
Klovve
Release 0.3

unknown

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CONTENTS

| | | |
|----------|----------------------------|-----------|
| 1 | License | 3 |
| 2 | Up-To-Date? | 5 |
| 3 | User Manual | 7 |
| 3.1 | Getting Started | 7 |
| 4 | API Reference | 9 |
| 4.1 | klovve package | 9 |
| | Python Module Index | 85 |
| | Index | 87 |

Klovve is a UI lib.

**CHAPTER
ONE**

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.

**CHAPTER
TWO**

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 0.3.

CHAPTER
THREE

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 fizzwid_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_page module

```
class klovve.drivers.curses.views.log_page.View(*args, **kwargs)
    Bases: Generic[klovve.view._TGo]
    get_native(model, model_bind)
        model: klovve.pieces.log_page.Model
    klovve.drivers.curses.views.log_page._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.vivid package

```
class klovve.drivers.curses.vivid.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.vivid.Point

    with_x(x)

    Parameters x (int) –
    Return type klovve.drivers.curses.vivid.Point

    with_y(y)

    Parameters y (int) –
    Return type klovve.drivers.curses.vivid.Point
```

property **x:** int

property **y:** int

```
class klovve.drivers.curses.vivid.Rectangle(from_point, to)
    Bases: object
```

Parameters

- **from_point** (*klovve.drivers.curses.vivid.Point*) –
- **to** (*Union[klovve.drivers.curses.vivid.Point, klovve.drivers.curses.vivid.Size]*) –

property bottom_right: *klovve.drivers.curses.vivid.Point*

property bottom_y: *int*

property height: *int*

property left_x: *int*

property right_x: *int*

property top_left: *klovve.drivers.curses.vivid.Point*

property top_y: *int*

property width: *int*

class klovve.drivers.curses.vivid.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.vivid.Size*

property height: *int*

property width: *int*

with_height(*height*)

Parameters **height** (*int*) –

Return type *klovve.drivers.curses.vivid.Size*

with_width(*width*)

Parameters **width** (*int*) –

Return type *klovve.drivers.curses.vivid.Size*

Subpackages

[klovve.drivers.curses.vivid.+samples namespace](#)

Submodules

[klovve.drivers.curses.vivid.+samples.hello_world module](#)

[klovve.drivers.curses.vivid.+samples.hello_world2 module](#)

[klovve.drivers.curses.vivid.drivers package](#)

`klovve.drivers.curses.vivid.drivers.get_driver(event_loop=None)`

Return type *viwid.drivers.driver.Driver*

Submodules

[klovve.drivers.curses.vivid.drivers.curses module](#)

`class klovve.drivers.curses.vivid.drivers.curses.Driver(event_loop)`

Bases: *viwid.drivers.driver.Driver*

`__requests_queue()`

`_abc_implementation = <_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.vivid.drivers.curses._Canvas(driver, window, widget)`

Bases: *viwid.canvas.Canvas*

Parameters

- `driver` ([klovve.drivers.curses.vivid.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.vivid.drivers.driver module

```
class klovve.drivers.curses.vivid.drivers.driver.Driver
    Bases: abc.ABC

    _abc_implementation = <_abc._abc_data object>

    abstract add_widget_screen(widget)

        Parameters widget (viwid.widgets.widget.Widget) –
        Return type <module ‘vivid.screen’ from ‘/home/pino/projects/krrez_9/src/klovve/drivers/curses/vivid/screen.py’>

    abstract canvas(widget)

        Parameters widget (viwid.widgets.widget.Widget) –
        Return type vivid.canvas.Canvas

    abstract property loop: vivid.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[vivid.screen.Screen]
```

klovve.drivers.curses.vivid.event package

Submodules

klovve.drivers.curses.vivid.event.base module

```
class klovve.drivers.curses.vivid.event.base.OngoingEvent(name)
    Bases: object

    Parameters name (str) –
    property is_propagation_stopped: bool
    property name
    stop_propagation()

    Return type None
```

klovve.drivers.curses.vivid.event.input module

```
class klovve.drivers.curses.vivid.event.input.KeyboardOngoingEvent(key)
    Bases: vivid.event.base.OngoingEvent

    property key

class klovve.drivers.curses.vivid.event.input.MouseClickOngoingEvent(screen_position,
    left_button, right_button)
    Bases: vivid.event.base.OngoingEvent

    Parameters
        • screen_position (vivid.Point) –
        • left_button (bool) –
        • right_button (bool) –

    property left_button: bool
    property right_button: bool
    property screen_position: vivid.Point

class klovve.drivers.curses.vivid.event.input.ScrollOngoingEvent(screen_position, direction)
    Bases: vivid.event.base.OngoingEvent

    Parameters
        • screen_position (vivid.Point) –
        • direction (int) –

    property direction: int
    property screen_position: vivid.Point
```

klovve.drivers.curses.vivid.widgets package

Submodules

klovve.drivers.curses.vivid.widgets.box module

```
class klovve.drivers.curses.vivid.widgets.box.Box(**kwargs)
    Bases: vivid.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.vivid.widgets.box.CBox(**kwargs)
```

Bases: *klovve.drivers.curses.vivid.widgets.box.Box*

```
property class_style_name
```

```
class klovve.drivers.curses.vivid.widgets.box.Orientation(value)
```

Bases: enum.Enum

An enumeration.

```
HORIZONTAL = 2
```

```
VERTICAL = 1
```

klovve.drivers.curses.vivid.widgets.busy_animation module

```
class klovve.drivers.curses.vivid.widgets.busy_animation.BusyAnimation(**kwargs)
```

Bases: *vivid.widgets.label.Label*

```
__next()
```

klovve.drivers.curses.vivid.widgets.button module

```
class klovve.drivers.curses.vivid.widgets.button.Button(**kwargs)
```

Bases: *vivid.widgets.label.Label*

```
_keyboard_event(event)
```

```
_mouse_click_event(event)
```

```
property class_style_name
```

```
property focusable
```

```
property on_click
```

klovve.drivers.curses.vivid.widgets.check_button module

```
class klovve.drivers.curses.vivid.widgets.check_button.CheckButton(**kwargs)
```

Bases: *vivid.widgets.button.Button*

