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# **Klovve**

***Release 0.2***

**unknown**

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Klovve is a UI lib.



## **LICENSE**

Klovve is distributed under the terms of the AGPL 3 license. This also affects all included files without a license header (non-source files like images), unless they are explicitly mentioned as third-party content. Read the ‘Dependencies’ section for included third-party stuff.





## **UP-TO-DATE?**

Are you currently reading from another source than the homepage? If you are in doubt whether your package is up-to-date, you should visit the project homepage and check that. You are currently reading the documentation for version 0.2.



## USER MANUAL

### 3.1 Getting Started

#### 3.1.1 Foo

This section is about getting ready.



## API REFERENCE

### 4.1 klovve package

**class** `klovve.BaseView(model, view_factory)`  
Bases: `Generic[klovve.view._TGo]`

#### Parameters

- **model** (`klovve.view._TGo`) –
- **view\_factory** (`ViewFactory`) –

**get\_native**(*model*, *model\_bind*)

#### Parameters

- **model** (`klovve.view._TGo`) –
- **model\_bind** (`klovve.view._TGo`) –

**Return type** object

**get\_native\_stuff**()

#### 4.1.1 Subpackages

**klovve.+tests namespace**

**Submodules**

**klovve.+tests.data module**

**klovve.+tests.view module**

**klovve.data package**

**Submodules**

**klovve.data.deps module**

Dependency tracking for model properties.

Klovve applications typically do not need anything from here.

**class** `klovve.data.deps.DependencySubject`

Bases: `object`

Base class for objects that can attend on dependency tracking.

See `detect_dependencies()` and others.

`_flush_dependency_handlers(prop)`

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

**Return type** `None`

`_get_dependencies(prop)`

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

**Return type** `Iterable[tuple]`

`_set_dependencies(prop, new_dependencies)`

**Parameters**

- `prop` (`klovve.data.model.PropertyBase`) –
- `new_dependencies` (`Iterable[tuple]`) –

**Return type** `None`

`klovve.data.deps.defer_value_propagation()`

Defers the automatic refreshes on model property changes for a code block and applies them afterwards.

Use it for a `with` statement. Model property modifications do not instantly lead to updates on depending properties in that `with` block.

Computed properties will always return the right value on access, not an outdated one.

**Return type** `ContextManager[None]`

`klovve.data.deps.detect_dependencies(subject, prop, *, append=False)`

Detect dependencies for a code block.

Use it for a `with` statement.

**Parameters**

- `subject` (`klovve.data.deps.DependencySubject`) – The object to track dependencies for.
- `prop` (`klovve.data.model.PropertyBase`) – The property of that object to track dependencies for.
- `append` (`bool`) – If to append dependencies in this block to the known one (instead of replacing them).

**Return type** `ContextManager[None]`

`klovve.data.deps.no_dependency_tracking()`

Stops dependency tracking of the current computation for a code block.

Use it for a `with` statement. Model property accesses do not count as a dependency in that `with` block.

It will not influence dependency tracking for other computations inside yours (i.e. if you access a computed property, the dependency tracking of this one will not break).

**Return type** `ContextManager[None]`

`klovve.data.deps.notify_dependency(model, prop)`

Notify the dependency tracking about a new dependency for the current computation (usually after a property read access).

**Parameters**

- **model** (`klovve.data.model.Model`) – The new dependency model.
- **prop** (`klovve.data.model.PropertyBase`) – The dependency property in the model.

**Return type** `None`

`klovve.data.deps.notify_property_value_changed(model, prop)`

Notify the dependency tracking about the change of a model property.

**Parameters**

- **model** (`klovve.data.model.Model`) – The model that was changed.
- **prop** (`klovve.data.model.PropertyBase`) – The changed property in the model.

**Return type** `bool`

## `klovve.data.lists` module

`class klovve.data.lists.List(content=())`

Bases: `collections.abc.MutableSequence`, `klovve.data.observable_value.ObservableValue`

A list implementation that is observable (with `ListObserver` or as `klovve.data.observable_value.ObservableValue`) and has some other additional features.

**Parameters** **content** (`Iterable`) –

`__correct_index(i)`

**Parameters** **i** (`int`) –

**Return type** `int`

`_abc_impl = <_abc._abc_data object>`

`_add_observer(observer, *, initialize=True)`

Attach a `ListObserver` to this list.

For a model's list property, you have to use `klovve.data.model.Model.add_list_observer()` instead.

**Parameters**

- **observer** (`klovve.data.lists.ListObserver`) – The observer to attach.
- **initialize** (`bool`) – Whether to initialize the observer with the current content.

**Return type** `None`

`_is_protocol = False`

**`_remove_observer`**(*observer*)

Detach a [ListObserver](#) from this list.

For a model's list property, you have to use `TODO` instead.

**Parameters** **observer** (`klovve.data.lists.ListObserver`) – The observer to detach.

**Return type** `None`

**`insert`**(*i*, *v*)

`S.insert(index, value)` – insert value before index

**`move`**(*target\_index*, *source\_index*)

Move an element.

**Parameters**

- **target\_index** (`int`) – The new index.
- **source\_index** (`int`) – The old index.

**Return type** `None`

**`update`**(*source\_list*, \*, *create\_target\_object\_func*=<function `_update__default_create_target_object`>, *update\_target\_object\_func*=<function `_update__default_update_target_object`>, *is\_matching\_target\_object\_func*=<function `_update__default_is_matching_target_object`>)

Update this list with the content of another one.

**Parameters**

- **source\_list** (`Iterable[Any]`) – The content to apply to this list.
- **create\_target\_object\_func** (`Callable[[Any], Any]`) – Function that creates a representation for a source object in the target list. Advanced feature.
- **update\_target\_object\_func** (`Callable[[Any, Any], None]`) – Function that updates the representation for a source object in the target list. Advanced feature.
- **is\_matching\_target\_object\_func** (`Callable[[Any, Any], bool]`) – Function that checks if a particular object is the representation for a particular source object in the target list. Advanced feature.

**`class klovve.data.lists.ListObserver`**

Bases: `object`

Abstract base class for objects that can listen to changes on a [List](#).

**`item_added`**(*index*, *item*)

Called when an item was added to the observed list.

**Parameters**

- **index** (`int`) – The position where the new item was inserted.
- **item** (`object`) – The new item.

**Return type** `None`

**`item_moved`**(*from\_index*, *to\_index*)

Called when an item was moved inside the observed list.

**Parameters**

- **from\_index** (`int`) – The position of the element that was moved.
- **to\_index** (`int`) – The new position of the moved element.



**Return type** None

**item\_removed**(*index*)

Called when an item was removed from the observed list.

**Parameters** **index** (*int*) – The position of the item that was removed.

**Return type** None

**item\_replaced**(*index*, *item*)

Called when an item was replaced by another one in the observed list.

**Parameters**

- **index** – The position where the item was replaced.
- **item** – The new item.

**Return type** None

**klovve.data.lists.\_update\_\_default\_create\_target\_object**(*source\_object*)

Default function for target object creation in [List.update\(\)](#).

It just returns the source object.

**Parameters** **source\_object** (*Any*) – The source object.

**Return type** Any

**klovve.data.lists.\_update\_\_default\_is\_matching\_target\_object**(*target\_object*, *source\_object*)

Default function for target/source object comparison in [List.update\(\)](#).

It compares the objects with the == operator.

**Parameters**

- **target\_object** (*Any*) – The target object.
- **source\_object** (*Any*) – The source object.

**Return type** bool

**klovve.data.lists.\_update\_\_default\_update\_target\_object**(*target\_object*, *source\_object*)

Default function for target object updating in [List.update\(\)](#).

It does nothing.

**Parameters**

- **target\_object** (*Any*) – The target object.
- **source\_object** (*Any*) – The source object.

**Return type** None

## klovve.data.model module

**klovve.data.model.ComputedProperty**(*func=None*, \*, *initially=<function \_get\_none\_value\_func>*,  
*use\_last\_value\_during\_recompute=True*)

**Parameters**

- **func** (*Optional[Callable[[], Any]]*) –
- **initially** (*Callable[[], Any]*) –

- `use_last_value_during_recompute` (*bool*) –

**Return type** `Callable[[Callable[[], Any]], klovve.data.model._ComputedProperty]`

**class** `klovve.data.model.ListProperty`(\*, *default*=<function `ListProperty.<lambda>`>)

Bases: `klovve.data.model.Property`

**Parameters** `default` (`Callable[[], Iterable[Any]]`) –

`_fset`(*obj*, *value*)

**class** `klovve.data.model.Model`(\*\**kwargs*)

Bases: `klovve.data.deps.DependencySubject`

`__add_changed_handler`(*prop*, *func*)

**Parameters** `func` (`Callable[[], None]`) –

**Return type** `None`

`__available_version`(*prop*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`__compute`(*prop*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`__head_version`(*prop*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`__invalidate`(*prop*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`__remove_changed_handler`(*prop*, *func*)

**Parameters**

- `prop` (`klovve.data.model.PropertyBase`) –
- `func` (`Callable[[], None]`) –

**Return type** `None`

`_flush_dependency_handlers`(*prop*)

`_get_dependencies`(*prop*)

`_set_dependencies`(*prop*, *new\_dependencies*)

`_set_value`(*prop*, *value*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`_trigger_changed`(*prop*)

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

`_value(prop)`

**Parameters** `prop` (`klovve.data.model.PropertyBase`) –

**class** `klovve.data.model.Property`(\*, `default=<function _get_none_value_func>`)  
 Bases: `klovve.data.model.PropertyBase`

**Parameters** `default` (`Callable[[], Any]`) –

`_compute(obj)`

**class** `klovve.data.model.PropertyBase`  
 Bases: `property`  
`_compute(obj)`

**Return type** `Any`

`_fget(obj)`

`_fset(obj, value)`

`_initially()`

**Return type** `Any`

`_use_last_value_during_recompute()`

**Return type** `bool`

**class** `klovve.data.model._ComputedProperty`(`func`, \*, `initially`, `use_last_value_during_recompute`)  
 Bases: `klovve.data.model.PropertyBase`

**Parameters**

- `initially` (`Callable[[], Any]`) –
- `use_last_value_during_recompute` (`bool`) –

`_compute(obj)`

`_fset(obj, value)`

`_initially()`

`_use_last_value_during_recompute()`

`klovve.data.model._get_none_value_func()`

`klovve.data.model.observe_list(model, prop_name, observer, *, initialize=True)`

**Parameters**

- `model` (`klovve.data.model.Model`) –
- `prop_name` (`str`) –
- `observer` (`klovve.data.lists.ListObserver`) –
- `initialize` (`bool`) –

**Return type** `None`

### klovve.data.observable\_value module

```
class klovve.data.observable_value.ObservableValue(*args, **kwargs)
    Bases: klovve.data.observable_value.ObservableValueProtocol
    _abc_impl = <_abc._abc_data object>
    _is_protocol = False
    _trigger_changed()
    add_changed_handler(func)
    remove_changed_handler(func)

class klovve.data.observable_value.ObservableValueProtocol(*args, **kwargs)
    Bases: Protocol
    _abc_impl = <_abc._abc_data object>
    _is_protocol = True
    _is_runtime_protocol = True
    _trigger_changed()

    Return type None
    add_changed_handler(func)

    Parameters func (Callable[[], None]) –
    Return type None
    remove_changed_handler(func)

    Parameters func (Callable[[], None]) –
    Return type None
```

### klovve.data.reaction module

Reactions are a way to define a computation that automatically is repeated whenever depending models change. See [reaction\(\)](#).

```
class klovve.data.reaction._ReactionModel(func)
    Bases: klovve.data.model.Model
    property value
```

```
klovve.data.reaction.reaction(*, owner, initially=<function _get_none_value_func>,
                               use_last_value_during_recompute=True)
```

Define a function to be a reaction. It will automatically get executed when defined, and whenever any depending models change.

