ToolSettings(bpy_struct)

base class — bpy_struct

class bpy.types.**ToolSettings(bpy_struct)**

annotation_stroke_placement_view2d

- IMAGE Image – Stick stroke to the image.
- VIEW View – Stick stroke to the view.

TYPE:
enum in [‘IMAGE’, ‘VIEW’], default ‘VIEW’

annotation_stroke_placement_view3d

How annotation strokes are orientated in 3D space

- CURSOR 3D Cursor – Draw stroke at 3D cursor location.
- VIEW View – Stick stroke to the view.
- SURFACE Surface – Stick stroke to surfaces.

TYPE:
enum in [‘CURSOR’, ‘VIEW’, ‘SURFACE’], default ‘CURSOR’

annotation_thickness

Thickness of annotation strokes

TYPE:
int in [1, 10], default 3

auto_keying_mode

Mode of automatic keyframe insertion for objects, bones and masks

TYPE:
enum in [‘ADD_REPLACE_KEYS’, ‘REPLACE_KEYS’], default ‘ADD_REPLACE_KEYS’

curve_paint_settings

TYPE:
CurvePaintSettings, (readonly, never None)

curves_sculpt

TYPE:
CurvesSculpt, (readonly)

custom_bevel_profile_preset

Used for defining a profile’s path

TYPE:
CurveProfile, (readonly)

double_threshold

Threshold distance for Auto Merge

TYPE:
float in [0, 1], default 0.001

gpencil_interpolate

Settings for Grease Pencil interpolation tools

TYPE:

GPencilInterpolateSettings, (readonly)

gpencil_paint

TYPE:

GpPaint, (readonly)

gpencil_sculpt

Settings for stroke sculpting tools and brushes

TYPE:

GPencilSculptSettings, (readonly)

gpencil_sculpt_paint

TYPE:

GpSculptPaint, (readonly)

gpencil_selectmode_edit

TYPE:

enum in Grease Pencil Selectmode Items, default 'POINT'

gpencil_stroke_placement_view3d

- ORIGIN Origin – Draw stroke at Object origin.
- CURSOR 3D Cursor – Draw stroke at 3D cursor location.
- SURFACE Surface – Stick stroke to surfaces.
- STROKE Stroke – Stick stroke to other strokes.

TYPE:

enum in ['ORIGIN', 'CURSOR', 'SURFACE', 'STROKE'], default 'ORIGIN'

gpencil_stroke_snap_mode

- NONE All Points – Snap to all points.
- ENDS End Points – Snap to first and last points and interpolate.
- FIRST First Point – Snap to first point.

TYPE:

enum in ['NONE', 'ENDS', 'FIRST'], default 'NONE'

gpencil_surface_offset

Offset along the normal when drawing on surfaces

TYPE:

float in [0, 1], default 0.15

gpencil_vertex_paint

TYPE:

GpVertexPaint, (readonly)

gpencil_weight_paint

TYPE:

GpWeightPaint, (readonly)

image_paint

TYPE:

ImagePaint, (readonly)

keyframe_type

Type of keyframes to create when inserting keyframes

TYPE:

enum in Beztriple Keyframe Type Items, default 'KEYFRAME'

lock_markers

Prevent marker editing

TYPE:

boolean, default False

lock_object_mode

Restrict selection to objects using the same mode as the active object, to prevent accidental mode switch when selecting

TYPE:

boolean, default True

mesh_select_mode

Which mesh elements selection works on

TYPE:

boolean array of 3 items, default (False, False, False)

normal_vector

Normal vector used to copy, add or multiply

TYPE:

mathutils.Vector of 3 items in [-inf, inf], default (0.0, 0.0, 0.0)

paint_mode

TYPE:

PaintModeSettings, (readonly)

particle_edit

TYPE:

ParticleEdit, (readonly)

plane_axis

The axis used for placing the base region

TYPE:

enum in Axis Xyz Items, default 'Z'

plane_axis_auto

Select the closest axis when placing objects (surface overrides)

TYPE:

boolean, default True

plane_depth

The initial depth used when placing the cursor

- SURFACE Surface – Start placing on the surface, using the 3D cursor position as a fallback.

- `CURSOR_PLANE` Cursor Plane – Start placement using a point projected onto the orientation axis at the 3D cursor position.
- `CURSOR_VIEW` Cursor View – Start placement using a point projected onto the view plane at the 3D cursor position.