```
_keyboard_event(event)
```

```
_mouse_click_event(event)
```

```
property checked
```

```
compute_height(width, minimal)
```

```
compute_width(minimal)
```

```
paint(canvas)
```

klovve.drivers.curses.vivid.widgets.dropdown module

```
class klovve.drivers.curses.vivid.widgets.dropdown.DropDown(**kwargs)
    Bases: vivid.widgets.button.Button

    __click()
    _select(i)
    property items
    property selected_index
    property selected_item
```

klovve.drivers.curses.vivid.widgets.entry module

```
class klovve.drivers.curses.vivid.widgets.Entry(**kwargs)
    Bases: vivid.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.vivid.widgets.frame module

```
class klovve.drivers.curses.vivid.widgets.Frame(**kwargs)
    Bases: vivid.widgets.box.Box

    compute_height(width, minimal)
    compute_width(minimal)
    property item
    paint(canvas)
    set_size(v)
```

klovve.drivers.curses.vivid.widgets.label module

```
class klovve.drivers.curses.vivid.widgets.label(**kwargs)
    Bases: vivid.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.vivid.widgets.list module

```
class klovve.drivers.curses.vivid.widgets.list.List(**kwargs)
    Bases: vivid.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.vivid.widgets.list.ListRow(**kwargs)
    Bases: vivid.widgets.label.Label

    property class_style_name
    property is_selected
```

klovve.drivers.curses.vivid.widgets.progress_bar module

```
class klovve.drivers.curses.vivid.widgets.progress_bar.ProgressBar(**kwargs)
    Bases: vivid.widgets.label.Label

    property class_style_name
    compute_height(width, minimal)
    compute_width(minimal)
    paint(canvas)
```

property value

klovve.drivers.curses.vivid.widgets.radio_button module

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

klovve.drivers.curses.vivid.widgets.scrollable module

```
class klovve.drivers.curses.vivid.widgets.scrollable.Scrollable(**kwargs)
Bases: vivid.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.vivid.widgets.widget module

```
class klovve.drivers.curses.vivid.widgets.widget.Alignment(value)
Bases: enum.Enum

An enumeration.

CENTER = 3
FILL = 4
START = 1
STOP = 2
```

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

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

```
class klovve.drivers.curses.vivid.widgets.widget.Widget(**kwargs)
Bases: object

ListProperty(item_removed_func, item_replaced_func=None)
```

```
class Parti(widget)
    Bases: object
        focussed()
        jmpsto(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.vivid.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 (vivid.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.vivid.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.vivid.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.vivid.widgets.widget._Property(setter, default=<function
                                                               _Property.<lambda>>)
Bases: property

    _fget(obj)
    _fset(obj, value)
```

Submodules

klovve.drivers.curses.vivid.canvas module

class klovve.drivers.curses.vivid.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.vivid.canvas.Color, str]) –
Return type klovve.drivers.curses.vivid.canvas.Color

g: float

r: float

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

Bases: object

Parameters

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

Return type None

base: klovve.drivers.curses.vivid.canvas.Color

static from_string(*s*)

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

rich: klovve.drivers.curses.vivid.canvas.Color

cursor(*point*)

Parameters **point** (vivid.Point) –

Return type None

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

Parameters

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

Return type None

text(*text, rectangle=None*)

Parameters **rectangle** (*Optional[vivid.Rectangle]*) –

Return type None

class *klovve.drivers.curses.vivid.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.vivid.canvas.Color, str]*) –

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

g: float

r: float

class *klovve.drivers.curses.vivid.canvas.FullColor*(*rich: klovve.drivers.curses.vivid.canvas.Color, base: klovve.drivers.curses.vivid.canvas.Color*)
Bases: object

Parameters

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

Return type None

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

static from_string(*s*)

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

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

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

klovve.drivers.curses.vivid.data module

```
class klovve.drivers.curses.vivid.data.List(v=())
    Bases: collections.abc.MutableSequence

    _correct_index(i)
        Parameters i (int) –
        Return type int

    _abc_implementation = <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.vivid.data.ListObserver) –
        Return type None

    insert(i, v)
        S.insert(index, value) – insert value before index

    update(other)
class klovve.drivers.curses.vivid.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.vivid.layout module

```
class klovve.drivers.curses.vivid.layout.GridLayout(partitioning)
Bases: klovve.drivers.curses.vivid.layout.Layout
```

Parameters **partitioning** (*Callable*[[], *list*]) –

__horizontally_process_partitioning(*minimal*)

Parameters **partitioning** (*list*) –

__process_partitioning(*size*, *fuuh*=*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.vivid.layout.Layout
```

Bases: *object*

compute_height(*width*, *minimal*)

Parameters **minimal** (*bool*) –

compute_width(*minimal*)

Parameters **minimal** (*bool*) –

set_size(*value*)

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

klovve.drivers.curses.vivid.loop module

```
class klovve.drivers.curses.vivid.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.vivid.screen module

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

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

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

```
get_y(widget, screen_size)

class klovve.drivers.curses.vivid.screen.FixedRootAlignmentPositioning(x=0, y=0)
    Bases: klovve.drivers.curses.vivid.screen.RootAlignmentPositioning

    __abc_impl = <__abc.__abc_data object>

get_x(widget, screen_size)
get_y(widget, screen_size)

class klovve.drivers.curses.vivid.screen.FixedRootAlignmentSizing(width=1, height=1)
    Bases: klovve.drivers.curses.vivid.screen.RootAlignmentSizing

    __abc_impl = <__abc.__abc_data object>

get_height(width, widget, screen_size)
get_width(widget, screen_size)

class klovve.drivers.curses.vivid.screen.RootAlignment(horizontal_positioning, vertical_positioning,
                                                       horizontal_sizing, vertical_sizing)
    Bases: object

apply(widget)

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

class klovve.drivers.curses.vivid.screen.RootAlignmentPositioning
    Bases: abc.ABC

    __abc_impl = <__abc.__abc_data object>

abstract get_x(widget, screen_size)

    Parameters
        • widget (vivid.widgets.widget.Widget) –
        • screen_size (vivid.Size) –

    Return type int

abstract get_y(widget, screen_size)

    Parameters
        • widget (vivid.widgets.widget.Widget) –
        • screen_size (vivid.Size) –

    Return type int

class klovve.drivers.curses.vivid.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.vivid.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.vivid.style` module

`class klovve.drivers.curses.vivid.style.ClassStyle(*, normal, focussed, disabled)`
Bases: `object`