Use it as a function decorator.

It is similar to a [klovve.data.model.ComputedProperty](#) in a model, but can be defined anywhere, which makes them very convenient in some situations.

**Parameters**

- **owner** (*Any*) – The object which owns the reaction. The reaction will usually stay alive as long as the owner still exists.
- **initially** (*Callable[[], Any]*) – Function which returns the initial value. Only relevant for async reactions.
- **use\_last\_value\_during\_recompute** (*bool*) – Whether to use the last computed value during re-computation (instead of setting it back to the initial value meanwhile).

**Return type** *Callable[[Callable[[], Any]], klovve.data.reaction.\_ReactionModel]*

### klovve.data.value\_holder module

**class** klovve.data.value\_holder.**ComputedValue**(*func, model, model\_bind, pieces*)

Bases: *klovve.data.value\_holder.ValueHolder*

**\_abc\_impl** = <\_abc.\_abc\_data object>

**get\_value**()

**is\_settable**()

**set\_value**(*value*)

**class** klovve.data.value\_holder.**OneWayBinding**(*model, prop\_name, converter\_in=None, converter\_out=None*)

Bases: *klovve.data.value\_holder.ValueHolder*

**\_abc\_impl** = <\_abc.\_abc\_data object>

**get\_value**()

**is\_settable**()

**set\_value**(*value*)

**class** klovve.data.value\_holder.**TwoWayBinding**(*model, prop\_name, converter\_in=None, converter\_out=None*)

Bases: *klovve.data.value\_holder.OneWayBinding*

**\_abc\_impl** = <\_abc.\_abc\_data object>

**is\_settable**()

**class** klovve.data.value\_holder.**ValueHolder**

Bases: *abc.ABC*

**\_abc\_impl** = <\_abc.\_abc\_data object>

**abstract get\_value**()

**Return type** *Any*

**abstract is\_settable**()

**Return type** *bool*

**abstract set\_value**(*value*)

**Parameters** *value* (*Any*) –

**Return type** *None*

### klovve.drivers package

**class** klovve.drivers.Driver

Bases: object

**\_create\_mainloop**()

**\_mainloop** = None

**property** mainloop

**model\_type**(*name\_tuple*, *additional\_packages*)

**Parameters**

- **name\_tuple** (*Iterable[str]*) –
- **additional\_packages** (*Iterable[str]*) –

**Return type** Type[klovve.View]

**static** name()

**Return type** str

**static** rank()

**Return type** float

**show\_window**(*window*)

**view\_type**(*name\_tuple*, *additional\_packages*)

**Parameters**

- **name\_tuple** (*Iterable[str]*) –
- **additional\_packages** (*Iterable[str]*) –

**Return type** Type[klovve.View]

### Subpackages

#### klovve.drivers.bare\_terminal package

**class** klovve.drivers.bare\_terminal.Driver

Bases: *klovve.drivers.Driver*

**\_create\_mainloop**()

**static** name()

**static** rank()

**show\_window**(*window*)

## Subpackages

klovve.drivers.bare\_terminal.views package

## Subpackages

klovve.drivers.bare\_terminal.views.interact package

## Submodules

klovve.drivers.bare\_terminal.views.interact.abstract module

```
class klovve.drivers.bare_terminal.views.interact.abstract.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

### Parameters

- **model** (klovve.pieces.interact.abstract.Model) –
- **view\_factory** (ViewFactory) –

**get\_native**(model, model\_bind)

**model:** *klovve.pieces.interact.abstract.Model*

klovve.drivers.bare\_terminal.views.viewer package

## Submodules

klovve.drivers.bare\_terminal.views.viewer.image module

```
class klovve.drivers.bare_terminal.views.viewer.image.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

### Parameters

- **model** (klovve.pieces.viewer.image.Model) –
- **view\_factory** (ViewFactory) –

**get\_native**(model, model\_bind)

**model:** *klovve.pieces.viewer.image.Model*

## Submodules

klovve.drivers.bare\_terminal.views.checkable module

```
class klovve.drivers.bare_terminal.views.checkable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

### Parameters

- **model** (klovve.pieces.checkable.Model) –

- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.checkable.Model*

#### **klovve.drivers.bare\_terminal.views.headered\_panel module**

**class** *klovve.drivers.bare\_terminal.views.headered\_panel.View*(*model*, *view\_factory*)  
Bases: *Generic*[*klovve.view.\_TGo*]

##### **Parameters**

- **model** (*klovve.pieces.headered\_panel.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.headered\_panel.Model*

#### **klovve.drivers.bare\_terminal.views.label module**

**class** *klovve.drivers.bare\_terminal.views.label.View*(*model*, *view\_factory*)  
Bases: *Generic*[*klovve.view.\_TGo*]

##### **Parameters**

- **model** (*klovve.pieces.label.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.label.Model*

#### **klovve.drivers.bare\_terminal.views.log\_pager module**

**class** *klovve.drivers.bare\_terminal.views.log\_pager.View*(*model*, *view\_factory*)  
Bases: *Generic*[*klovve.view.\_TGo*]

##### **Parameters**

- **model** (*klovve.pieces.log\_pager.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.log\_pager.Model*



**klovve.drivers.bare\_terminal.views.placeholder module**

```
class klovve.drivers.bare_terminal.views.placeholder.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.placeholder.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.placeholder.Model
```

**klovve.drivers.bare\_terminal.views.split module**

```
class klovve.drivers.bare_terminal.views.split.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.split.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.split.Model
```

**klovve.drivers.bare\_terminal.views.vertical\_box module**

```
class klovve.drivers.bare_terminal.views.vertical_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.vertical\_box.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.vertical_box.Model
```

**klovve.drivers.bare\_terminal.views.window module**

```
class klovve.drivers.bare_terminal.views.window.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.window.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.window.Model
```

### klovve.drivers.curses package

```
class klovve.drivers.curses.Driver
    Bases: klovve.drivers.Driver
    _create_mainloop()
    static name()
    static rank()
    show_window(window)

class klovve.drivers.curses.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.view._TGo) –
        • view_factory (ViewFactory) –

    __bind(*, aprop_name, value_holder)

    Parameters value_holder (klovve.data.value_holder.ValueHolder) –

    static bind(aobj, aprop_name, value)

    Parameters value (Any) –

    static fizzle_new(viewtype, **kwargs)

klovve.drivers.curses.children(widget)
```

### Subpackages

#### klovve.drivers.curses.views package

### Subpackages

#### klovve.drivers.curses.views.\_curses\_private package

### Submodules

#### klovve.drivers.curses.views.\_curses\_private.box module

```
class klovve.drivers.curses.views._curses_private.box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.view._TGo) –
        • view_factory (ViewFactory) –

    _orientation()

    get_native(model, model_bind)
```

**klovve.drivers.curses.views.form package**

```
class klovve.drivers.curses.views.form.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.form.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.form.Model
```

**Submodules****klovve.drivers.curses.views.form.section module**

```
class klovve.drivers.curses.views.form.section.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.form.section.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.form.section.Model
```

**klovve.drivers.curses.views.interact package****Submodules****klovve.drivers.curses.views.interact.abstract module**

```
class klovve.drivers.curses.views.interact.abstract.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.interact.abstract.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.interact.abstract.Model
```

**klovve.drivers.curses.views.property\_panel package**

```
class klovve.drivers.curses.views.property_panel.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.property\_panel.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.property_panel.Model
```

**klovve.drivers.curses.views.tabbed package**

```
class klovve.drivers.curses.views.tabbed.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.tabbed.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.tabbed.Model
```

**Submodules****klovve.drivers.curses.views.tabbed.tab module**

```
class klovve.drivers.curses.views.tabbed.tab.View(*args, **kwargs)
    Bases: klovve.view.BaseView, Generic[klovve.view._TGo]
```

```
get_composition(model, model_bind, pieces)
```

```
model: klovve.pieces.tabbed.tab.Model
```

**klovve.drivers.curses.views.viewer package****Submodules****klovve.drivers.curses.views.viewer.image module**

```
class klovve.drivers.curses.views.viewer.image.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (klovve.pieces.viewer.image.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

**model:** *klovve.pieces.viewer.image.Model*

### klovve.drivers.curses.views.viewer.pdf module

**class** klovve.drivers.curses.views.viewer.pdf.**View**(*model, view\_factory*)

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.viewer.pdf.Model) –
- **view\_factory** (ViewFactory) –

**get\_native**(*model, model\_bind*)

**model:** *klovve.pieces.viewer.pdf.Model*

### Submodules

### klovve.drivers.curses.views.busy\_animation module

**class** klovve.drivers.curses.views.busy\_animation.**Model**(\*\**kwargs*)

Bases: *klovve.pieces.busy\_animation.Model*

**gtk\_orientation**()

**spinner\_size**()

**class** klovve.drivers.curses.views.busy\_animation.**View**(*model, view\_factory*)

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.drivers.curses.views.busy\_animation.Model) –
- **view\_factory** (ViewFactory) –

**get\_native**(*model, model\_bind*)

**model:** *klovve.drivers.curses.views.busy\_animation.Model*

### klovve.drivers.curses.views.button module

**class** klovve.drivers.curses.views.button.**Context**(*fabric, button*)

Bases: object

**async\_dialog**(*view*)

**error\_message\_for\_exceptions**(\**exception\_types*)

**property fabric**

**class** klovve.drivers.curses.views.button.**View**(*model, view\_factory*)

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.button.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
model: klovve.pieces.button.Model
```

#### **klovve.drivers.curses.views.checkable module**

```
class klovve.drivers.curses.views.checkable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.text_field.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.text_field.Model
```

#### **klovve.drivers.curses.views.disableable module**

```
class klovve.drivers.curses.views.disableable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.disableable.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.disableable.Model
```

#### **klovve.drivers.curses.views.dropdown module**

```
class klovve.drivers.curses.views.dropdown.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.dropdown.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.dropdown.Model
```

**klovve.drivers.curses.views.dual module**

```
class klovve.drivers.curses.views.dual.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.dual.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.dual.Model
```

**klovve.drivers.curses.views.formatted\_text module**

```
class klovve.drivers.curses.views.formatted_text.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.formatted_text.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.formatted_text.Model
```

**klovve.drivers.curses.views.header module**

```
class klovve.drivers.curses.views.header.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.header.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.header.Model
```

**klovve.drivers.curses.views.headered\_panel module**

```
class klovve.drivers.curses.views.headered_panel.Model(**kwargs)
    Bases: klovve.pieces.headered_panel.Model
```

