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# Node(bpy\_struct)

base class — [bpy\\_struct](#)

subclasses — [NodeCustomGroup](#), [NodeInternal](#)

**class** bpy.types.Node(bpy\_struct)

Node in a node tree

**bl\_description**

**TYPE:**

string, default “”, (never None)

**bl\_height\_default**

**TYPE:**

float in [0, inf], default 0.0

**bl\_height\_max**

**TYPE:**

float in [0, inf], default 0.0

**bl\_height\_min**

**TYPE:**

float in [0, inf], default 0.0

**bl\_icon**

The node icon

**TYPE:**

enum in [Icon Items](#), default ‘NODE’

**bl\_idname**

**TYPE:**

string, default “”, (never None)

**bl\_label**

The node label

**TYPE:**

string, default “”, (never None)

**bl\_static\_type**

Legacy unique node type identifier, redundant with bl\_idname property

**TYPE:**

string, default “”, (readonly, never None)

**bl\_width\_default**

**TYPE:**

float in [0, inf], default 0.0

**bl\_width\_max**

**TYPE:**

float in [0, inf], default 0.0

## **bl\_width\_min**

### **TYPE:**

float in [0, inf], default 0.0

## **color**

Custom color of the node body

### **TYPE:**

`mathutils.Color` of 3 items in [0, 1], default (0.0, 0.0, 0.0)

## **color\_tag**

Node header color tag

- NONE None – Default color tag for new nodes and node groups.
- ATTRIBUTE Attribute.
- COLOR Color.
- CONVERTER Converter.
- DISTORT Distort.
- FILTER Filter.
- GEOMETRY Geometry.
- INPUT Input.
- MATTE Matte.
- OUTPUT Output.
- SCRIPT Script.
- SHADER Shader.
- TEXTURE Texture.
- VECTOR Vector.
- PATTERN Pattern.
- INTERFACE Interface.
- GROUP Group.

### **TYPE:**

enum in ['NONE', 'ATTRIBUTE', 'COLOR', 'CONVERTER', 'DISTORT', 'FILTER', 'GEOMETRY', 'INPUT', 'MATTE', 'OUTPUT', 'SCRIPT', 'SHADER', 'TEXTURE', 'VECTOR', 'PATTERN', 'INTERFACE', 'GROUP'], default 'NONE', (readonly)

## **dimensions**

Absolute bounding box dimensions of the node

### **TYPE:**

`mathutils.Vector` of 2 items in [-inf, inf], default (0.0, 0.0), (readonly)

## **height**

Height of the node

### **TYPE:**

float in [-inf, inf], default 0.0

## **hide**

### **TYPE:**

boolean, default False

## **inputs**

### **TYPE:**

`NodeInputs bpy_prop_collection` of `NodeSocket`, (readonly)

### **internal\_links**

Internal input-to-output connections for muting

#### **TYPE:**

`bpy_prop_collection` of `NodeLink`, (readonly)

### **label**

Optional custom node label

#### **TYPE:**

string, default "", (never None)

### **location**

Location of the node within its parent frame

#### **TYPE:**

`mathutils.Vector` of 2 items in [-1e+06, 1e+06], default (0.0, 0.0)

### **location\_absolute**

Location of the node in the entire canvas

#### **TYPE:**

`mathutils.Vector` of 2 items in [-1e+06, 1e+06], default (0.0, 0.0)

### **mute**

#### **TYPE:**

boolean, default False

### **name**

Unique node identifier

#### **TYPE:**

string, default "", (never None)

### **outputs**

#### **TYPE:**

`NodeOutputs bpy_prop_collection` of `NodeSocket`, (readonly)

### **parent**

Parent this node is attached to

#### **TYPE:**

`Node`

### **select**

Node selection state

#### **TYPE:**

boolean, default False

### **show\_options**

#### **TYPE:**

boolean, default False

### **show\_preview**

**TYPE:**

boolean, default False

**show\_texture**

Display node in viewport textured shading mode

**TYPE:**

boolean, default False

**type**

Legacy unique node type identifier, redundant with bl\_idname property

**TYPE:**

string, default ‘’, (readonly, never None)

**use\_custom\_color**

Use custom color for the node

**TYPE:**

boolean, default False

**warning\_propagation**

The kinds of messages that should be propagated from this node to the parent group node

**TYPE:**

enum in [‘ALL’, ‘NONE’, ‘ERRORS’, ‘ERRORS\_AND\_WARNINGS’], default ‘ALL’