Parameters

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

`class klovve.drivers.curses.vivid.style.RootStyle(*, root, plain, control, entry, list, list_item, selected, progress_done, progress_not_done)`
Bases: `object`

Parameters

- `root` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `plain` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `control` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `entry` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `list` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `list_item` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `selected` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `progress_done` (`klovve.drivers.curses.vivid.style.ClassStyle`) –
- `progress_not_done` (`klovve.drivers.curses.vivid.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_TO_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)
    _refresh()
    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._TGo0]

    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._TGo0]

    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._TGo0]

    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._TGo0]

    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._TViewSpec](#)) –
- **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._TViewSpec](#)) –
- **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*

PYTHON MODULE INDEX

k

klovve, 9
klovve.application, 79
klovve.data, 9
klovve.data.deps, 9
klovve.data.lists, 11
klovve.data.model, 13
klovve.data.observable_value, 16
klovve.data.reaction, 16
klovve.data.value_holder, 17
klovve.debug, 80
klovve.drivers, 18
klovve.drivers.bare_terminal, 18
klovve.drivers.bare_terminal.views, 19
klovve.drivers.bare_terminal.views.checkable, 19
klovve.drivers.bare_terminal.views.headered_panel, 20
klovve.drivers.bare_terminal.views.interact, 19
klovve.drivers.bare_terminal.views.interact.abstract, 19
klovve.drivers.bare_terminal.views.label, 20
klovve.drivers.bare_terminal.views.log_pager, 20
klovve.drivers.bare_terminal.views.placeholder, 21
klovve.drivers.bare_terminal.views.split, 21
klovve.drivers.bare_terminal.views.vertical_box, 21
klovve.drivers.bare_terminal.views.viewer, 19
klovve.drivers.bare_terminal.views.viewer.image, 19
klovve.drivers.bare_terminal.views.window, 21
klovve.drivers.curses, 22
klovve.drivers.curses.views, 22
klovve.drivers.curses.views._curses_private, 22
klovve.drivers.curses.views._curses_private.box, 22
klovve.drivers.curses.views.busy_animation, 25
klovve.drivers.curses.views.button, 25
klovve.drivers.curses.views.checkable, 26
klovve.drivers.curses.views.disableable, 26
klovve.drivers.curses.views.dropdown, 26
klovve.drivers.curses.views.dual, 27
klovve.drivers.curses.views.form, 23
klovve.drivers.curses.views.form.section, 23
klovve.drivers.curses.views.formatted_text, 27
klovve.drivers.curses.views.header, 27
klovve.drivers.curses.views.headered_panel, 27
klovve.drivers.curses.views.horizontal_box, 28
klovve.drivers.curses.views.interact, 23
klovve.drivers.curses.views.interact.abstract, 23
klovve.drivers.curses.views.label, 28
klovve.drivers.curses.views.list, 28
klovve.drivers.curses.views.log_pager, 29
klovve.drivers.curses.views.placeholder, 29
klovve.drivers.curses.views.progress, 29
klovve.drivers.curses.views.property_panel, 24
klovve.drivers.curses.views.scrollable, 29
klovve.drivers.curses.views.slider, 30
klovve.drivers.curses.views.split, 30
klovve.drivers.curses.views.tabbed, 24
klovve.drivers.curses.views.tabbed.tab, 24
klovve.drivers.curses.views.text_field, 30
klovve.drivers.curses.views.vertical_box, 30
klovve.drivers.curses.views.viewer, 24
klovve.drivers.curses.views.viewer.image, 24
klovve.drivers.curses.views.viewer.pdf, 25
klovve.drivers.curses.views.window, 31
klovve.drivers.curses.vivid, 31
klovve.drivers.curses.vivid.canvas, 45
klovve.drivers.curses.vivid.data, 47
klovve.drivers.curses.vivid.drivers, 33
klovve.drivers.curses.vivid.drivers.curses, 33
klovve.drivers.curses.vivid.drivers.driver,