TYPE:

enum in ['SURFACE', 'CURSOR_PLANE', 'CURSOR_VIEW'], default 'SURFACE'

plane_orientation

The initial depth used when placing the cursor

- `SURFACE` Surface – Use the surface normal (using the transform orientation as a fallback).
- `DEFAULT` Default – Use the current transform orientation.

TYPE:

enum in ['SURFACE', 'DEFAULT'], default 'SURFACE'

proportional_distance

Display size for proportional editing circle

TYPE:

float in [1e-05, 5000], default 1.0

proportional_edit_falloff

Falloff type for proportional editing mode

TYPE:

enum in Proportional Falloff Items, default 'SMOOTH'

proportional_size

Display size for proportional editing circle

TYPE:

float in [1e-05, 5000], default 1.0

sculpt

TYPE:

`Sculpt`, (readonly)

sequencer_tool_settings

TYPE:

`SequencerToolSettings`, (readonly, never None)

show_uv_local_view

Display only faces with the currently displayed image assigned

TYPE:

boolean, default False

snap_angle_increment_2d

Angle used for rotation increments in 2D editors

TYPE:

float in [0, 3.14159], default 0.0872665

snap_angle_increment_2d_precision

Precision angle used for rotation increments in 2D editors

TYPE:

float in [0, 3.14159], default 0.0174533

snap_angle_increment_3d

Angle used for rotation increments in 3D editors

TYPE:

float in [0, 3.14159], default 0.0872665

snap_angle_increment_3d_precision

Precision angle used for rotation increments in 3D editors

TYPE:

float in [0, 3.14159], default 0.0174533

snap_anim_element

Type of element to snap to

TYPE:

enum in Snap Animation Element Items, default 'FRAME'

snap_elements

Type of element to snap to

TYPE:

enum set in Snap Element Items, default {'INCREMENT'}

snap_elements_base

Type of element for the "Snap Base" to snap to

- `INCREMENT` Increment – Snap to increments.
- `GRID` Grid – Snap to grid.
- `VERTEX` Vertex – Snap to vertices.
- `EDGE` Edge – Snap to edges.
- `FACE` Face – Snap by projecting onto faces.
- `VOLUME` Volume – Snap to volume.
- `EDGE_MIDPOINT` Edge Center – Snap to the middle of edges.
- `EDGE_PERPENDICULAR` Edge Perpendicular – Snap to the nearest point on an edge.

TYPE:

enum set in {'INCREMENT', 'GRID', 'VERTEX', 'EDGE', 'FACE', 'VOLUME', 'EDGE_MIDPOINT', 'EDGE_PERPENDICULAR'}, default {'INCREMENT'}

snap_elements_individual

Type of element for individual transformed elements to snap to

- `FACE_PROJECT` Face Project – Snap by projecting onto faces.
- `FACE_NEAREST` Face Nearest – Snap to nearest point on faces.

TYPE:

enum set in {'FACE_PROJECT', 'FACE_NEAREST'}, default {'FACE_PROJECT'}

snap_elements_tool

The target to use while snapping

- `GEOMETRY` Geometry – Snap to all geometry.
- `DEFAULT` Default – Use the current snap settings.

TYPE:

TYPE:

enum in [‘GEOMETRY’, ‘DEFAULT’], default ‘GEOMETRY’

snap_face_nearest_steps

Number of steps to break transformation into for face nearest snapping

TYPE:

int in [1, 100], default 1

snap_target

Which part to snap onto the target

TYPE:

enum in Snap Source Items, default ‘CLOSEST’

snap_uv_element

Type of element to snap to

- `INCREMENT` Increment – Snap to increments of grid.
- `GRID` Grid – Snap to grid.
- `VERTEX` Vertex – Snap to vertices.

TYPE:

enum set in {‘INCREMENT’, ‘GRID’, ‘VERTEX’}, default {‘INCREMENT’}

statvis

TYPE:

`MeshStatVis`, (readonly, never None)

transform_pivot_point

Pivot center for rotation/scaling

- `BOUNDING_BOX_CENTER` Bounding Box Center – Pivot around bounding box center of selected object(s).
- `CURSOR` 3D Cursor – Pivot around the 3D cursor.
- `INDIVIDUAL_ORIGINS` Individual Origins – Pivot around each object’s own origin.
- `MEDIAN_POINT` Median Point – Pivot around the median point of selected objects.
- `ACTIVE_ELEMENT` Active Element – Pivot around active object.

