sockets

Out Sockets	
Name	Description
On Event	Fires when any of the specified event is invoked.

Variable Sockets

Variable In Sockets				
Name	Description	Type	Array	Default Value
Instance	Actors where to find events by the specified names.	Actor	True	None
Name	Names of the events in the specified actors.	String	True	

State Events

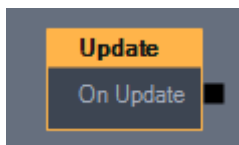


Fires when the state is starting or ending.

Signal Sockets

Out Sockets	
Name	Description
On Start	Fires when the state is starting.
On End	Fires when the state is ending.

Update



Fires when the state is updating (fires every game update cycle).

Signal Sockets

Out Sockets	
Name	Description
On Update	Fires when the state is updating (fires every game update cycle).