```
property title_label_background
```

```
class klovve.drivers.curses.views.headered_panel.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.headered_panel.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
model: klovve.pieces.headered_panel.Model
```

#### **klovve.drivers.curses.views.horizontal\_box module**

```
class klovve.drivers.curses.views.horizontal_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.horizontal_box.Model) –
        • view_factory (ViewFactory) –

    _orientation()
    model: klovve.pieces.horizontal_box.Model
```

#### **klovve.drivers.curses.views.label module**

```
class klovve.drivers.curses.views.label.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.label.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.label.Model
```

#### **klovve.drivers.curses.views.list module**

```
class klovve.drivers.curses.views.list.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.list.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.list.Model
```



**klovve.drivers.curses.views.log\_pager module**

```
class klovve.drivers.curses.views.log_pager.View(*args, **kwargs)
    Bases: Generic[klovve.view._TGo]
    get_native(model, model_bind)
    model: klovve.pieces.log_pager.Model
klovve.drivers.curses.views.log_pager._time_text(d)
```

**klovve.drivers.curses.views.placeholder module**

```
class klovve.drivers.curses.views.placeholder.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
    Parameters
        • model (klovve.pieces.placeholder.Model) –
        • view_factory (ViewFactory) –
    get_native(model, model_bind)
    model: klovve.pieces.placeholder.Model
```

**klovve.drivers.curses.views.progress module**

```
class klovve.drivers.curses.views.progress.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
    Parameters
        • model (klovve.pieces.progress.Model) –
        • view_factory (ViewFactory) –
    get_native(model, model_bind)
    model: klovve.pieces.progress.Model
```

**klovve.drivers.curses.views.scrollable module**

```
class klovve.drivers.curses.views.scrollable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
    Parameters
        • model (klovve.pieces.scrollable.Model) –
        • view_factory (ViewFactory) –
    get_native(model, model_bind)
    model: klovve.pieces.scrollable.Model
```

**klovve.drivers.curses.views.slider module**

```
class klovve.drivers.curses.views.slider.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.slider.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.slider.Model
```

**klovve.drivers.curses.views.split module**

```
class klovve.drivers.curses.views.split.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.split.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.split.Model
```

**klovve.drivers.curses.views.text\_field module**

```
class klovve.drivers.curses.views.text_field.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.text_field.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.text_field.Model
```

**klovve.drivers.curses.views.vertical\_box module**

```
class klovve.drivers.curses.views.vertical_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.vertical_box.Model`) –
- **view\_factory** (`ViewFactory`) –

```
_orientation()
```

```
model: klovve.pieces.vertical_box.Model
```

**klovve.drivers.curses.views.window module**

```

class klovve.drivers.curses.views.window.Context(fabric, main_window)
    Bases: object
        async dialog(view)
        error_message_for_exceptions(*exception_types)
        property fabric
class klovve.drivers.curses.views.window.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.window.Model) –
            • view_factory (ViewFactory) –
        get_native(model, model_bind)
        model: klovve.pieces.window.Model

```

**klovve.drivers.curses.viuid package**

```

class klovve.drivers.curses.viuid.Point(x, y)
    Bases: object
        Parameters
            • x(int) –
            • y(int) –
        moved_by(x=0, y=0)

        Parameters
            • x(int) –
            • y(int) –
        Return type klovve.drivers.curses.viuid.Point
        with_x(x)

        Parameters x(int) –
        Return type klovve.drivers.curses.viuid.Point
        with_y(y)

        Parameters y(int) –
        Return type klovve.drivers.curses.viuid.Point
        property x: int
        property y: int
class klovve.drivers.curses.viuid.Rectangle(from_point, to)
    Bases: object

```

**Parameters**

- **from\_point** (`klovve.drivers.curses.viwid.Point`) –
- **to** (`Union[klovve.drivers.curses.viwid.Point, klovve.drivers.curses.viwid.Size]`) –

**property bottom\_right:** `klovve.drivers.curses.viwid.Point`

**property bottom\_y:** `int`

**property height:** `int`

**property left\_x:** `int`

**property right\_x:** `int`

**property top\_left:** `klovve.drivers.curses.viwid.Point`

**property top\_y:** `int`

**property width:** `int`

**class** `klovve.drivers.curses.viwid.Size(width, height)`

Bases: `object`

**Parameters**

- **width** (`int`) –
- **height** (`int`) –

**extend\_by** (`width=0, height=0`)

**Parameters**

- **width** (`int`) –
- **height** (`int`) –

**Return type** `klovve.drivers.curses.viwid.Size`

**property height:** `int`

**property width:** `int`

**with\_height** (`height`)

**Parameters** **height** (`int`) –

**Return type** `klovve.drivers.curses.viwid.Size`

**with\_width** (`width`)

**Parameters** **width** (`int`) –

**Return type** `klovve.drivers.curses.viwid.Size`

## Subpackages

klovve.drivers.curses.viwid.+samples namespace

## Submodules

klovve.drivers.curses.viwid.+samples.hello\_world module

klovve.drivers.curses.viwid.+samples.hello\_world2 module

klovve.drivers.curses.viwid.drivers package

klovve.drivers.curses.viwid.drivers.get\_driver(event\_loop=None)

Return type *viwid.drivers.driver.Driver*

## Submodules

klovve.drivers.curses.viwid.drivers.curses module

**class** klovve.drivers.curses.viwid.drivers.curses.**Driver**(event\_loop)

Bases: viwid.drivers.driver.Driver

\_\_requests\_queue()

\_abc\_impl = <\_abc.\_abc\_data object>

add\_widget\_screen(widget)

canvas(widget)

property curses\_colors

property loop

process\_curses\_input()

refresh\_curses\_window()

repaint\_widget\_soon(widget)

resize\_widget\_soon(widget)

property screens

**class** klovve.drivers.curses.viwid.drivers.curses.\_Canvas(driver, window, widget)

Bases: viwid.canvas.Canvas

### Parameters

- **driver** (klovve.drivers.curses.viwid.drivers.curses.Driver) –
- **window** (\_curses.window) –
- **widget** (viwid.widgets.widget.Widget) –

**cursor**(point)

**fill**(color, rectangle=None)

**text**(*text*, *rectangle=None*)

**class** klovve.drivers.curses.viwid.drivers.curses.\_CursesColors

Bases: object

**class** Mode(*value*)

Bases: enum.Enum

An enumeration.

COLORS\_256 = 2

COLORS\_8 = 1

\_CursesColors\_\_curses\_color(*color*)

Parameters **color** (viwid.canvas.Color) –

**color\_pair**(*fg*, *bg*)

Parameters

- **fg** (Union[viwid.canvas.FullColor, viwid.canvas.Color, str]) –
- **bg** (Union[viwid.canvas.FullColor, viwid.canvas.Color, str]) –

**colors\_by\_pair**(*pair*)

**curses\_colors** = [0, 4, 2, 6, 1, 5, 3, 7]

**class** klovve.drivers.curses.viwid.drivers.curses.\_Loop(*event\_loop*, *driver*)

Bases: viwid.loop.Loop

Parameters **driver** (klovve.drivers.curses.viwid.drivers.curses.Driver) –

**async run**()

Return type None

**class** klovve.drivers.curses.viwid.drivers.curses.\_Screen(*curses\_screen*, *driver*)

Bases: viwid.screen.Screen

Parameters

- **curses\_screen** (\_curses.window) –
- **driver** (klovve.drivers.curses.viwid.drivers.curses.Driver) –

property **focussed\_widget**

property **size**: viwid.Size

**update\_curses\_screensize**()

**klovve.drivers.curses.viwid.drivers.driver module**

```
class klovve.drivers.curses.viwid.drivers.driver.Driver
```

```
    Bases: abc.ABC
```

```
    _abc_impl = <_abc._abc_data object>
```

```
    abstract add_widget_screen(widget)
```

```
        Parameters widget (viwid.widgets.widget.Widget) –
```

```
        Return type <module 'viwid.screen' from '/home/pino/projects/krrz_9/src/klovve/drivers/curses/viwid/screen.py'>
```

```
    abstract canvas(widget)
```

```
        Parameters widget (viwid.widgets.widget.Widget) –
```

```
        Return type viwid.canvas.Canvas
```

```
    abstract property loop: viwid.loop.Loop
```

```
    abstract repaint_widget_soon(widget)
```

```
        Parameters widget (viwid.widgets.widget.Widget) –
```

```
        Return type None
```

```
    abstract resize_widget_soon(widget)
```

```
        Parameters widget (viwid.widgets.widget.Widget) –
```

```
        Return type None
```

```
    abstract property screens: Iterable[viwid.screen.Screen]
```

**klovve.drivers.curses.viwid.event package****Submodules****klovve.drivers.curses.viwid.event.base module**

```
class klovve.drivers.curses.viwid.event.base.OngoingEvent(name)
```

```
    Bases: object
```

```
        Parameters name (str) –
```

```
    property is_propagation_stopped: bool
```

```
    property name
```

```
    stop_propagation()
```

```
        Return type None
```

### klovve.drivers.curses.viwid.event.input module

```
class klovve.drivers.curses.viwid.event.input.KeyboardOngoingEvent(key)
```

```
    Bases: viwid.event.base.OngoingEvent
```

```
    property key
```

```
class klovve.drivers.curses.viwid.event.input.MouseClickOngoingEvent(screen_position,  
                                                                    left_button, right_button)
```

```
    Bases: viwid.event.base.OngoingEvent
```

#### Parameters

- **screen\_position** ([viwid.Point](#)) –
- **left\_button** (*bool*) –
- **right\_button** (*bool*) –

```
    property left_button: bool
```

```
    property right_button: bool
```

```
    property screen_position: viwid.Point
```

```
class klovve.drivers.curses.viwid.event.input.ScrollOngoingEvent(screen_position, direction)
```

```
    Bases: viwid.event.base.OngoingEvent
```

#### Parameters

- **screen\_position** ([viwid.Point](#)) –
- **direction** (*int*) –

```
    property direction: int
```

```
    property screen_position: viwid.Point
```

### klovve.drivers.curses.viwid.widgets package

#### Submodules

### klovve.drivers.curses.viwid.widgets.box module

```
class klovve.drivers.curses.viwid.widgets.box.Box(**kwargs)
```

```
    Bases: viwid.widgets.widget.Widget
```

```
    __item_added(index, item)
```

#### Parameters

- **index** (*int*) –
- **item** (*object*) –

Return type: `None`

```
    __item_removed(index)
```

Parameters **index** (*int*) –



Return type None

`_partitioning2()`

property children

property orientation

**class** klovve.drivers.curses.viwid.widgets.box.CBox(\*\*kwargs)  
Bases: [klovve.drivers.curses.viwid.widgets.box.Box](#)

property class\_style\_name

**class** klovve.drivers.curses.viwid.widgets.box.Orientation(value)  
Bases: enum.Enum

An enumeration.