TYPE:

enum in [‘BOUNDING_BOX_CENTER’, ‘CURSOR’, ‘INDIVIDUAL_ORIGINS’, ‘MEDIAN_POINT’, ‘ACTIVE_ELEMENT’], default ‘MEDIAN_POINT’

unified_paint_settings

TYPE:

`UnifiedPaintSettings`, (readonly, never None)

use_annotation_project_only_selected

Project the strokes only onto selected objects

TYPE:

boolean, default False

use_annotation_stroke_endpoints

Only use the first and last parts of the stroke for snapping

TYPE:

boolean, default False

use_auto_normalize

Ensure all bone-deforming vertex groups add up to 1.0 while weight painting

TYPE:

boolean, default False

use_edge_path_live_unwrap

Changing edge seams recalculates UV unwrap

TYPE:

boolean, default False

use_gpencil_automerge_strokes

Join the last drawn stroke with previous strokes in the active layer by distance

TYPE:

boolean, default False

use_gpencil_draw_additive

When creating new frames, the strokes from the previous/active frame are included as the basis for the new one

TYPE:

boolean, default False

use_gpencil_draw_onback

New strokes are drawn below of all strokes in the layer

TYPE:

boolean, default False

use_gpencil_project_only_selected

Project the strokes only onto selected objects

TYPE:

boolean, default False

use_gpencil_select_mask_point

Only sculpt selected stroke points

TYPE:

boolean, default False

use_gpencil_select_mask_segment

Only sculpt selected stroke points between other strokes

TYPE:

boolean, default False

use_gpencil_select_mask_stroke

Only sculpt selected strokes

TYPE:

boolean, default False

use_gpencil_thumbnail_list

Show compact list of colors instead of thumbnails

TYPE:

boolean, default True

use_gpencil_vertex_select_mask_point

Only paint selected stroke points

TYPE:

boolean, default False

use_gpencil_vertex_select_mask_segment

Only paint selected stroke points between other strokes

TYPE:

boolean, default False

use_gpencil_vertex_select_mask_stroke

Only paint selected strokes

TYPE:

boolean, default False

use_gpencil_weight_data_add

Weight data for new strokes is added according to the current vertex group and weight. If no vertex group selected, weight is not added.

TYPE:

boolean, default False

use_grease_pencil_multi_frame_editing

Enable multi-frame editing

TYPE:

boolean, default False

use_keyframe_cycle_aware

For channels with cyclic extrapolation, keyframe insertion is automatically remapped inside the cycle time range, and keeps ends in sync. Curv newly added to actions with a Manual Frame Range and Cyclic Animation are automatically made cyclic.

TYPE:

boolean, default False

use_keyframe_insert_auto

Automatic keyframe insertion for objects, bones and masks

TYPE:

boolean, default True

use_keyframe_insert_keyingset

Automatic keyframe insertion using active Keying Set only

TYPE:

boolean, default False

use_lock_relative

Display bone-deforming groups as if all locked deform groups were deleted, and the remaining ones were re-normalized

TYPE:

boolean, default False

use_mesh_automerge

Automatically merge vertices moved to the same location

TYPE:

boolean, default False

use_mesh_automerge_and_split

Automatically split edges and faces

TYPE:

boolean, default False

use_multipaint

Paint across the weights of all selected bones, maintaining their relative influence

TYPE:

boolean, default False

use_proportional_action

Proportional editing in action editor

TYPE:

boolean, default False

use_proportional_connected

Proportional Editing using connected geometry only

TYPE:

boolean, default False

use_proportional_edit

Proportional edit mode

TYPE:

boolean, default False

use_proportional_edit_mask

Proportional editing mask mode

TYPE:

boolean, default False

use_proportional_edit_objects

Proportional editing object mode

TYPE:

boolean, default False

use_proportional_fcurve

Proportional editing in F-Curve editor

TYPE:

boolean, default False

use_proportional_projected

Proportional Editing using screen space locations

TYPE:

boolean, default False

use_record_with_nla

Add a new NLA Track + Strip for every loop/pass made over the animation to allow non-destructive tweaking