35
klovve.drivers.curses.vivid.event, 35
klovve.drivers.curses.vivid.event.base, 35
klovve.drivers.curses.vivid.event.input, 36
klovve.drivers.curses.vivid.layout, 48
klovve.drivers.curses.vivid.loop, 49
klovve.drivers.curses.vivid.screen, 49
klovve.drivers.curses.vivid.style, 52
klovve.drivers.curses.vivid.widgets, 36
klovve.drivers.curses.vivid.widgets.box, 36
klovve.drivers.curses.vivid.widgets.busy_animation, 37
klovve.drivers.curses.vivid.widgets.button, 37
klovve.drivers.curses.vivid.widgets.check_button, 37
klovve.drivers.curses.vivid.widgets.dropdown, 38
klovve.drivers.curses.vivid.widgets.entry, 38
klovve.drivers.curses.vivid.widgets.frame, 38
klovve.drivers.curses.vivid.widgets.label, 39
klovve.drivers.curses.vivid.widgets.list, 39
klovve.drivers.curses.vivid.widgets.progress_bar, 39
klovve.drivers.curses.vivid.widgets.radio_button, 40
klovve.drivers.curses.vivid.widgets.scrollable, 40
klovve.drivers.curses.vivid.widgets.widget, 40
klovve.drivers.gtk, 53
klovve.drivers.gtk.views, 55
klovve.drivers.gtk.views._gtk_private, 55
klovve.drivers.gtk.views._gtk_private.box, 55
klovve.drivers.gtk.views.busy_animation, 59
klovve.drivers.gtk.views.button, 59
klovve.drivers.gtk.views.checkable, 60
klovve.drivers.gtk.views.disableable, 60
klovve.drivers.gtk.views.dropdown, 60
klovve.drivers.gtk.views.dual, 61
klovve.drivers.gtk.views.form, 55
klovve.drivers.gtk.views.form.section, 55
klovve.drivers.gtk.views.formatted_text, 61
klovve.drivers.gtk.views.header, 61
klovve.drivers.gtk.views.headered_panel, 61
klovve.drivers.gtk.views.horizontal_box, 62
klovve.drivers.gtk.views.interact, 56
klovve.drivers.gtk.views.interact.abstract, 56
klovve.drivers.gtk.views.label, 62
klovve.drivers.gtk.views.list, 62
klovve.drivers.gtk.views.log_pager, 63
klovve.drivers.gtk.views.placeholder, 63
klovve.drivers.gtk.views.progress, 63
klovve.drivers.gtk.views.property_panel, 56
klovve.drivers.gtk.views.scrollable, 63
klovve.drivers.gtk.views.slider, 64
klovve.drivers.gtk.views.split, 64
klovve.drivers.gtk.views.tabbed, 56
klovve.drivers.gtk.views.tabbed.tab, 57
klovve.drivers.gtk.views.text_field, 64
klovve.drivers.gtk.views.vertical_box, 64
klovve.drivers.gtk.views.viewer, 57
klovve.drivers.gtk.views.viewer.image, 57
klovve.drivers.gtk.views.viewer.pdf, 59
klovve.drivers.gtk.views.window, 65
klovve.pieces, 65
klovve.pieces.busy_animation, 70
klovve.pieces.button, 71
klovve.pieces.checkable, 71
klovve.pieces.disableable, 72
klovve.pieces.dropdown, 72
klovve.pieces.dual, 72
klovve.pieces.form, 65
klovve.pieces.form.section, 65
klovve.pieces.formatted_text, 73
klovve.pieces.header, 73
klovve.pieces.headered_panel, 73
klovve.pieces.horizontal_box, 74
klovve.pieces.interact, 66
klovve.pieces.interact.abstract, 66
klovve.pieces.interact.message, 66
klovve.pieces.interact.textline, 67
klovve.pieces.interact.triggers, 67
klovve.pieces.interact.yesno, 67
klovve.pieces.label, 74
klovve.pieces.list, 75
klovve.pieces.list_panel, 75
klovve.pieces.log_pager, 67
klovve.pieces.log_pager.entry, 68
klovve.pieces.placeholder, 76
klovve.pieces.progress, 76
klovve.pieces.property_panel, 68
klovve.pieces.property_panel.entry, 69
klovve.pieces.scrollable, 76
klovve.pieces.slider, 77
klovve.pieces.split, 77
klovve.pieces.tabbed, 69
klovve.pieces.tabbed.tab, 69
klovve.pieces.text_field, 77
klovve.pieces.vertical_box, 78
klovve.pieces.viewer, 70
klovve.pieces.viewer.image, 70
klovve.pieces.viewer.pdf, 70
klovve.pieces.window, 78
klovve.threading_, 80
klovve.type_loader, 80
klovve.view, 82