HORIZONTAL = 2

VERTICAL = 1

#### [klovve.drivers.curses.viwid.widgets.busy\\_animation module](#)

**class** klovve.drivers.curses.viwid.widgets.busy\_animation.BusyAnimation(\*\*kwargs)  
Bases: [viwid.widgets.label.Label](#)  
`__next()`

#### [klovve.drivers.curses.viwid.widgets.button module](#)

**class** klovve.drivers.curses.viwid.widgets.button.Button(\*\*kwargs)  
Bases: [viwid.widgets.label.Label](#)  
`_keyboard_event(event)`  
`_mouse_click_event(event)`  
property class\_style\_name  
property focusable  
property on\_click

#### [klovve.drivers.curses.viwid.widgets.check\\_button module](#)

**class** klovve.drivers.curses.viwid.widgets.check\_button.CheckButton(\*\*kwargs)  
Bases: [viwid.widgets.button.Button](#)  
`_keyboard_event(event)`  
`_mouse_click_event(event)`  
property checked  
`compute_height(width, minimal)`  
`compute_width(minimal)`  
`paint(canvas)`

**klovve.drivers.curses.viwid.widgets.dropdown module**

```
class klovve.drivers.curses.viwid.widgets.dropdown.DropDown(**kwargs)
    Bases: viwid.widgets.button.Button
    __click()
    _select(i)
    property items
    property selected_index
    property selected_item
```

**klovve.drivers.curses.viwid.widgets.entry module**

```
class klovve.drivers.curses.viwid.widgets.entry.Entry(**kwargs)
    Bases: viwid.widgets.widget.Widget
    _keyboard_event(event)
    property class_style_name
    compute_height(width, minimal)

        Parameters width (int) –
        Return type int
    compute_width(minimal)

        Return type int
    property cursor_position
    property focusable
    paint(canvas)
    property text
```

**klovve.drivers.curses.viwid.widgets.frame module**

```
class klovve.drivers.curses.viwid.widgets.frame.Frame(**kwargs)
    Bases: viwid.widgets.box.Box
    compute_height(width, minimal)
    compute_width(minimal)
    property item
    paint(canvas)
    set_size(v)
```

**klovve.drivers.curses.viwid.widgets.label module**

```

class klovve.drivers.curses.viwid.widgets.label.Label(**kwargs)
    Bases: viwid.widgets.widget.Widget
    __find_last_whitespace(i_from, i_to)
    _text_in_width(width)
    compute_height(width, minimal)

        Parameters width (int) –
        Return type int
    compute_width(minimal)

        Return type int
    paint(canvas)
    property text

```

**klovve.drivers.curses.viwid.widgets.list module**

```

class klovve.drivers.curses.viwid.widgets.list.List(**kwargs)
    Bases: viwid.widgets.box.Box
    _keyboard_event(event)
    _mouse_click_event(event)
    property class_style_name
    property focusable
    property items
    property on_selection_activated
    property selected_item_index

class klovve.drivers.curses.viwid.widgets.list.ListRow(**kwargs)
    Bases: viwid.widgets.label.Label
    property class_style_name
    property is_selected

```

**klovve.drivers.curses.viwid.widgets.progress\_bar module**

```

class klovve.drivers.curses.viwid.widgets.progress_bar.ProgressBar(**kwargs)
    Bases: viwid.widgets.label.Label
    property class_style_name
    compute_height(width, minimal)
    compute_width(minimal)
    paint(canvas)

```

property value

#### klovve.drivers.curses.viwid.widgets.radio\_button module

```
class klovve.drivers.curses.viwid.widgets.radio_button.RadioButton(**kwargs)
    Bases: viwid.widgets.button.Button
```

#### klovve.drivers.curses.viwid.widgets.scrollable module

```
class klovve.drivers.curses.viwid.widgets.scrollable.Scrollable(**kwargs)
    Bases: viwid.widgets.box.Box
    __correct_offset()
    __move_offset(x, y)
    _preview_keyboard_event(event)
    _preview_scroll_event(event)
    compute_height(width, minimal)
    compute_width(minimal)
    property focusable
    property horizontally_scrollable
    property item
    set_size(v)
    property vertically_scrollable
```

#### klovve.drivers.curses.viwid.widgets.widget module

```
class klovve.drivers.curses.viwid.widgets.widget.Alignment(value)
    Bases: enum.Enum
    An enumeration.
    CENTER = 3
    FILL = 4
    START = 1
    STOP = 2

klovve.drivers.curses.viwid.widgets.widget.ListProperty(item_added_func, item_removed_func,
                                                         item_replaced_func=None)

klovve.drivers.curses.viwid.widgets.widget.Property(setter=None, /, *, default=<function
<lambda>>)

class klovve.drivers.curses.viwid.widgets.widget.Widget(**kwargs)
    Bases: object
    ListProperty(item_removed_func, item_replaced_func=None)
```

```

class Parti(widget)
    Bases: object
    focussed()
    jumpto(frm, delta)
Property(*, default=<function <lambda>>())
__item_added(index, item)

    Parameters
        • index(int) –
        • item(object) –
    Return type None
__item_removed(index)

    Parameters index(int) –
    Return type None
property _children
_internal_mouse_click_event(event)

    Parameters event(viwid.event.input.MouseClickOngoingEvent) –
    Return type None
_keyboard_event(event)

    Parameters event(viwid.event.input.KeyboardOngoingEvent) –
    Return type None
_mouse_click_event(event)

    Parameters event(viwid.event.input.MouseClickOngoingEvent) –
    Return type None
_preview_internal_mouse_click_event(event)

    Parameters event(viwid.event.input.MouseClickOngoingEvent) –
    Return type None
_preview_keyboard_event(event)

    Parameters event(viwid.event.input.KeyboardOngoingEvent) –
    Return type None
_preview_mouse_click_event(event)

    Parameters event(viwid.event.input.MouseClickOngoingEvent) –

```

**Return type** None

**\_preview\_scroll\_event**(*event*)

**Parameters** **event** (`viwid.event.input.ScrollOngoingEvent`) –

**Return type** None

**\_scroll\_event**(*event*)

**Parameters** **event** (`viwid.event.input.ScrollOngoingEvent`) –

**Return type** None

**alive**()

**property background**

**canvas**()

**child\_at\_position**(*xx*, *yy*)

**property class\_style\_name**

**compute\_height**(*width*, *minimal*)

**Parameters**

- **width** (*int*) –
- **minimal** (*bool*) –

**Return type** int

**compute\_height2**(*width*, *minimal*)

**Parameters**

- **width** (*int*) –
- **minimal** (*bool*) –

**Return type** int

**compute\_width**(*minimal*)

**Parameters** **minimal** (*bool*) –

**Return type** int

**compute\_width2**(*minimal*)

**Parameters** **minimal** (*bool*) –

**Return type** int

**property computed\_horizontal\_expand\_greedily**

**property computed\_is\_disabled**

**property computed\_vertical\_expand\_greedily**

**dematerialize()**

**Return type** None

**property** focusable

**property** foreground

**property** horizontal\_alignment

**property** horizontal\_expand\_greedily

**property** inner\_size: viwid.Size

**property** is\_disabled

**property** layout

**listen\_property**(key, func)

**materialize**(screen)

**Return type** None

**property** offset: viwid.Point

**on\_dematerialized**()

**Return type** None

**on\_materialized**()

**Return type** None

**paint**(canvas)

**paint2**(parent\_canvas=None)

**property** parent: Optional[klovve.drivers.curses.viwid.widgets.widget.Widget]

**property** position: viwid.Point

**request\_repaint**()

**Return type** None

**request\_resize**()

**Return type** None

**property** root\_style

**property** screen

**set\_inner\_size**(value)

**Parameters** value (viwid.Size) –

**Return type** None

**set\_layout**(value)

**set\_offset**(*value*)

Parameters **value** (`viwid.Point`) –

Return type `None`

**set\_parent**(*value*)

Parameters **value** (Optional [`klovve.drivers.curses.viwid.widgets.widget.Widget`]) –

Return type `None`

**set\_position**(*value*)

Parameters **value** (`viwid.Point`) –

Return type `None`

**set\_root\_style**(*v*)

**set\_size**(*value*, *setinner=True*)

Parameters **value** (`viwid.Size`) –

Return type `None`

property **size**: `viwid.Size`

property **style\_atom**

**style\_atom\_by\_name**(*name*)

**try\_focus**()

property **vertical\_alignment**

property **vertical\_expand\_greedily**

```
class klovve.drivers.curses.viwid.widgets.widget._ListProperty(setter, item_added_func,  
                                                                item_removed_func,  
                                                                item_replaced_func=None)
```

Bases: `property`

**\_fget**(*obj*)

**\_fset**(*obj*, *value*)

```
class klovve.drivers.curses.viwid.widgets.widget._Property(setter, default=<function  
                                                            _Property.<lambda>>)
```

Bases: `property`

**\_fget**(*obj*)

**\_fset**(*obj*, *value*)



## Submodules

### klovve.drivers.curses.viuid.canvas module

**class** klovve.drivers.curses.viuid.canvas.Canvas

Bases: object

**class** Color(*r: float, g: float, b: float*)

Bases: object

**Parameters**

- *r (float)* –
- *g (float)* –
- *b (float)* –

**Return type** None

**property** a

**b:** float

**static** from\_string(*s*)

**Parameters** *s* (*Union*[klovve.drivers.curses.viuid.canvas.Color, str]) –

**Return type** klovve.drivers.curses.viuid.canvas.Color

**g:** float

**r:** float

**class** FullColor(*rich: klovve.drivers.curses.viuid.canvas.Color, base: klovve.drivers.curses.viuid.canvas.Color*)

Bases: object

**Parameters**

- *rich* (klovve.drivers.curses.viuid.canvas.Color) –
- *base* (klovve.drivers.curses.viuid.canvas.Color) –

**Return type** None

**base:** klovve.drivers.curses.viuid.canvas.Color

**static** from\_string(*s*)

**Parameters** *s* (*Union*[klovve.drivers.curses.viuid.canvas.Color, klovve.drivers.curses.viuid.canvas.FullColor, str]) –

**Return type** klovve.drivers.curses.viuid.canvas.FullColor

**rich:** klovve.drivers.curses.viuid.canvas.Color

**cursor**(*point*)

**Parameters** *point* (viuid.Point) –

**Return type** None

**fill**(*color, rectangle=None*)

**Parameters**

- **color** (*Union*[*klovve.drivers.curses.viwid.canvas.Color*, *klovve.drivers.curses.viwid.canvas.FullColor*, *str*]) –
- **rectangle** (*Optional*[*viwid.Rectangle*]) –

**Return type** *None***text**(*text*, *rectangle=None*)**Parameters** **rectangle** (*Optional*[*viwid.Rectangle*]) –**Return type** *None***class** *klovve.drivers.curses.viwid.canvas.Color*(*r: float*, *g: float*, *b: float*)Bases: *object***Parameters**

- **r** (*float*) –
- **g** (*float*) –
- **b** (*float*) –

**Return type** *None***property** **a****b:** *float***static** **from\_string**(*s*)**Parameters** **s** (*Union*[*klovve.drivers.curses.viwid.canvas.Color*, *str*]) –**Return type** *klovve.drivers.curses.viwid.canvas.Color***g:** *float***r:** *float***class** *klovve.drivers.curses.viwid.canvas.FullColor*(*rich: klovve.drivers.curses.viwid.canvas.Color*,  
*base: klovve.drivers.curses.viwid.canvas.Color*)Bases: *object***Parameters**