TYPE:

boolean, default False

use_snap

Snap during transform

TYPE:

boolean, default False

use_snap_align_rotation

Align rotation with the snapping target

TYPE:

boolean, default False

use_snap_anim

Enable snapping when transforming keyframes

TYPE:

boolean, default True

use_snap_backface_culling

Exclude back facing geometry from snapping

TYPE:

boolean, default False

use_snap_edit

Snap onto non-active objects in edit mode (edit mode only)

TYPE:

boolean, default True

use_snap_grid_absolute

Absolute grid alignment while translating (based on the pivot center)

TYPE:

boolean, default False

use_snap_node

Snap Node during transform

TYPE:

boolean, default False

use_snap_nonedit

Snap onto objects not in edit mode (edit mode only)

TYPE:

boolean, default True

use_snap_peel_object

Consider objects as whole when finding volume center

TYPE:

boolean, default False

use_snap_rotate

Rotate is affected by the snapping settings

TYPE:

boolean, default False

use_snap_scale

Scale is affected by snapping settings

TYPE:

boolean, default False

use_snap_selectable

Snap only onto objects that are selectable

TYPE:

boolean, default False

use_snap_self

Snap onto itself only if enabled (edit mode only)

TYPE:

boolean, default True

use_snap_sequencer

Snap strips during transform

TYPE:

boolean, default True

use_snap_time_absolute

Absolute time alignment when transforming keyframes

TYPE:

boolean, default False

use_snap_to_same_target

Snap only to target that source was initially near (“Face Nearest” only)

TYPE:

boolean, default False

use_snap_translate

Move is affected by snapping settings

TYPE:

boolean, default True

use_snap_uv

Snap UV during transform

TYPE:

boolean, default False

use_transform_correct_face_attributes

Correct data such as UVs and color attributes when transforming

TYPE:

boolean, default False

use_transform_correct_keep_connected

During the Face Attributes correction, merge attributes connected to the same vertex

TYPE:

boolean, default False

use_transform_data_origin

Transform object origins, while leaving the shape in place

TYPE:

boolean, default False

use_transform_pivot_point_align

Only transform object locations, without affecting rotation or scaling

TYPE:

boolean, default False

use_transform_skip_children

Transform the parents, leaving the children in place

TYPE:

boolean, default False

use_uv_select_sync

Keep UV and edit mode mesh selection in sync

TYPE:

boolean, default False

uv_sculpt

TYPE:

`UvSculpt`, (readonly)

uv_sculpt_all_islands

Brush operates on all islands

TYPE:

boolean, default False

uv_sculpt_lock_borders

Disable editing of boundary edges

TYPE:

boolean, default False

uv_select_mode

UV selection and display mode

TYPE:

enum in Mesh Select Mode Uv Items, default 'VERTEX'

uv_sticky_select_mode

Method for extending UV vertex selection

- `DISABLED` Disabled – Sticky vertex selection disabled.
- `SHARED_LOCATION` Shared Location – Select UVs that are at the same location and share a mesh vertex.
- `SHARED_VERTEX` Shared Vertex – Select UVs that share a mesh vertex, whether or not they are at the same location.

TYPE:

enum in ['DISABLED', 'SHARED_LOCATION', 'SHARED_VERTEX'], default 'SHARED_LOCATION'

vertex_group_subset

Filter Vertex groups for Display

- `ALL` All – All Vertex Groups.
- `BONE_DEFORM` Deform – Vertex Groups assigned to Deform Bones.
- `OTHER_DEFORM` Other – Vertex Groups assigned to non Deform Bones.

TYPE:

enum in ['ALL', 'BONE_DEFORM', 'OTHER_DEFORM'], default 'ALL'

vertex_group_user

Display unweighted vertices

- `NONE` None.
- `ACTIVE` Active – Show vertices with no weights in the active group.
- `ALL` All – Show vertices with no weights in any group.

TYPE:

enum in ['NONE', 'ACTIVE', 'ALL'], default 'NONE'

vertex_group_weight

Weight to assign in vertex groups

TYPE:

float in [0, 1], default 1.0

vertex_paint

TYPE:

`VertexPaint`, (readonly)

weight_paint

TYPE:

`VertexPaint`, (readonly)

workspace_tool_type

Action when dragging in the viewport

TYPE:

enum in ['DEFAULT', 'FALLBACK'], default 'FALLBACK'

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

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

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

References

- Context.tool_settings • Scene.tool_settings