INDEX

Symbols

_Canvas (class in klovve.drivers.curses.vivid.drivers.curses), 33
_ComputedProperty (class in klovve.data.model), 15
_CursesColors (class in klovve.drivers.curses.vivid.drivers.curses), 34
_CursesColors.Mode (class in klovve.drivers.curses.vivid.drivers.curses), 34
_CursesColors.__curses_color() (klovve.drivers.curses.vivid.drivers.curses._CursesColors method), 34
_ListProperty (class in klovve.drivers.curses.vivid.widgets.widget), 44
_Loop (class in klovve.drivers.curses.vivid.drivers.curses), 34
_Memory (class in klovve.debug), 80
_Memory.__change_counter() (klovve.debug._Memory method), 80
_Memory.__decrement_counter() (klovve.debug._Memory method), 80
_Memory.__increment_counter() (klovve.debug._Memory method), 80
_Property (class in klovve.drivers.curses.vivid.widgets.widget), 44
_ReactionModel (class in klovve.data.reaction), 16
_Screen (class in klovve.drivers.curses.vivid.drivers.curses), 34
_Selector (class in klovve.drivers.gtk), 53
_Source (class in klovve.drivers.gtk), 54
__add_changed_handler() (klovve.data.model.Model method), 14
__available_version() (klovve.data.model.Model method), 14
__bind() (klovve.drivers.curses.View method), 22
__bind() (klovve.drivers.gtk.View method), 53
__click() (klovve.drivers.curses.vivid.widgets.dropdown.DropDown method), 58
__compute() (klovve.data.model.Model method), 14
__correct_index() (klovve.data.lists.List method), 11
__correct_index() (klovve.drivers.curses.vivid.data.List method), 47
__correct_offset() (klovve.drivers.curses.vivid.widgets.scrollable.Scrollable method), 40
__create_or_update_view() (klovve.view.ViewTreeNode method), 83
__ensure_config_correct() (klovve.drivers gtk.views.viewer.image.Image method), 57
__find_last_whitespace() (klovve.drivers.curses.vivid.widgets.label.Label method), 39
__head_version() (klovve.data.model.Model method), 14
__horizontally_process_partitioning() (klovve.drivers.curses.vivid.layout.GridLayout method), 48
__inner_size_changed() (klovve.drivers.gtk.views.log_pager.View method), 63
__invalidate() (klovve.data.model.Model method), 14
__item_added() (klovve.drivers.curses.vivid.widgets.box.Box method), 36
__item_added() (klovve.drivers.curses.vivid.widgets.widget.Widget method), 41
__item_removed() (klovve.drivers.curses.vivid.widgets.box.Box method), 36
__item_removed() (klovve.drivers.curses.vivid.widgets.widget.Widget method), 41
__move_offset() (klovve.drivers.curses.vivid.widgets.scrollable.Scrollable method), 40
__next() (klovve.drivers.curses.vivid.widgets.busy_animation.BusyAnimation method), 37
__on_mouse_button_pressed() (klovve.drivers.gtk.views.viewer.image.Outer method), 58
__on_mouse_button_released() (klovve.drivers.gtk.views.viewer.image.Outer method), 58
__on_mouse_moved() (klovve.drivers.gtk.views.viewer.image.Outer method), 58
__on_mouse_wheel() (klovve.drivers.gtk.views.viewer.image.Outer method), 58

```
    method), 58
__process_partitioning()
    (klovve.drivers.curses.vivid.layout.GridLayout
     method), 48
__refresh() (klovve.drivers.gtk.views.viewer.image.Image
    method), 57
__remove_changed_handler()
    (klovve.data.model.Model method), 14
__requests_queue() (klovve.drivers.curses.vivid.drivers.curses.Dr
    method), 33
__running_apps_changed_event
    (klovve.application.ApplicationInternal      at-
     tribute), 79
__running_loop() (klovve.application.ApplicationInternal
    method), 79
__stretch_axis_finally()
    (klovve.drivers.curses.vivid.layout.GridLayout
     method), 48
__stretch_axis_minimals()
    (klovve.drivers.curses.vivid.layout.GridLayout
     method), 48
__stretch_from_partitioning()
    (klovve.drivers.curses.vivid.layout.GridLayout
     method), 48
__trim_geometry() (klovve.drivers.curses.vivid.layout.GridLayout
    method), 48
__vertically_process_partitioning()
    (klovve.drivers.curses.vivid.layout.GridLayout
     method), 48
_abc_Impl (klovve.application.Application attribute), 79
_abc_Impl (klovve.application.ApplicationInternal at-
     tribute), 79
_abc_Impl (klovve.data.lists.List attribute), 11
_abc_Impl (klovve.data.observable_value.ObservableValue
    attribute), 16
_abc_Impl (klovve.data.observable_value.ObservableValueProtocol
    attribute), 16
_abc_Impl (klovve.data.value_holder.ComputedValue
    attribute), 17
_abc_Impl (klovve.data.value_holder.OneWayBinding
    attribute), 17
_abc_Impl (klovve.data.value_holder.TwoWayBinding
    attribute), 17
_abc_Impl (klovve.data.value_holder.ValueHolder at-
     tribute), 17
_abc_Impl (klovve.drivers.curses.vivid.data.List
    attribute), 47
_abc_Impl (klovve.drivers.curses.vivid.drivers.curses.Driver
    attribute), 33
_abc_Impl (klovve.drivers.curses.vivid.drivers.driver.Driver
    attribute), 35
_abc_Impl (klovve.drivers.curses.vivid.screen.AnchorRootA
    attribute), 49
_abc_Impl (klovve.drivers.curses.vivid.screen.AutoRootAlign
    attribute), 49
_abc_Impl (klovve.drivers.curses.vivid.screen.ByScreenRootAlignmentSiz
    attribute), 49
_abc_Impl (klovve.drivers.curses.vivid.screen.CenterRootAlignmentPosition
    attribute), 49
_abc_Impl (klovve.drivers.curses.vivid.screen.FixedRootAlignmentPosition
    attribute), 50
_abc_Impl (klovve.drivers.curses.vivid.screen.FixedRootAlignmentSizing
    attribute), 50
_abc_Impl (klovve.drivers.curses.vivid.screen.RootAlignmentPositioning
    attribute), 50
_abc_Impl (klovve.drivers.curses.vivid.screen.RootAlignmentSizing
    attribute), 50
_abc_Impl (klovve.drivers.gtk._Selector attribute), 53
_abc_Impl (klovve.type_loader.DefaultTypeLoader at-
     tribute), 80
_abc_Impl (klovve.type_loader.TypeLoader attribute),
    81
_add_observer() (klovve.data.lists.List method), 11
_add_observer() (klovve.drivers.curses.vivid.data.List
    method), 47
_call_soon() (klovve.drivers.gtk.EventLoop method),
    53
_children (klovve.drivers.curses.vivid.widgets.widget.Widget
    property), 41
_compute() (klovve.data.model.Property method), 15
_compute() (klovve.data.model.PropertyBase method),
    15
_compute() (klovve.data.model._ComputedProperty
    method), 15
_connect_value_holder() (in module klovve.view),
    83
_create_mainloop() (klovve.drivers.Driver method),
    18
_create_mainloop() (klovve.drivers.bare_terminal.Driver
    method), 18
_create_mainloop() (klovve.drivers.curses.Driver
    method), 22
_create_mainloop() (klovve.drivers.gtk.Driver
    method), 53
_fget() (klovve.data.model.PropertyBase method), 15
_fget() (klovve.drivers.curses.vivid.widgets.widget._ListProperty
    method), 44
_fget() (klovve.drivers.curses.vivid.widgets.widget._Property
    method), 44
_find_modules() (in module klovve.type_loader), 81
_flush_dependency_handlers()
    (klovve.data.deps.DependencySubject method),
    10
flush_dependency_handlers()
    (klovve.data.model.Model method), 14
fget()
    (klovve.data.model.ListProperty method), 14
_fset() (klovve.data.model.PropertyBase method), 15
fset()
    (klovve.data.model._ComputedProperty
    method), 15
```

```

        method), 15
_fset() (klovve.drivers.curses.vivid.widgets.widget._ListProperty
        method), 44
_fset() (klovve.drivers.curses.vivid.widgets.widget._Property
        method), 44
_get_dependencies()
    (klovve.data.deps.DependencySubject method),
    10
_get_dependencies() (klovve.data.model.Model
        method), 14
_get_none_value_func() (in module
    klovve.data.model), 15
_initially() (klovve.data.model.PropertyBase
        method), 15
_initially() (klovve.data.model._ComputedProperty
        method), 15
_internal_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_is_protocol (klovve.data.lists.List attribute), 11
_is_protocol (klovve.data.observable_value.ObservableValue
        attribute), 16
_is_protocol (klovve.data.observable_value.ObservableValue
        attribute), 16
_is_runtime_protocol
    (klovve.data.observable_value.ObservableValuePro
        attribute), 16
_keyboard_event() (klovve.drivers.curses.vivid.widgets.button.Button
        method), 37
_keyboard_event() (klovve.drivers.curses.vivid.widgets.check_button.CheckButt
        method), 37
_keyboard_event() (klovve.drivers.curses.vivid.widgets.list.List
        method), 39
_keyboard_event() (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_mainloop (klovve.drivers.Driver attribute), 18
_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.button.Button_select()
        method), 37
_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.check_button.CheckButt
        method), 37
_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.list.List
        method), 39
_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_orientation() (klovve.drivers.curses.views._curses_private.box.Vikløvve.drivers.curses.views.log_pager),
        22
_orientation() (klovve.drivers.curses.views.horizontal_box.View
        method), 28
        _orientation() (klovve.drivers.curses.views.vertical_box.View
            method), 30
        _orientation() (klovve.drivers.gtk.views._gtk_private.box.View
            method), 55
        _orientation() (klovve.drivers.gtk.views.horizontal_box.View
            method), 62
        _orientation() (klovve.drivers.gtk.views.vertical_box.View
            method), 64
_partitioning2() (klovve.drivers.curses.vivid.widgets.box.Box
        method), 37
_preview_internal_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_preview_keyboard_event()
    (klovve.drivers.curses.vivid.widgets.scrollable.Scrollable
        method), 40
_preview_keyboard_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_preview_mouse_click_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_preview_scroll_event()
    (klovve.drivers.curses.vivid.widgets.scrollable.Scrollable
        method), 40
_preview_scroll_event()
    (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 42
_print_loop() (in module klovve.debug), 80
_press_and_release() (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 57
_remove_observer() (klovve.data.lists.List method), 11
_remove_observer() (klovve.drivers.curses.vivid.data.List
        method), 38
_remove_observer() (klovve.drivers.curses.vivid.widgets.list.List
        method), 47
_remove_observer() (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 41
_running_apps_changed_event()
    (klovve.application.ApplicationInternal static
        method), 79
_scroll_event() (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 42
_scroll_event() (klovve.drivers.curses.vivid.widgets.dropdown.DropDown
        method), 38
_set_dependencies()
    (klovve.data.deps.DependencySubject method),
    10
_set_dependencies() (klovve.data.model.Model
        method), 14
_set_value() (klovve.data.model.Model method), 14
_text_in_width() (klovve.drivers.curses.vivid.widgets.label.Label
        method), 39
_time_text() (in module
    klovve.drivers.curses.views.log_pager), 29
_time_text() (in module
    klovve.drivers.gtk.views.log_pager), 63
_trigger_changed() (klovve.data.model.Model
        method), 28