- **rich** (*klovve.drivers.curses.viwid.canvas.Color*) –
- **base** (*klovve.drivers.curses.viwid.canvas.Color*) –

**Return type** *None***base:** *klovve.drivers.curses.viwid.canvas.Color***static** **from\_string**(*s*)**Parameters** **s** (*Union*[*klovve.drivers.curses.viwid.canvas.Color*, *klovve.drivers.curses.viwid.canvas.FullColor*, *str*]) –**Return type** *klovve.drivers.curses.viwid.canvas.FullColor***rich:** *klovve.drivers.curses.viwid.canvas.Color*

**klovve.drivers.curses.viwid.data module**

```

class klovve.drivers.curses.viwid.data.List(v=())
    Bases: collections.abc.MutableSequence
    __correct_index(i)

        Parameters i (int) –
        Return type int
    _abc_impl = <_abc._abc_data object>
    _add_observer(item_added_func, item_removed_func, item_replaced_func=None, *, initialize=True)

        Parameters initialize (bool) –
        Return type None
    _remove_observer(observer)

        Parameters observer (klovve.drivers.curses.viwid.data.ListObserver) –
        Return type None
    insert(i, v)
        S.insert(index, value) – insert value before index
    update(other)

class klovve.drivers.curses.viwid.data.ListObserver
    Bases: object
    item_added(index, item)

        Parameters
        • index (int) –
        • item (object) –
        Return type None
    item_removed(index)

        Parameters index (int) –
        Return type None
    item_replaced(index, item)

        Return type None

```

**klovve.drivers.curses.viuid.layout module****class** klovve.drivers.curses.viuid.layout.**GridLayout**(*partitioning*)Bases: *klovve.drivers.curses.viuid.layout.Layout*Parameters **partitioning** (*Callable[[], list]*) –**\_\_horizontally\_process\_partitioning**(*minimal*)Parameters **partitioning** (*list*) –**\_\_process\_partitioning**(*size, fuh=None*)**\_\_stretch\_axis\_finally**(*stretch\_axis, target\_size*)**\_\_stretch\_axis\_minimals**(*axis\_minimal, target\_size*)**\_\_stretch\_from\_partitioning**()Parameters **partitioning** (*list*) –**\_\_trim\_geometry**(*position, size, total\_size*)**\_\_vertically\_process\_partitioning**(*minimal, cols*)

Parameters

• **partitioning** (*list*) –• **cols** (*list*) –**compute\_height**(*width, minimal*)

Parameters

• **width** (*int*) –• **minimal** (*bool*) –Return type *int***compute\_width**(*minimal*)Parameters **minimal** (*bool*) –Return type *int***set\_size**(*value*)**class** klovve.drivers.curses.viuid.layout.**Layout**Bases: *object***compute\_height**(*width, minimal*)Parameters **minimal** (*bool*) –**compute\_width**(*minimal*)Parameters **minimal** (*bool*) –**set\_size**(*value*)

```
class klovve.drivers.curses.viwid.layout.NullLayout
    Bases: object
    compute_height(width, minimal)
    compute_width(minimal)
    set_size(value)
```

#### klovve.drivers.curses.viwid.loop module

```
class klovve.drivers.curses.viwid.loop.Loop(event_loop=None)
    Bases: object
    Parameters event_loop (Optional[asyncio.base_events.BaseEventLoop]) –
    property event_loop: asyncio.base_events.BaseEventLoop
    async run()

    Return type None
```

#### klovve.drivers.curses.viwid.screen module

```
class klovve.drivers.curses.viwid.screen.AnchorRootAlignmentPositioning(anchor_widget)
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentPositioning
    Parameters anchor_widget (viwid.widgets.widget.Widget) –
    _abc_impl = <_abc._abc_data object>
    get_x(widget, screen_size)
    get_y(widget, screen_size)

class klovve.drivers.curses.viwid.screen.AutoRootAlignmentSizing(minimal_width=False,
                                                                    minimal_height=False)
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentSizing
    _abc_impl = <_abc._abc_data object>
    get_height(width, widget, screen_size)
    get_width(widget, screen_size)

class klovve.drivers.curses.viwid.screen.ByScreenRootAlignmentSizing(width_fraction=0.5,
                                                                        height_fraction=0.5)
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentSizing
    _abc_impl = <_abc._abc_data object>
    get_height(width, widget, screen_size)
    get_width(widget, screen_size)

class klovve.drivers.curses.viwid.screen.CenterRootAlignmentPositioning
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentPositioning
    _abc_impl = <_abc._abc_data object>
    get_x(widget, screen_size)
```

```
    get_y(widget, screen_size)
class klovve.drivers.curses.viwid.screen.FixedRootAlignmentPositioning(x=0, y=0)
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentPositioning
    _abc_impl = <_abc._abc_data object>
    get_x(widget, screen_size)
    get_y(widget, screen_size)
class klovve.drivers.curses.viwid.screen.FixedRootAlignmentSizing(width=1, height=1)
    Bases: klovve.drivers.curses.viwid.screen.RootAlignmentSizing
    _abc_impl = <_abc._abc_data object>
    get_height(width, widget, screen_size)
    get_width(widget, screen_size)
class klovve.drivers.curses.viwid.screen.RootAlignment(horizontal_positioning, vertical_positioning,
    horizontal_sizing, vertical_sizing)
    Bases: object
    apply(widget)
```

Parameters widget (viwid.widgets.widget.Widget) –

```
class klovve.drivers.curses.viwid.screen.RootAlignmentPositioning
    Bases: abc.ABC
    _abc_impl = <_abc._abc_data object>
    abstract get_x(widget, screen_size)
```

Parameters

- widget (viwid.widgets.widget.Widget) –
- screen\_size (viwid.Size) –

Return type int

```
abstract get_y(widget, screen_size)
```

Parameters

- widget (viwid.widgets.widget.Widget) –
- screen\_size (viwid.Size) –

Return type int

```
class klovve.drivers.curses.viwid.screen.RootAlignmentSizing
    Bases: abc.ABC
    _abc_impl = <_abc._abc_data object>
    abstract get_height(width, widget, screen_size)
```

Parameters

- width (int) –

- **widget** (`viwid.widgets.widget.Widget`) –
- **screen\_size** (`viwid.Size`) –

Return type `int`

**abstract** `get_width(widget, screen_size)`

#### Parameters

- **widget** (`viwid.widgets.widget.Widget`) –
- **screen\_size** (`viwid.Size`) –

Return type `int`

**class** `klovve.drivers.curses.viwid.screen.Screen(driver)`

Bases: `object`

**Parameters** **driver** (`viwid.drivers.driver.Driver`) –

**add\_root** (`widget, alignment=None, *, root_style_name='main'`)

#### Parameters

- **widget** (`viwid.widgets.widget.Widget`) –
- **alignment** (`Optional[RootAlignment]`) –
- **root\_style\_name** (`str`) –

Return type `TODO`

**property** `bottommost: Optional[viwid.widgets.widget.Widget]`

**property** `driver`

**abstract property** `focussed_widget: Optional[viwid.widgets.widget.Widget]`

**static** `handle_event(widget, ongoing_event)`

**Parameters** **ongoing\_event** (`viwid.event.base.OngoingEvent`) –

**popup** (`widget, alignment=None, *, root_style_name='popup'`)

#### Parameters

- **widget** (`viwid.widgets.widget.Widget`) –
- **alignment** (`Optional[RootAlignment]`) –
- **root\_style\_name** (`str`) –

Return type `TODO`

**property** `roots: Iterable[viwid.widgets.widget.Widget]`

**property** `roots_and_alignments: Iterable[tuple]`

**abstract property** `size: viwid.Size`

**property** `style: viwid.style.Style`

**property** `topmost: Optional[viwid.widgets.widget.Widget]`

**translate\_coordinates**(*point*, \*, *old\_origin*=None, *new\_origin*=None)

**Parameters**

- **point** (`viwid.Point`) –
- **old\_origin** (*Optional* [`viwid.widgets.widget.Widget`]) –
- **new\_origin** (*Optional* [`viwid.widgets.widget.Widget`]) –

**Return type** `viwid.Point`

**translate\_coordinates\_with\_visibility\_check**(*point*, \*, *old\_origin*=None, *new\_origin*=None)

**Parameters**

- **point** (`viwid.Point`) –
- **old\_origin** (*Optional* [`viwid.widgets.widget.Widget`]) –
- **new\_origin** (*Optional* [`viwid.widgets.widget.Widget`]) –

**Return type** `tuple`

**update**()

**Return type** `None`

## **klovve.drivers.curses.viwid.style module**

**class** `klovve.drivers.curses.viwid.style.ClassStyle`(\*, *normal*, *focussed*, *disabled*)

Bases: `object`

**Parameters**

- **normal** (`klovve.drivers.curses.viwid.style.StyleAtom`) –
- **focussed** (`klovve.drivers.curses.viwid.style.StyleAtom`) –
- **disabled** (`klovve.drivers.curses.viwid.style.StyleAtom`) –

**class** `klovve.drivers.curses.viwid.style.RootStyle`(\*, *root*, *plain*, *control*, *entry*, *list*, *list\_item*, *selected*, *progress\_done*, *progress\_not\_done*)

Bases: `object`

**Parameters**

- **root** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **plain** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **control** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **entry** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **list** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **list\_item** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **selected** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **progress\_done** (`klovve.drivers.curses.viwid.style.ClassStyle`) –
- **progress\_not\_done** (`klovve.drivers.curses.viwid.style.ClassStyle`) –



```
class klovve.drivers.curses.viwid.style.Style(*, main, popup)
```

Bases: object

**Parameters**

- **main** (klovve.drivers.curses.viwid.style.RootStyle) –
- **popup** (klovve.drivers.curses.viwid.style.RootStyle) –

```
class klovve.drivers.curses.viwid.style.StyleAtom(*, foreground, background=None)
```

Bases: object

## klovve.drivers.gtk package

```
class klovve.drivers.gtk.Driver
```

Bases: [klovve.drivers.Driver](#)

**\_create\_mainloop**()

**static name**()

**static rank**()

**show\_window**(window)

```
class klovve.drivers.gtk.EventLoop
```

Bases: [asyncio.unix\\_events.\\_UnixSelectorEventLoop](#)

**\_call\_soon**(callback, args, context)

**call\_at**(when, callback, \*args, context=None)

Like [call\\_later](#)(), but uses an absolute time.

Absolute time corresponds to the event loop's [time\(\)](#) method.

**create\_task**(coro, \*, name=None)

Schedule a coroutine object.

Return a task object.

```
class klovve.drivers.gtk.View(model, view_factory)
```

Bases: [Generic\[klovve.view.\\_TGo\]](#)

**Parameters**

- **model** (klovve.view.\_TGo) –
- **view\_factory** ([ViewFactory](#)) –

**\_\_bind**(\* , gprop\_name, value\_holder)

**Parameters value\_holder** ([klovve.data.value\\_holder.ValueHolder](#)) –

**static bind**(gobj, gprop\_name, value)

**Parameters value** (Any) –

**static gtk\_new**(viewtype, \*\*kwargs)

```
class klovve.drivers.gtk._Selector(context)
```

Bases: [selectors.\\_BaseSelectorImpl](#)

**\_abc\_impl** = <\_abc.\_abc\_data object>

**close()**

Close the selector.

