Action(ID)

base classes — `bpy_struct`, `ID`

class bpy.types.**Action(ID)**

> A collection of F-Curves for animation

> **curve_frame_range**
>
>> The combined frame range of all F-Curves within this action
>>
>> **TYPE:**
>>> `mathutils.Vector` of 2 items in [-inf, inf], default (0.0, 0.0), (readonly)

> **fcurves**
>
>> Legacy API, for backward compatibility with code that does not handle slotted actions yet. This collection contains the F-Curves for the action's first slot
>>
>> **TYPE:**
>>> `ActionFCurves bpy_prop_collection` of `FCurve`, (readonly)

> **frame_end**
>
>> The end frame of the manually set intended playback range
>>
>> **TYPE:**
>>> float in [-1.04857e+06, 1.04857e+06], default 0.0

> **frame_range**
>
>> The intended playback frame range of this action, using the manually set range if available, or the combined frame range of all F-Curves within this action if not (assigning sets the manual frame range)
>>
>> **TYPE:**
>>> `mathutils.Vector` of 2 items in [-inf, inf], default (0.0, 0.0)

> **frame_start**
>
>> The start frame of the manually set intended playback range
>>
>> **TYPE:**
>>> float in [-1.04857e+06, 1.04857e+06], default 0.0

> **groups**
>
>> Legacy API, for backward compatibility with code that does not handle slotted actions yet. This collection contains the F-Curve groups for the action's first slot
>>
>> **TYPE:**
>>> `ActionGroups bpy_prop_collection` of `ActionGroup`, (readonly)

> **id_root**
>
>> Legacy API, for backward compatibility with code that does not handle slotted actions yet. Type of data-block that the action's first slot can used on. Do not change unless you know what you are doing
>>
>> - `ACTION` Action.
>> - `ARMATURE` Armature.
>> - `BRUSH` Brush.
>> - `CACHEFILE` Cache File.
>> - `CAMERA` Camera.

- `COLLECTION` Collection.
- `CURVE` Curve.
- `CURVES` Curves.
- `FONT` Font.
- `GREASEPENCIL` Grease Pencil.
- `GREASEPENCIL_V3` Grease Pencil v3.
- `IMAGE` Image.
- `KEY` Key.
- `LATTICE` Lattice.
- `LIBRARY` Library.
- `LIGHT` Light.
- `LIGHT_PROBE` Light Probe.
- `LINESTYLE` Line Style.
- `MASK` Mask.
- `MATERIAL` Material.
- `MESH` Mesh.
- `META` Metaball.
- `MOVIECLIP` Movie Clip.
- `NODETREE` Node Tree.
- `OBJECT` Object.
- `PAINTCURVE` Paint Curve.
- `PALETTE` Palette.
- `PARTICLE` Particle.
- `POINTCLOUD` Point Cloud.
- `SCENE` Scene.
- `SCREEN` Screen.
- `SOUND` Sound.
- `SPEAKER` Speaker.
- `TEXT` Text.
- `TEXTURE` Texture.
- `VOLUME` Volume.
- `WINDOWMANAGER` Window Manager.
- `WORKSPACE` Workspace.
- `WORLD` World.
- `UNSPECIFIED` Unspecified – Not yet specified. When this slot is first assigned to a data-block, this will be set to the type of that data-block.

TYPE:
enum in ['ACTION', 'ARMATURE', 'BRUSH', 'CACHEFILE', 'CAMERA', 'COLLECTION', 'CURVE', 'CURVES', 'FONT', 'GREASEPENCIL', 'GREASEPENCIL_V3', 'IMAGE', 'KEY', 'LATTICE', 'LIBRARY', 'LIGHT', 'LIGHT_PROBE', 'LINESTYLE', 'MASK', 'MATERIAL', 'MESH', 'META', 'MOVIECLIP', 'NODETREE', 'OBJECT', 'PAINTCURVE', 'PALETTE', 'PARTICLE', 'POINTCLOUD', 'SCENE', 'SCREEN', 'SOUND', 'SPEAKER', 'TEXT', 'TEXTURE', 'VOLUME' 'WINDOWMANAGER', 'WORKSPACE', 'WORLD', 'UNSPECIFIED'], default 'UNSPECIFIED'

is_action_layered

Return whether this is a layered Action. An empty Action considered as both a 'layered' and a 'layered' Action.