**width**

Width of the node

**TYPE:**

float in [-inf, inf], default 0.0

**socket\_value\_update(context)**

Update after property changes

**classmethod is\_registered\_node\_type()**

True if a registered node type

**RETURNS:**

Result

**RETURN TYPE:**

boolean

**classmethod poll(node\_tree)**

If non-null output is returned, the node type can be added to the tree

**PARAMETERS:**

**node\_tree** ([NodeTree](#)) – Node Tree

**RETURN TYPE:**

boolean

**poll\_instance(node\_tree)**

If non-null output is returned, the node can be added to the tree

**PARAMETERS:**

**node\_tree** ( `NodeTree` ) – Node Tree

**RETURN TYPE:**

boolean

**update()**

Update on node graph topology changes (adding or removing nodes and links)

**insert\_link(link)**

Handle creation of a link to or from the node

**PARAMETERS:**

**link** ( `NodeLink` , (never None)) – Link, Node link that will be inserted

**init(context)**

Initialize a new instance of this node

**copy(node)**

Initialize a new instance of this node from an existing node

**PARAMETERS:**

**node** ( `Node` , (never None)) – Node, Existing node to copy

**free()**

Clean up node on removal

**draw\_buttons(context, layout)**

Draw node buttons

**PARAMETERS:**

**layout** ( `UILayout` , (never None)) – Layout, Layout in the UI

**draw\_buttons\_ext(context, layout)**

Draw node buttons in the sidebar

**PARAMETERS:**

**layout** ( `UILayout` , (never None)) – Layout, Layout in the UI

**draw\_label()**

Returns a dynamic label string

**RETURNS:**

Label

**RETURN TYPE:**

string, (never None)

**debug\_zone\_body\_lazy\_function\_graph()**

Get the internal lazy-function graph for the body of this zone

**RETURNS:**

Dot Graph, Graph in dot format

**RETURN TYPE:**

string

**debug\_zone\_lazy\_function\_graph()**

Get the internal lazy-function graph for this zone

**RETURNS:**

Dot Graph, Graph in dot format

**RETURN TYPE:**

string

**classmethod** `bl_rna_get_subclass(id, default=None)`

**PARAMETERS:**

**id** (*str*) – The RNA type identifier.

**RETURNS:**

The RNA type or default when not found.

**RETURN TYPE:**

`bpy.types.Struct` subclass

**classmethod** `bl_rna_get_subclass_py(id, default=None)`

**PARAMETERS:**

**id** (*str*) – The RNA type identifier.

**RETURNS:**

The class or default when not found.

**RETURN TYPE:**

`type`

## Inherited Properties

- `bpy_struct.id_data`

## Inherited Functions

- |   |  |
|---|--|
| • <code>bpy_struct.as_pointer</code>                      | • <code>bpy_struct.items</code>                            |
| • <code>bpy_struct.driver_add</code>                      | • <code>bpy_struct.keyframe_delete</code>                  |
| • <code>bpy_struct.driver_remove</code>                   | • <code>bpy_struct.keyframe_insert</code>                  |
| • <code>bpy_struct.get</code>                             | • <code>bpy_struct.keys</code>                             |
| • <code>bpy_struct.id_properties_clear</code>             | • <code>bpy_struct.path_from_id</code>                     |
| • <code>bpy_struct.id_properties_ensure</code>            | • <code>bpy_struct.path_resolve</code>                     |
| • <code>bpy_struct.id_properties_ui</code>                | • <code>bpy_struct.pop</code>                              |
| • <code>bpy_struct.is_property_hidden</code>              | • <code>bpy_struct.property_overridable_library_set</code> |
| • <code>bpy_struct.is_property_overridable_library</code> | • <code>bpy_struct.property_unset</code>                   |
| • <code>bpy_struct.is_property_readonly</code>            | • <code>bpy_struct.type_recast</code>                      |
| • <code>bpy_struct.is_property_set</code>                 | • <code>bpy_struct.values</code>                           |

## References

- |  |   |
|--|---|
| • <code>bpy.context.active_node</code>                               | • <code>NodeTreeInterfaceSocketImage.i</code> |
| • <code>bpy.context.selected_nodes</code>                            | • <code>NodeTreeInterfaceSocketInt.fro</code> |
| • <code>bpy.context.texture_node</code>                              | • <code>NodeTreeInterfaceSocketInt.ini</code> |
| • <code>GeometryNodeForeachGeometryElementInput.paired_output</code> | • <code>NodeTreeInterfaceSocketIntFact</code> |
| • <code>GeometryNodeMenuSwitch.enum_definition</code>                | • <code>NodeTreeInterfaceSocketIntFact</code> |