```

```

        method), 14
_trigger_changed() (klovve.data.observable_value.ObservableValue
        method), 16
_trigger_changed() (klovve.data.observable_value.ObservableValue
        method), 16
_try_find_type_in_module() (in module
    klovve.type_loader), 81
_try_find_type_per_name_tuple() (in module
    klovve.type_loader), 81
_update__default_create_target_object() (in
    module klovve.data.lists), 13
_update__default_is_matching_target_object() (in
    module klovve.data.lists), 13
_update__default_update_target_object() (in
    module klovve.data.lists), 13
_use_last_value_during_recompute() (klovve.data.model.PropertyBase
        method), 15
_use_last_value_during_recompute() (klovve.data.model._ComputedProperty
        method), 15
_value() (klovve.data.model.Model method), 14

A
a (klovve.drivers.curses.vivid.canvas.Canvas property), 45
a (klovve.drivers.curses.vivid.canvas.Canvas property), 46
action (klovve.pieces.button.Model property), 71
actions (klovve.pieces.headered_panel.Model property), 73
actions (klovve.pieces.window.Model property), 78
add_changed_handler() (klovve.data.observable_value.ObservableValue
        method), 16
add_changed_handler() (klovve.data.observable_value.ObservableValuePhantommost
        method), 16
add_fd() (klovve.drivers.gtk._Source method), 54
add_root() (klovve.drivers.curses.vivid.screen.Screen
        method), 51
add_widget_screen() (klovve.drivers.curses.vivid.drivers.curses.Driver
        method), 33
add_widget_screen() (klovve.drivers.curses.vivid.drivers.driver.Driver
        method), 35
Alignment (class in klovve.drivers.curses.vivid.widgets.widget), 40
alive() (klovve.drivers.curses.vivid.widgets.widget.Widget
        method), 42
allows_multiselect (klovve.pieces.list.Model property), 75
AnchorRootAlignmentPositioning (class in
    klovve.drivers.curses.vivid.screen), 49

B
answer (klovve.pieces.interact.Model property), 66
Application (class in klovve.application), 79
ApplicationInternal (class in klovve.application), 79
apply_all(klovve.drivers.curses.vivid.screen.RootAlignment
        method), 50
AutoRootAlignmentSizing (class in
    klovve.drivers.curses.vivid.screen), 49

b
b (klovve.drivers.curses.vivid.canvas.Canvas.Color attribute), 45
b (klovve.drivers.curses.vivid.canvas.Canvas attribute), 46
background (klovve.drivers.curses.vivid.widgets.widget.Widget
        property), 42
barz (klovve.pieces.list.Model property), 75
barz (klovve.pieces.list_panel.Model property), 75
base (klovve.drivers.curses.vivid.canvas.Canvas.FullColor
        attribute), 45
base (klovve.drivers.curses.vivid.canvas.FullColor attribute), 46
BaseView (class in klovve), 9
BaseView (class in klovve.view), 82
began_at (klovve.pieces.log_pager.entry.Model property), 68
bind() (klovve.drivers.curses.View static method), 22
bind() (klovve.drivers.gtk.View static method), 53
BindFactory (class in klovve.view), 82
body (klovve.pieces.headered_panel.Model property), 73
body (klovve.pieces.list_panel.Model property), 75
body (klovve.pieces.window.Model property), 78
boff (klovve.pieces.log_pager.Model property), 67
bottom_right (klovve.drivers.curses.vivid.Rectangle
        property), 32
bottom_y (klovve.drivers.curses.vivid.Rectangle property), 32
bottommost (klovve.drivers.curses.vivid.screen.Screen
        property), 51
Box (class in klovve.drivers.curses.vivid.widgets.box), 36
BUSY (klovve.pieces.headered_panel.Model.State attribute), 73
BusyAnimation (class in
    klovve.drivers.curses.vivid.widgets.busy_animation), 37
Button (class in klovve.drivers.curses.vivid.widgets.button), 37
ByScreenRootAlignmentSizing (class in
    klovve.drivers.curses.vivid.screen), 49

C
call_at() (klovve.drivers.gtk.EventLoop method), 53
call_with_kwargs() (in module klovve.application), 79
call_with_kwargs_maybe_async() (in module
    klovve.application), 79