This must be called to make sure that any underlying resource is freed.

**interrupt\_glib\_mainloop()****register**(*fileobj*, *events*, *data=None*)

Register a file object.

Parameters: *fileobj* – file object or file descriptor *events* – events to monitor (bitwise mask of `EVENT_READ|EVENT_WRITE`) *data* – attached data

Returns: `SelectorKey` instance

Raises: `ValueError` if *events* is invalid `KeyError` if *fileobj* is already registered `OSError` if *fileobj* is closed or otherwise is unacceptable to

the underlying system call (if a system call is made)

Note: `OSError` may or may not be raised

**select**(*timeout=None*)

Perform the actual selection, until some monitored file objects are ready or a timeout expires.

Parameters: *timeout* – if *timeout* > 0, this specifies the maximum wait time, in

seconds if *timeout* <= 0, the `select()` call won't block, and will report the currently ready file objects if *timeout* is `None`, `select()` will block until a monitored file object becomes ready

Returns: list of (*key*, *events*) for ready file objects *events* is a bitwise mask of `EVENT_READ|EVENT_WRITE`

**unregister**(*fileobj*)

Unregister a file object.

Parameters: *fileobj* – file object or file descriptor

Returns: `SelectorKey` instance

Raises: `KeyError` if *fileobj* is not registered

Note: If *fileobj* is registered but has since been closed this does *not* raise `OSError` (even if the wrapped syscall does)

**class** `klovve.drivers.gtk._Source`(\*args, \*\*kwargs)

Bases: `gi.overrides.GLib.Source`

**Constructors**

`Source()`

`new(source_funcs:GLib.SourceFuncs, struct_size:int) -> GLib.Source`

`EVENT_T0_GLIB = dict_items([(1, <flags G_IO_IN of type GLib.IOCondition>), (2, <flags G_IO_OUT of type GLib.IOCondition>)])`

`add_fd(fd, events)`

`check()`

`dispatch(callback, args)`

`get_events(fd)`

`prepare()`

```
remove_fd(fd)
```

```
klovve.drivers.gtk.children(widget)
```

## Subpackages

### klovve.drivers.gtk.views package

## Subpackages

### klovve.drivers.gtk.views.\_gtk\_private package

## Submodules

### klovve.drivers.gtk.views.\_gtk\_private.box module

```
class klovve.drivers.gtk.views._gtk_private.box.View(model, view_factory)
```

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.view.\_TGo) –
- **view\_factory** (ViewFactory) –

```
_orientation()
```

```
get_native(model, model_bind)
```

### klovve.drivers.gtk.views.form package

```
class klovve.drivers.gtk.views.form.View(model, view_factory)
```

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.form.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.form.Model
```

## Submodules

### klovve.drivers.gtk.views.form.section module

```
class klovve.drivers.gtk.views.form.section.View(model, view_factory)
```

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.form.section.Model) –
- **view\_factory** (ViewFactory) –

```
get_native(model, model_bind)
model: klovve.pieces.form.section.Model
```

## klovve.drivers.gtk.views.interact package

### Submodules

#### klovve.drivers.gtk.views.interact.abstract module

```
class klovve.drivers.gtk.views.interact.abstract.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

##### Parameters

- **model** (*klovve.pieces.interact.abstract.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
model: klovve.pieces.interact.abstract.Model
```

#### klovve.drivers.gtk.views.property\_panel package

```
class klovve.drivers.gtk.views.property_panel.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

##### Parameters

- **model** (*klovve.pieces.property\_panel.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
model: klovve.pieces.property_panel.Model
```

#### klovve.drivers.gtk.views.tabbed package

```
class klovve.drivers.gtk.views.tabbed.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

##### Parameters

- **model** (*klovve.pieces.tabbed.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
model: klovve.pieces.tabbed.Model
```

## Submodules

### klovve.drivers.gtk.views.tabbed.tab module

```
class klovve.drivers.gtk.views.tabbed.tab.View(*args, **kwargs)
    Bases: klovve.view.BaseView, Generic[klovve.view._TGo]
    get_composition(model, model_bind, pieces)
    model: klovve.pieces.tabbed.tab.Model
```

### klovve.drivers.gtk.views.viewer package

## Submodules

### klovve.drivers.gtk.views.viewer.image module

```
class klovve.drivers.gtk.views.viewer.image.Image(**kwargs)
    Bases: gi.repository.Gtk.Overlay
    __ensure_config_correct()
    __refresh(widget=None, *_ ,force=False)
    _refresch()
    display_coordinates_to_image_coordinates(x, y)
```

#### Parameters

- *x* (*float*) –
- *y* (*float*) –

#### Return type tuple

```
property display_height: int
property display_width: int
do_get_property(pspec)
do_set_property(pspec, value)
image_coordinates_to_display_coordinates(x, y)
```

#### Parameters

- *x* (*float*) –
- *y* (*float*) –

#### Return type tuple

```
image_offset_x
image_offset_y
property original_image_height: int
property original_image_width: int
```

**pixbuf**

**zoom\_factor**

**zoom\_in**(*by=0.1, \*, center\_x=0.5, center\_y=0.5*)

**Parameters**

- **by** (*float*) –
- **center\_x** (*float*) –
- **center\_y** (*float*) –

**Return type** None

**zoom\_out**(*by=0.1, \*, center\_x=0.5, center\_y=0.5*)

**Parameters**

- **by** (*float*) –
- **center\_x** (*float*) –
- **center\_y** (*float*) –

**Return type** None

**class** klovve.drivers.gtk.views.viewer.image.**Outer**(\*\**kwargs*)

Bases: `gi.overrides.Gtk.Widget`

**\_\_on\_mouse\_button\_pressed**(*\_, n\_press, x, y*)

**\_\_on\_mouse\_button\_released**(*\_, n\_press, x, y*)

**\_\_on\_mouse\_moved**(*\_, x, y*)

**\_\_on\_mouse\_wheel**(*\_, dx, dy*)

**do\_get\_property**(*pspec*)

**do\_measure**(*orientation, for\_size*)

measure(*self, orientation:Gtk.Orientation, for\_size:int*) -> *minimum:int, natural:int, minimum\_baseline:int, natural\_baseline:int*

**do\_set\_property**(*pspec, value*)

**do\_size\_allocate**(*width, height, \_*)

size\_allocate(*self, width:int, height:int, baseline:int*)

**pixbuf**

**set\_source**(*source*)

**Parameters** **source** (*str*) –

**source**

**class** klovve.drivers.gtk.views.viewer.image.**View**(*model, view\_factory*)

Bases: `Generic[klovve.view._TGo]`

**Parameters**

- **model** (`klovve.pieces.viewer.image.Model`) –
- **view\_factory** (`ViewFactory`) –

```

get_native(model, model_bind)
model: klovve.pieces.viewer.image.Model

```

### klovve.drivers.gtk.views.viewer.pdf module

```

class klovve.drivers.gtk.views.viewer.pdf.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

```

#### Parameters

- **model** (*klovve.pieces.viewer.pdf.Model*) –
- **view\_factory** (*ViewFactory*) –

```

get_native(model, model_bind)
model: klovve.pieces.viewer.pdf.Model

```

### Submodules

#### klovve.drivers.gtk.views.busy\_animation module

```

class klovve.drivers.gtk.views.busy_animation.Model(**kwargs)
    Bases: klovve.pieces.busy_animation.Model

```

property **gtk\_orientation**

property **spinner\_size**

```

class klovve.drivers.gtk.views.busy_animation.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

```

#### Parameters

- **model** (*klovve.drivers.gtk.views.busy\_animation.Model*) –
- **view\_factory** (*ViewFactory*) –

```

get_native(model, model_bind)
model: klovve.drivers.gtk.views.busy_animation.Model

```

#### klovve.drivers.gtk.views.button module

```

class klovve.drivers.gtk.views.button.Context(fabric, button)
    Bases: object

```

async **dialog**(*view*)

**error\_message\_for\_exceptions**(\**exception\_types*)

property **fabric**

```

class klovve.drivers.gtk.views.button.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

```

#### Parameters

- **model** (*klovve.pieces.button.Model*) –

- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.button.Model*

#### **klovve.drivers.gtk.views.checkable module**

**class** *klovve.drivers.gtk.views.checkable.View*(*model*, *view\_factory*)  
Bases: *Generic[klovve.view.\_TGo]*

##### **Parameters**

- **model** (*klovve.pieces.checkable.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.checkable.Model*

#### **klovve.drivers.gtk.views.disableable module**

**class** *klovve.drivers.gtk.views.disableable.View*(*model*, *view\_factory*)  
Bases: *Generic[klovve.view.\_TGo]*

##### **Parameters**

- **model** (*klovve.pieces.disableable.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.disableable.Model*

#### **klovve.drivers.gtk.views.dropdown module**

**class** *klovve.drivers.gtk.views.dropdown.View*(*model*, *view\_factory*)  
Bases: *Generic[klovve.view.\_TGo]*

##### **Parameters**

- **model** (*klovve.pieces.dropdown.Model*) –
- **view\_factory** (*ViewFactory*) –

**get\_native**(*model*, *model\_bind*)

**model:** *klovve.pieces.dropdown.Model*



**klovve.drivers.gtk.views.dual module**

```
class klovve.drivers.gtk.views.dual.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (*klovve.pieces.dual.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.dual.Model
```

**klovve.drivers.gtk.views.formatted\_text module**

```
class klovve.drivers.gtk.views.formatted_text.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (*klovve.pieces.formatted\_text.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.formatted_text.Model
```

**klovve.drivers.gtk.views.header module**

```
class klovve.drivers.gtk.views.header.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (*klovve.pieces.header.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.header.Model
```

**klovve.drivers.gtk.views.headered\_panel module**

```
class klovve.drivers.gtk.views.headered_panel.Model(**kwargs)
    Bases: klovve.pieces.headered_panel.Model
```

```
property title_label_css_classes
```

```
class klovve.drivers.gtk.views.headered_panel.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (*klovve.pieces.headered\_panel.Model*) –
- **view\_factory** (*ViewFactory*) –

```
get_native(model, model_bind)
model: klovve.pieces.headered_panel.Model
```

#### **klovve.drivers.gtk.views.horizontal\_box module**

```
class klovve.drivers.gtk.views.horizontal_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.horizontal_box.Model) –
        • view_factory (ViewFactory) –

    _orientation()
    model: klovve.pieces.horizontal_box.Model
```

#### **klovve.drivers.gtk.views.label module**

```
class klovve.drivers.gtk.views.label.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.label.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.label.Model
```

#### **klovve.drivers.gtk.views.list module**

```
class klovve.drivers.gtk.views.list.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.list.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.list.Model
```

**klovve.drivers.gtk.views.log\_pager module**

```
class klovve.drivers.gtk.views.log_pager.View(*args, **kwargs)
    Bases: Generic[klovve.view._TGo]
    __inner_size_changed(widget, *_ )
    get_native(model, model_bind)
    model: klovve.pieces.log_pager.Model

klovve.drivers.gtk.views.log_pager._time_text(d)
```