TYPE:
boolean, default False, (readonly)

is_action_legacy

Return whether this is a legacy Action. Legacy Actions can only ever be used. An empty Action considered as both a 'legacy' and a 'legacy' legacy

Return whether this is a legacy Action. Legacy Actions have no layers or slots. An empty Action considered as both a "legacy" and a "layered" Action. Since Blender 4.4 actions are automatically updated to layered actions, and thus this will only return True when the action is empty

> **TYPE:**
>
> > boolean, default False, (readonly)

is_empty

> False when there is any Layer, Slot, or legacy F-Curve
>
> **TYPE:**
>
> > boolean, default False, (readonly)

layers

> The list of layers that make up this Action
>
> **TYPE:**
>
> > `ActionLayers bpy_prop_collection` of `ActionLayer`, (readonly)

pose_markers

> Markers specific to this action, for labeling poses
>
> **TYPE:**
>
> > `ActionPoseMarkers bpy_prop_collection` of `TimelineMarker`, (readonly)

slots

> The list of slots in this Action
>
> **TYPE:**
>
> > `ActionSlots bpy_prop_collection` of `ActionSlot`, (readonly)

use_cyclic

> The action is intended to be used as a cycle looping over its manually set playback frame range (enabling this doesn't automatically make it loop)
>
> **TYPE:**
>
> > boolean, default False

use_frame_range

> Manually specify the intended playback frame range for the action (this range is used by some tools, but does not affect animation evaluation)
>
> **TYPE:**
>
> > boolean, default False

deselect_keys()

> Deselects all keys of the Action. The selection status of F-Curves is unchanged.

fcurve_ensure_for_datablock(datablock, data_path, *, index=0)

> Ensure that an F-Curve exists, with the given data path and array index, for the given data-block. This action must already be assigned to the data-block. This function will also create the layer, keyframe strip, and action slot if necessary, and take care of assigning the action slot too
>
> **PARAMETERS:**
>
> > - **datablock** (`ID`, (never None)) – The data-block animated by this action, for which to ensure the F-Curve exists. This action must already be assigned to the data-block
> > - **data_path** (*string, (never None)*) – Data Path, F-Curve data path
> > - **index** (*int in [0, inf], (optional)*) – Index, Array index
>
> **RETURNS:**
>
> > The found or created F-Curve

RETURN TYPE:

      FCurve

flip_with_pose(object)

    Flip the action around the X axis using a pose

    PARAMETERS:

        object (Object , (never None)) – The reference armature object to use when flipping

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
- ID.name
- ID.name_full
- ID.id_type
- ID.session_uid
- ID.is_evaluated
- ID.original
- ID.users
- ID.use_fake_user
- ID.use_extra_user
- ID.is_embedded_data

- ID.is_missing
- ID.is_runtime_data
- ID.is_editable
- ID.tag
- ID.is_library_indirect
- ID.library
- ID.library_weak_reference
- ID.asset_data
- ID.override_library
- ID.preview

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.type_recast
- bpy_struct.values
- ID.rename
- ID.evaluated_get
- ID.copy
- ID.asset_mark
- ID.asset_clear

- [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](#)
- [ID.asset_generate_preview](#)
- [ID.override_create](#)
- [ID.override_hierarchy_create](#)
- [ID.user_clear](#)
- [ID.user_remap](#)
- [ID.make_local](#)
- [ID.user_of_id](#)
- [ID.animation_data_create](#)
- [ID.animation_data_clear](#)
- [ID.update_tag](#)
- [ID.preview_ensure](#)
- [ID.bl_rna_get_subclass](#)
- [ID.bl_rna_get_subclass_py](#)

References

- [bpy.context.active_action](#)
- [bpy.context.selected_editable_actions](#)
- [bpy.context.selected_visible_actions](#)
- [ActionConstraint.action](#)
- [AnimData.action](#)
- [AnimData.action_tweak_storage](#)
- [BlendData.actions](#)
- [BlendDataActions.new](#)
- [BlendDataActions.remove](#)
- GLTF2_filter_action.action
- [NlaStrip.action](#)
- [NlaStrips.new](#)
- [Pose.apply_pose_from_action](#)
- [Pose.backup_create](#)
- [Pose.blend_pose_from_action](#)
- [SpaceDopeSheetEditor.action](#)
- [WindowManager.poselib_previous_action](#)