```

Canvas (*class in klovve.drivers.curses.vivid.canvas*), 45
 canvas() (*klovve.drivers.curses.vivid.drivers.curses.Driver method*), 33
 canvas() (*klovve.drivers.curses.vivid.drivers.driver.Driver method*), 35
 canvas() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 Canvas.Color (*class in klovve.drivers.curses.vivid.canvas*), 45
 Canvas.FullColor (*class in klovve.drivers.curses.vivid.canvas*), 45
 CBox (*class in klovve.drivers.curses.vivid.widgets.box*), 37
 CENTER (*klovve.drivers.curses.vivid.widgets.widget.Alignment attribute*), 40
 CenterRootAlignmentPositioning (*class in klovve.drivers.curses.vivid.screen*), 49
 check() (*klovve.drivers.gtk._Source method*), 54
 CheckButton (*class in klovve.drivers.curses.vivid.widgets.check_button*), 37
 checked (*klovve.drivers.curses.vivid.widgets.check_button.Check property*), 37
 child_at_position() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 children (*klovve.drivers.curses.vivid.widgets.box.Box property*), 37
 children() (*in module klovve.drivers.curses*), 22
 children() (*in module klovve.drivers.gtk*), 55
 class_style_name (*klovve.drivers.curses.vivid.widgets.box.CBox property*), 37
 class_style_name (*klovve.drivers.curses.vivid.widgets.button.Button property*), 37
 class_style_name (*klovve.drivers.curses.vivid.widgets.entry.Entry property*), 38
 class_style_name (*klovve.drivers.curses.vivid.widgets.list.List property*), 39
 class_style_name (*klovve.drivers.curses.vivid.widgets.list.ListRow property*), 39
 class_style_name (*klovve.drivers.curses.vivid.widgets.progress_bar.ProgressBar property*), 39
 class_style_name (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 42
 ClassStyle (*class in klovve.drivers.curses.vivid.style*), 52
 close() (*klovve.drivers.gtk._Selector method*), 53
 close_func (*klovve.pieces.window.Model property*), 78
 closing (*klovve.pieces.window.Model property*), 78
 Color (*class in klovve.drivers.curses.vivid.canvas*), 46
 color_pair() (*klovve.drivers.curses.vivid.drivers.curses._CursesColorsMode attribute*), 34
 COLORS_256 (*klovve.drivers.curses.vivid.drivers.curses._CursesColorsMode attribute*), 34
 COLORS_8 (*klovve.drivers.curses.vivid.drivers.curses._CursesColorsMode attribute*), 34
 colors_by_pair() (*klovve.drivers.curses.vivid.drivers.curses._CursesColorsMode method*), 34
 ComposedView (*class in klovve.view*), 82
 compute_height() (*klovve.drivers.curses.vivid.layout.GridLayout method*), 48
 compute_height() (*klovve.drivers.curses.vivid.layout.Layout method*), 48
 compute_height() (*klovve.drivers.curses.vivid.layout.NullLayout method*), 49
 compute_height() (*klovve.drivers.curses.vivid.widgets.check_button.Check method*), 37
 compute_height() (*klovve.drivers.curses.vivid.widgets.entry.Entry method*), 38
 compute_height() (*klovve.drivers.curses.vivid.widgets.frame.Frame method*), 38
 compute_height() (*klovve.drivers.curses.vivid.widgets.label.Label method*), 39
 compute_height() (*klovve.drivers.curses.vivid.widgets.progress_bar.ProgressBar method*), 39
 compute_height() (*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable method*), 40
 compute_height() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 compute_height2() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 compute_width() (*klovve.drivers.curses.vivid.layout.GridLayout method*), 48
 compute_width() (*klovve.drivers.curses.vivid.layout.Layout method*), 48
 compute_width() (*klovve.drivers.curses.vivid.widgets.frame.Frame method*), 38
 compute_width() (*klovve.drivers.curses.vivid.widgets.list.ListRow method*), 38
 compute_width() (*klovve.drivers.curses.vivid.widgets.label.Label method*), 39
 compute_width() (*klovve.drivers.curses.vivid.widgets.progress_bar.ProgressBar method*), 39
 compute_width() (*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable method*), 40
 compute_width() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 compute_width2() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 computed() (*klovve.view.ComposedView method*), 82
 computed_horizontal_expand_greedily (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 42
 computed_is_disabled

(*klovve.drivers.curses.vivid.widgets.widget.Widget* property), 42
computed_vertical_expand_greedily (*klovve.drivers.curses.vivid.widgets.widget.Widget* property), 42
ComputedProperty() (in module *klovve.data.model*), 13
ComputedValue (class in *klovve.data.value_holder*), 17
Context (class in *klovve.drivers.curses.views.button*), 25
Context (class in *klovve.drivers.curses.views.window*), 31
Context (class in *klovve.drivers.gtk.views.button*), 59
Context (class in *klovve.drivers.gtk.views.window*), 65
create_app() (in module *klovve.application*), 79
create_or_update_view() (*klovve.view.ViewTreeNode* method), 83
create_task() (*klovve.drivers.gtk.EventLoop* method), 53
create_view() (*klovve.view.ViewFactory* method), 83
current (*klovve.debug._Memory* property), 80
curses_colors (*klovve.drivers.curses.vivid.drivers.curses* attribute), 34
curses_colors (*klovve.drivers.curses.vivid.drivers.curses* property), 33
cursor() (*klovve.drivers.curses.vivid.canvas.Canvas* method), 45
cursor() (*klovve.drivers.curses.vivid.drivers.curses._Canvas* method), 33
cursor_position (*klovve.drivers.curses.vivid.widgets.entry.Entry* property), 38

D

data (*klovve.view.ViewTreeNode* property), 83
DefaultTypeLoader (class in *klovve.type_loader*), 80
defer_value_propagation() (in module *klovve.datadeps*), 10
dematerialize() (*klovve.drivers.curses.vivid.widgets.widget* method), 42
DependencySubject (class in *klovve.datadeps*), 10
detect_dependencies() (in module *klovve.datadeps*), 10
dialog() (*klovve.drivers.curses.views.button.Context* method), 25
dialog() (*klovve.drivers.curses.views.window.Context* method), 31
dialog() (*klovve.drivers.gtk.views.button.Context* method), 59
dialog() (*klovve.drivers.gtk.views.window.Context* method), 65
direction (*klovve.drivers.curses.vivid.event.input.ScrollOngoingEvent* property), 36
dispatch() (*klovve.drivers.gtk._Source* method), 54
display_coordinates_to_image_coordinates() (*klovve.drivers.gtk.views.viewer.image.Image* method), 57
display_height (*klovve.drivers.gtk.views.viewer.image.Image* property), 57
display_width (*klovve.drivers.gtk.views.viewer.image.Image* property), 57
do_get_property() (*klovve.drivers.gtk.views.viewer.image.Image* method), 57
do_get_property() (*klovve.drivers.gtk.views.viewer.image.Outer* method), 58
do_measure() (*klovve.drivers.gtk.views.viewer.image.Outer* method), 58
do_set_property() (*klovve.drivers.gtk.views.viewer.image.Image* method), 57
do_set_property() (*klovve.drivers.gtk.views.viewer.image.Outer* method), 58
do_size_allocate() (*klovve.drivers.gtk.views.viewer.image.Outer* method), 58
Driver (class in *klovve.drivers*), 18
Driver (class in *klovve.drivers.bare_terminal*), 18
Driver (class in *klovve.drivers.curses*), 22
Drivers (class in *klovve.drivers.curses.vivid.drivers.curses*), 33
Driver (class in *klovve.drivers.curses.vivid.drivers.driver*), 35
Driver (class in *klovve.drivers.gtk*), 53
driver (*klovve.drivers.curses.vivid.screen.Screen* property), 51
driver_type() (*klovve.type_loader.DefaultTypeLoader* method), 80
driver_type() (*klovve.type_loader.TypeLoader* method), 81
DropDown (class in *klovve.drivers.curses.vivid.widgets.dropdown*), 38