**klovve.drivers.gtk.views.placeholder module**

```
class klovve.drivers.gtk.views.placeholder.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.placeholder.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.placeholder.Model
```

**klovve.drivers.gtk.views.progress module**

```
class klovve.drivers.gtk.views.progress.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.progress.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.progress.Model
```

**klovve.drivers.gtk.views.scrollable module**

```
class klovve.drivers.gtk.views.scrollable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.scrollable.Model) –
        • view_factory (ViewFactory) –

    get_native(model, model_bind)
    model: klovve.pieces.scrollable.Model
```

**klovve.drivers.gtk.views.slider module**

```
class klovve.drivers.gtk.views.slider.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.slider.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.slider.Model
```

**klovve.drivers.gtk.views.split module**

```
class klovve.drivers.gtk.views.split.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.split.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.split.Model
```

**klovve.drivers.gtk.views.text\_field module**

```
class klovve.drivers.gtk.views.text_field.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.text_field.Model`) –
- **view\_factory** (`ViewFactory`) –

```
get_native(model, model_bind)
```

```
model: klovve.pieces.text_field.Model
```

**klovve.drivers.gtk.views.vertical\_box module**

```
class klovve.drivers.gtk.views.vertical_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
```

**Parameters**

- **model** (`klovve.pieces.vertical_box.Model`) –
- **view\_factory** (`ViewFactory`) –

```
_orientation()
```

```
model: klovve.pieces.vertical_box.Model
```

**klovve.drivers.gtk.views.window module**

```

class klovve.drivers.gtk.views.window.Context(fabric, main_window)
    Bases: object
        async dialog(view)
        error_message_for_exceptions(*exception_types)
        property fabric
class klovve.drivers.gtk.views.window.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.window.Model) –
            • view_factory (ViewFactory) –
        get_native(model, model_bind)
        model: klovve.pieces.window.Model

```

**klovve.pieces package****Subpackages****klovve.pieces.form package**

```

class klovve.pieces.form.Model(**kwargs)
    Bases: klovve.data.model.Model
        property items
class klovve.pieces.form.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.form.Model) –
            • view_factory (ViewFactory) –
        model: klovve.pieces.form.Model

```

**Submodules****klovve.pieces.form.section module**

```

class klovve.pieces.form.section.Model(**kwargs)
    Bases: klovve.data.model.Model
        property item
        property label
class klovve.pieces.form.section.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

```

**Parameters**

- **model** (`klovve.pieces.form.section.Model`) –
- **view\_factory** (`ViewFactory`) –

**model:** `klovve.pieces.form.section.Model`

**klovve.pieces.interact package**

**class** `klovve.pieces.interact.Model`(\*\*kwargs)

Bases: `klovve.data.model.Model`

**property** `answer`

**property** `is_answered`

**set\_answer**(*answer*)

**Submodules****klovve.pieces.interact.abstract module**

**class** `klovve.pieces.interact.abstract.Model`(\*\*kwargs)

Bases: `klovve.pieces.interact.Model`

**property** `get_answer_func`

**property** `inner_view`

**property** `message`

**property** `triggers`

**class** `klovve.pieces.interact.abstract.View`(*model*, *view\_factory*)

Bases: `Generic[klovve.view._TGo]`

**Parameters**

- **model** (`klovve.pieces.interact.abstract.Model`) –
- **view\_factory** (`ViewFactory`) –

**model:** `klovve.pieces.interact.abstract.Model`

**klovve.pieces.interact.message module**

**class** `klovve.pieces.interact.message.Model`(\*\*kwargs)

Bases: `klovve.pieces.interact.Model`

**property** `message`

**class** `klovve.pieces.interact.message.View`(\*args, \*\*kwargs)

Bases: `klovve.view.ComposedView[klovve.pieces.interact.message.Model]`

**get\_composition**(*model*, *model\_bind*, *pieces*)

**klovve.pieces.interact.textline module**

```

class klovve.pieces.interact.textline.Model(**kwargs)
    Bases: klovve.pieces.interact.Model

    property message

    property suggestion

class klovve.pieces.interact.textline.View(*args, **kwargs)
    Bases: klovve.view.ComposedView[klovve.pieces.interact.textline.Model]

    class TModel(**kwargs)
        Bases: klovve.data.model.Model

        property value

    get_composition(model, model_bind, pieces)

```

**klovve.pieces.interact.triggers module**

```

class klovve.pieces.interact.triggers.Model(**kwargs)
    Bases: klovve.pieces.interact.Model

    property message

    property triggers

class klovve.pieces.interact.triggers.View(*args, **kwargs)
    Bases: klovve.view.BaseView, Generic[klovve.view._TGo]

    get_composition(model, model_bind, pieces)

    model: klovve.pieces.interact.triggers.Model

```

**klovve.pieces.interact.yesno module**

```

class klovve.pieces.interact.yesno.Model(**kwargs)
    Bases: klovve.pieces.interact.Model

    property message

class klovve.pieces.interact.yesno.View(*args, **kwargs)
    Bases: klovve.view.ComposedView[klovve.pieces.interact.yesno.Model]

    get_composition(model, model_bind, pieces)

```

**klovve.pieces.log\_pager package**

```

class klovve.pieces.log_pager.Model(**kwargs)
    Bases: klovve.data.model.Model

    property boff

    property entries

class klovve.pieces.log_pager.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters

```

- **model** (`klovve.pieces.log_pager.Model`) –
- **view\_factory** (`ViewFactory`) –

**model:** `klovve.pieces.log_pager.Model`

## Submodules

### `klovve.pieces.log_pager.entry` module

```
class klovve.pieces.log_pager.entry.Model(**kwargs)
    Bases: klovve.data.model.Model

    property began_at
    property ended_at
    property entries
    property message
    property only_single_time
    property only_verbose

class klovve.pieces.log_pager.entry.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.log_pager.entry.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.log_pager.entry.Model
```

### `klovve.pieces.property_panel` package

```
class klovve.pieces.property_panel.Model(**kwargs)
    Bases: klovve.data.model.Model

    property entries
    property values

class klovve.pieces.property_panel.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.property_panel.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.property_panel.Model
```



## Submodules

### klovve.pieces.property\_panel.entry module

```
class klovve.pieces.property_panel.entry.Model(**kwargs)
    Bases: klovve.data.model.Model

    property label
    property name

class klovve.pieces.property_panel.entry.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.property_panel.entry.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.property_panel.entry.Model
```

### klovve.pieces.tabbed package

```
class klovve.pieces.tabbed.Model(**kwargs)
    Bases: klovve.data.model.Model

    property items

class klovve.pieces.tabbed.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.tabbed.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.tabbed.Model
```

## Submodules

### klovve.pieces.tabbed.tab module

```
class klovve.pieces.tabbed.tab.Model(**kwargs)
    Bases: klovve.data.model.Model

    property item
    property label

class klovve.pieces.tabbed.tab.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.tabbed.tab.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.tabbed.tab.Model
```

## klovve.pieces.viewer package

### Submodules

#### klovve.pieces.viewer.image module

```
class klovve.pieces.viewer.image.Model(**kwargs)
    Bases: klovve.data.model.Model

    property source

class klovve.pieces.viewer.image.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.viewer.image.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.viewer.image.Model
```

#### klovve.pieces.viewer.pdf module

```
class klovve.pieces.viewer.pdf.Model(**kwargs)
    Bases: klovve.data.model.Model

    property path

class klovve.pieces.viewer.pdf.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.viewer.pdf.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.viewer.pdf.Model
```

### Submodules

#### klovve.pieces.busy\_animation module

```
class klovve.pieces.busy_animation.Model(**kwargs)
    Bases: klovve.data.model.Model

    class Orientation(value)
        Bases: enum.Enum

        An enumeration.

        HORIZONTAL = 1
        VERTICAL = 2

    class Size(value)
        Bases: enum.Enum

        An enumeration.
```

```

    EXTRA_LARGE = 5
    LARGE = 4
    MEDIUM = 3
    SMALL = 2
    TINY = 1
    property orientation
    property size
    property text
class klovve.pieces.busy_animation.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.busy_animation.Model) –
            • view_factory (ViewFactory) –
    model: klovve.pieces.busy_animation.Model

```

#### klovve.pieces.button module

```

class klovve.pieces.button.Model(**kwargs)
    Bases: klovve.data.model.Model
    property action
    property text
class klovve.pieces.button.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.button.Model) –
            • view_factory (ViewFactory) –
    model: klovve.pieces.button.Model

```

#### klovve.pieces.checkable module

```

class klovve.pieces.checkable.Model(**kwargs)
    Bases: klovve.data.model.Model
    property is_checked
    property text
class klovve.pieces.checkable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]
        Parameters
            • model (klovve.pieces.checkable.Model) –
            • view_factory (ViewFactory) –

```

**model:** *klovve.pieces.checkable.Model*

### **klovve.pieces.disableable module**

```
class klovve.pieces.disableable.Model(**kwargs)
    Bases: klovve.data.model.Model

    property is_disabled
    property item

class klovve.pieces.disableable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.disableable.Model) –
        • view_factory (ViewFactory) –

model: klovve.pieces.disableable.Model
```

### **klovve.pieces.dropdown module**

```
class klovve.pieces.dropdown.Model(**kwargs)
    Bases: klovve.data.model.Model

    property item_label_func
    property items
    property selected_item

class klovve.pieces.dropdown.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.dropdown.Model) –
        • view_factory (ViewFactory) –

model: klovve.pieces.dropdown.Model
```

### **klovve.pieces.dual module**

```
class klovve.pieces.dual.Model(**kwargs)
    Bases: klovve.data.model.Model

    property main_item
    property side_item

class klovve.pieces.dual.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.dual.Model) –
        • view_factory (ViewFactory) –
```

**model:** *klovve.pieces.dual.Model*

### klovve.pieces.formatted\_text module

**class** klovve.pieces.formatted\_text.**Model**(\*\*kwargs)

Bases: *klovve.data.model.Model*

**property** text

**class** klovve.pieces.formatted\_text.**View**(model, view\_factory)

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.formatted\_text.Model) –
- **view\_factory** (ViewFactory) –

**model:** *klovve.pieces.formatted\_text.Model*

### klovve.pieces.header module

**class** klovve.pieces.header.**Model**(\*\*kwargs)

Bases: *klovve.data.model.Model*

**property** text

**class** klovve.pieces.header.**View**(model, view\_factory)

Bases: Generic[klovve.view.\_TGo]

#### Parameters

- **model** (klovve.pieces.header.Model) –
- **view\_factory** (ViewFactory) –

**model:** *klovve.pieces.header.Model*

### klovve.pieces.headered\_panel module

**class** klovve.pieces.headered\_panel.**Model**(\*\*kwargs)

Bases: *klovve.data.model.Model*

**class** **State**(value)

Bases: enum.Enum

An enumeration.

**BUSY** = 1

**FAILED** = 4

**SUCCESSFUL** = 2

**SUCCESSFUL\_WITH\_WARNING** = 3

**property** actions

**property** body

**property** progress

**property** state

**property** title

**property** title\_secondary\_items

**class** klovve.pieces.headered\_panel.**View**(model, view\_factory)

Bases: Generic[klovve.view.\_TGo]

**Parameters**

- **model** (klovve.pieces.headered\_panel.Model) –
- **view\_factory** (ViewFactory) –

**model:** *klovve.pieces.headered\_panel.Model*

### klovve.pieces.horizontal\_box module

**class** klovve.pieces.horizontal\_box.**Model**(\*\*kwargs)

Bases: *klovve.data.model.Model*

**property** items

**class** klovve.pieces.horizontal\_box.**View**(model, view\_factory)

Bases: Generic[klovve.view.\_TGo]

**Parameters**

- **model** (klovve.pieces.horizontal\_box.Model) –
- **view\_factory** (ViewFactory) –

**model:** *klovve.pieces.horizontal\_box.Model*

### klovve.pieces.label module

**class** klovve.pieces.label.**Model**(\*\*kwargs)

Bases: *klovve.data.model.Model*

**property** text

**class** klovve.pieces.label.**View**(model, view\_factory)

Bases: Generic[klovve.view.\_TGo]

**Parameters**

- **model** (klovve.pieces.label.Model) –
- **view\_factory** (ViewFactory) –

**model:** *klovve.pieces.label.Model*

**klovve.pieces.list module**