- `GeometryNodeRepeatInput.paired_output`
- `GeometryNodeSimulationInput.paired_output`
- `Node.copy`
- `Node.parent`
- `NodeLink.from_node`
- `NodeLink.to_node`
- `NodeSocket.draw`
- `NodeSocket.draw_color`
- `NodeSocket.node`
- `NodeSocketStandard.draw`
- `NodeSocketStandard.draw_color`
- `NodeTree.nodes`
- `NodeTreeInterfaceSocket.from_socket`
- `NodeTreeInterfaceSocket.init_socket`
- `NodeTreeInterfaceSocketBool.from_socket`
- `NodeTreeInterfaceSocketBool.init_socket`
- `NodeTreeInterfaceSocketCollection.from_socket`
- `NodeTreeInterfaceSocketCollection.init_socket`
- `NodeTreeInterfaceSocketColor.from_socket`
- `NodeTreeInterfaceSocketColor.init_socket`
- `NodeTreeInterfaceSocketFloat.from_socket`
- `NodeTreeInterfaceSocketFloat.init_socket`
- `NodeTreeInterfaceSocketFloatAngle.from_socket`
- `NodeTreeInterfaceSocketFloatAngle.init_socket`
- `NodeTreeInterfaceSocketFloatColorTemperature.from_socket`
- `NodeTreeInterfaceSocketFloatColorTemperature.init_socket`
- `NodeTreeInterfaceSocketFloatDistance.from_socket`
- `NodeTreeInterfaceSocketFloatDistance.init_socket`
- `NodeTreeInterfaceSocketFloatFactor.from_socket`
- `NodeTreeInterfaceSocketFloatFactor.init_socket`
- `NodeTreeInterfaceSocketFloatFrequency.from_socket`
- `NodeTreeInterfaceSocketFloatFrequency.init_socket`
- `NodeTreeInterfaceSocketFloatPercentage.from_socket`
- `NodeTreeInterfaceSocketFloatPercentage.init_socket`
- `NodeTreeInterfaceSocketFloatTime.from_socket`
- `NodeTreeInterfaceSocketFloatTime.init_socket`
- `NodeTreeInterfaceSocketFloatTimeAbsolute.from_socket`
- `NodeTreeInterfaceSocketFloatTimeAbsolute.init_socket`
- `NodeTreeInterfaceSocketFloatUnsigned.from_socket`
- `NodeTreeInterfaceSocketFloatUnsigned.init_socket`
- `NodeTreeInterfaceSocketFloatWavelength.from_socket`
- `NodeTreeInterfaceSocketFloatWavelength.init_socket`
- `NodeTreeInterfaceSocketGeometry.from_socket`
- `NodeTreeInterfaceSocketGeometry.init_socket`
- `NodeTreeInterfaceSocketImage.from_socket`
- `NodeTreeInterfaceSocketIntPerc`
- `NodeTreeInterfaceSocketIntPerc`
- `NodeTreeInterfaceSocketIntUnsi`
- `NodeTreeInterfaceSocketIntUnsi`
- `NodeTreeInterfaceSocketMateria`
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- `NodeTreeInterfaceSocketMenu.fr`
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- `NodeTreeInterfaceSocketObject.`
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- `NodeTreeInterfaceSocketString.`
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- `NodeTreeInterfaceSocketStringF`
- `NodeTreeInterfaceSocketStringF`
- `NodeTreeInterfaceSocketTexture`
- `NodeTreeInterfaceSocketTexture`
- `NodeTreeInterfaceSocketVector.`
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- `NodeTreeInterfaceSocketVectorD`
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- `NodeTreeInterfaceSocketVectorT`
- `NodeTreeInterfaceSocketVectorV`
- `NodeTreeInterfaceSocketVectorV`
- `NodeTreeInterfaceSocketVectorX`
- `NodeTreeInterfaceSocketVectorX`
- `Nodes.active`
- `Nodes.new`
- `Nodes.remove`
- `NodesModifierBake.node`
- `RenderEngine.update_script_nod`
- `SpaceNodeEditorPath.append`
- `UILayout.template_node_inputs`
- `UILayout.template_node_link`
- `UILayout.template_node_view`

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