```

class klovve.pieces.list.Model(**kwargs)
    Bases: klovve.data.model.Model

    property allows_multiselect
    property barz
        @item_label_func.default def item_label_func(self):
            return lambda x: str(x)
    property item_actions
    property item_label_func
    property items
    property list_actions
    property selected_item
    property selected_items

```

```

class klovve.pieces.list.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.list.Model) –
        • view_factory (ViewFactory) –
    model: klovve.pieces.list.Model

```

**klovve.pieces.list\_panel module**

```

class klovve.pieces.list_panel.Model(**kwargs)
    Bases: klovve.data.model.Model

    property barz
    property body
    property item_actions
    property item_label_func
    property items
    property list_actions
    property selected_item

class klovve.pieces.list_panel.View(*args, **kwargs)
    Bases: klovve.view.ComposedView[klovve.pieces.list_panel.Model]

    get_composition(model, model_bind, pieces)

```

**klovve.pieces.placeholder module**

```
class klovve.pieces.placeholder.Model(**kwargs)
    Bases: klovve.data.model.Model

    property item

class klovve.pieces.placeholder.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.placeholder.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.placeholder.Model
```

**klovve.pieces.progress module**

```
class klovve.pieces.progress.Model(**kwargs)
    Bases: klovve.data.model.Model

    property value

class klovve.pieces.progress.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.progress.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.progress.Model
```

**klovve.pieces.scrollable module**

```
class klovve.pieces.scrollable.Model(**kwargs)
    Bases: klovve.data.model.Model

    property item

class klovve.pieces.scrollable.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.scrollable.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.scrollable.Model
```



**klovve.pieces.slider module**

```
class klovve.pieces.slider.Model(**kwargs)
    Bases: klovve.data.model.Model

    property max_value
    property min_value
    property step_value
    property value

class klovve.pieces.slider.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.slider.Model) –
        • view_factory (ViewFactory) –
    model: klovve.pieces.slider.Model
```

**klovve.pieces.split module**

```
class klovve.pieces.split.Model(**kwargs)
    Bases: klovve.data.model.Model

    property item1
    property item2

class klovve.pieces.split.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.split.Model) –
        • view_factory (ViewFactory) –
    model: klovve.pieces.split.Model
```

**klovve.pieces.text\_field module**

```
class klovve.pieces.text_field.Model(**kwargs)
    Bases: klovve.data.model.Model

    property hint_text
    property text

class klovve.pieces.text_field.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.text_field.Model) –
        • view_factory (ViewFactory) –
    model: klovve.pieces.text_field.Model
```

**klovve.pieces.vertical\_box module**

```
class klovve.pieces.vertical_box.Model(**kwargs)
    Bases: klovve.data.model.Model

    property items

class klovve.pieces.vertical_box.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.vertical_box.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.vertical_box.Model
```

**klovve.pieces.window module**

```
class klovve.pieces.window.Model(**kwargs)
    Bases: klovve.data.model.Model

    property actions
    property body
    property close_func
    property closing
    property icon
    property is_closed
    property name
    property title
    property title2

class klovve.pieces.window.View(model, view_factory)
    Bases: Generic[klovve.view._TGo]

    Parameters
        • model (klovve.pieces.window.Model) –
        • view_factory (ViewFactory) –

    model: klovve.pieces.window.Model
```

## 4.1.2 Submodules

### 4.1.3 klovve.application module

**class** klovve.application.**Application**

Bases: abc.ABC

**\_abc\_impl** = <\_abc.\_abc\_data object>

**abstract async sleep\_until\_stopped()**

**Return type** None

**abstract start()**

**Return type** None

**class** klovve.application.**ApplicationInternal**(\*, driver, view\_spec, type\_loader)

Bases: *klovve.application.Application*

**Parameters**

- **driver** (*klovve.drivers.Driver*) –
- **view\_spec** (*klovve.view.\_TVViewSpec*) –
- **type\_loader** (*klovve.type\_loader.TypeLoader*) –

**\_\_running\_apps\_changed\_event** = None

**\_\_running\_loop()**

**\_abc\_impl** = <\_abc.\_abc\_data object>

**static \_running\_apps\_changed\_event()**

**run()**

**running\_apps** = []

**async sleep\_until\_stopped()**

**async start()**

**class** klovve.application.**MainloopObjectProxy**(obj)

Bases: object

klovve.application.**call\_with\_kwargs**(func, \*\*kwargs)

klovve.application.**call\_with\_kwargs\_maybe\_async**(func, mainloop, \*\*kwargs)

klovve.application.**create\_app**(view\_spec, \*, type\_loader=None)

**Parameters**

- **view\_spec** (*klovve.view.\_TVViewSpec*) –
- **type\_loader** (*Optional[klovve.type\_loader.TypeLoader]*) –

**Return type** *Application*

klovve.application.**in\_mainloop**(func)

klovve.application.**in\_mainloop2**(func)

#### 4.1.4 klovve.debug module

```
class klovve.debug._Memory
    Bases: object
        _Memory__change_counter(kind, by)

            Parameters
                • kind (str) –
                • by (int) –
            Return type None
        _Memory__decrement_counter(kind)

            Parameters kind (str) –
            Return type None
        _Memory__increment_counter(kind)

            Parameters kind (str) –
            Return type None
    property current
    new_object_created(obj, kind)

        Parameters kind (str) –
    property since_startup
klovve.debug._print_loop()
```

#### 4.1.5 klovve.threading\_ module

```
exception klovve.threading_.ThreadingError
    Bases: Exception
klovve.threading_.verify_correct_thread()
```

#### 4.1.6 klovve.type\_loader module

```
class klovve.type_loader.DefaultTypeLoader(additional_packages)
    Bases: klovve.type_loader.TypeLoader
        Parameters additional_packages (Iterable[str]) –
    _abc_impl = <_abc._abc_data object>
    driver_type()
    model_type(name_tuple, *, driver)
    view_base_type(name_tuple)
```

```

view_type(name_tuple, *, driver)

class klovve.type_loader.TypeLoader
    Bases: abc.ABC
    _abc_impl = <_abc._abc_data object>
    abstract driver_type()

        Return type Type[klovve.drivers.Driver]
    abstract model_type(name_tuple)

        Parameters name_tuple (Iterable[str]) –
        Return type Type[klovve.Model]
    abstract view_base_type(name_tuple)

        Parameters name_tuple (Iterable[str]) –
        Return type Type[klovve.View]
    abstract view_type(name_tuple, *, driver)

        Parameters
        • name_tuple (Iterable[str]) –
        • driver (klovve.drivers.Driver) –
        Return type Type[klovve.View]

klovve.type_loader._find_modules(name_tuple, kind, additional_packages)

    Parameters
    • name_tuple (Iterable[str]) –
    • kind (str) –
    • additional_packages (Iterable[str]) –

klovve.type_loader._try_find_type_in_module(module_name, typename)

    Parameters
    • module_name (str) –
    • typename (str) –

klovve.type_loader._try_find_type_per_name_tuple(name_tuple, kind, typename, additional_packages)

    Parameters
    • name_tuple (Iterable[str]) –
    • kind (str) –
    • typename (str) –
    • additional_packages (Iterable[str]) –

```

### 4.1.7 klovve.view module

**class** klovve.view.BaseView(model, view\_factory)  
Bases: Generic[klovve.view.\_TGo]

**Parameters**

- **model** (klovve.view.\_TGo) –
- **view\_factory** (ViewFactory) –

**get\_native**(model, model\_bind)

**Parameters**

- **model** (klovve.view.\_TGo) –
- **model\_bind** (klovve.view.\_TGo) –

**Return type** object

**get\_native\_stuff**()

**class** klovve.view.BindFactory(model, twoway=True, converter\_in=None, converter\_out=None)  
Bases: object

**class** klovve.view.ComposedView(\*args, \*\*kwargs)  
Bases: klovve.view.BaseView, Generic[klovve.view.\_TGo]

**computed**(func)

**Return type** klovve.data.value\_holder.ValueHolder

**get\_composition**(model, model\_bind, pieces)

**Parameters**

- **model\_bind** (klovve.view.\_TGo) –
- **pieces** (klovve.view.ViewFactory) –

**Return type** klovve.view.ViewTreeNode

**get\_native**(model, model\_bind)

**exception** klovve.view.ViewError  
Bases: Exception

**class** klovve.view.ViewFactory(type\_loader, driver, TODO)  
Bases: object

**Parameters**

- **type\_loader** (klovve.type\_loader.TypeLoader) –
- **driver** (klovve.drivers.Driver) –
- **TODO** (app) –

**class** \_Node(view\_factory, view\_name)  
Bases: object

**Parameters**

- **view\_factory** (ViewFactory) –

---

```

    • view_name (Iterable[str]) –
create_view(name_tuple, /, *, model=None, **kwargs)

    Parameters name_tuple (Iterable[str]) –
    Return type klovve.View

class klovve.view.ViewTreeNode(view_factory, name_tuple, model, data)
    Bases: object

    Parameters data (Iterable[tuple]) –
    __create_or_update_view(old_tree, new_tree, model, parent_view, parent_view_prop_name)

    Parameters
    • old_tree (klovve.view.ViewTreeNode) –
    • new_tree (klovve.view.ViewTreeNode) –
    • model (klovve.data.model.Model) –
    • parent_view (klovve.view.BaseView) –
    • parent_view_prop_name (str) –
create_or_update_view(model, placeholder, old_tree)

    Parameters
    • model (klovve.data.model.Model) –
    • old_tree (klovve.view.ViewTreeNode) –
    property data: dict
    property model: Optional[klovve.data.model.Model]
    property name_tuple: Iterable[str]
    view()

    Return type klovve.view.BaseView

klovve.view._connect_value_holder(target_model, target_prop_name, value_holder)

    Parameters
    • target_model (klovve.data.model.Model) –
    • target_prop_name (str) –
    • value_holder (klovve.data.value_holder.ValueHolder) –
    Return type object

```





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