E

ended_at (*klovve.pieces.log_pager.entry.Model* property), 68
entries (*klovve.pieces.log_pager.entry.Model* property), 68
entries (*klovve.pieces.log_pager.Model* property), 67
entries (*klovve.pieces.property_panel.Model* property), 68
Entry (class in *klovve.drivers.curses.vivid.widgets.entry*), 38
error_message_for_exceptions() (*klovve.drivers.curses.views.button.Context* method), 25
error_message_for_exceptions() (*klovve.drivers.curses.views.window.Context* method), 31
error_message_for_exceptions() (*klovve.drivers.gtk.views.button.Context* method), 59
error_message_for_exceptions()

(*klovve.drivers.gtk.views.window.Context method*), 65

event_loop (*klovve.drivers.curses.vivid.loop.Loop property*), 49

EVENT_TO_GLIB (*klovve.drivers.gtk._Source attribute*), 54

EventLoop (*class in klovve.drivers.gtk*), 53

extend_by() (*klovve.drivers.curses.vivid.Size method*), 32

EXTRA_LARGE (*klovve.pieces.busy_animation.Model.Size attribute*), 70

F

fabric (*klovve.drivers.curses.views.button.Context property*), 25

fabric (*klovve.drivers.curses.views.window.Context property*), 31

fabric (*klovve.drivers.gtk.views.button.Context property*), 59

fabric (*klovve.drivers.gtk.views.window.Context property*), 65

FAILED (*klovve.pieces.headered_panel.Model.State attribute*), 73

FILL (*klovve.drivers.curses.vivid.widgets.widget.Alignment attribute*), 40

fill() (*klovve.drivers.curses.vivid.canvas.Canvas method*), 45

fill() (*klovve.drivers.curses.vivid.drivers.curses._Canvas method*), 33

FixedRootAlignmentPositioning (*class in klovve.drivers.curses.vivid.screen*), 50

FixedRootAlignmentSizing (*class in klovve.drivers.curses.vivid.screen*), 50

fizzwid_new() (*klovve.drivers.curses.View static method*), 22

focusable (*klovve.drivers.curses.vivid.widgets.button.Button property*), 37

focusable (*klovve.drivers.curses.vivid.widgets.entry.Entry property*), 38

focusable (*klovve.drivers.curses.vivid.widgets.list.List property*), 39

focusable (*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable method*), 40

focusable (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43

focussed() (*klovve.drivers.curses.vivid.widgets.widget.Widget.Part method*), 41

focussed_widget (*klovve.drivers.curses.vivid.drivers.curses._Screen property*), 34

focussed_widget (*klovve.drivers.curses.vivid.screen.Screen property*), 51

foreground (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43

Frame (*class in klovve.drivers.curses.vivid.widgets.frame*), 38

from_string() (*klovve.drivers.curses.vivid.canvas.Canvas.Color static method*), 45

from_string() (*klovve.drivers.curses.vivid.canvas.Canvas.FullColor static method*), 45

from_string() (*klovve.drivers.curses.vivid.canvas.Canvas.Color static method*), 46

from_string() (*klovve.drivers.curses.vivid.canvas.FullColor static method*), 46

FullColor (*class in klovve.drivers.curses.vivid.canvas*), 46

G

g (*klovve.drivers.curses.vivid.canvas.Canvas.Color attribute*), 45

g (*klovve.drivers.curses.vivid.canvas.Color attribute*), 46

get_answer_func (*klovve.pieces.interact.abstract.Model property*), 66

get_composition() (*klovve.drivers.curses.views.tabbed.tab.View method*), 24

get_composition() (*klovve.drivers.gtk.views.tabbed.tab.View method*), 57

get_composition() (*klovve.pieces.interact.message.View method*), 66

get_composition() (*klovve.pieces.interact.textline.View method*), 67

get_composition() (*klovve.pieces.interact.triggers.View method*), 67

get_composition() (*in klovve.pieces.interact.yesno.View method*), 67

get_composition() (*in klovve.pieces.list_panel.View method*), 75

get_composition() (*klovve.view.ComposedView method*), 82

get_driver() (*in module klovve.drivers.curses.vivid.drivers*), 33

get_events() (*klovve.drivers.gtk._Source method*), 54

get_height() (*klovve.drivers.curses.vivid.screen.AutoRootAlignmentSizing method*), 49

get_height() (*klovve.drivers.curses.vivid.screen.ByScreenRootAlignmentSizing method*), 49

get_height() (*klovve.drivers.curses.vivid.screen.FixedRootAlignmentSizing method*), 50

get_height() (*klovve.drivers.curses.vivid.screen.RootAlignmentSizing method*), 50

get_native() (*klovve.BaseView method*), 9

get_native() (*klovve.drivers.bare_terminal.views.checkable.View method*), 20

get_native() (*klovve.drivers.bare_terminal.views.headered_panel.View method*), 20

get_native() (*klovve.drivers.bare_terminal.views.interact.abstract.View method*), 19

get_native() (*klovve.drivers.bare_terminal.views.label.View*
 method), 20
get_native() (*klovve.drivers.bare_terminal.views.log_page.View*
 method), 20
get_native() (*klovve.drivers.bare_terminal.views.placeholder.View*
 method), 21
get_native() (*klovve.drivers.bare_terminal.views.split.View*
 method), 21
get_native() (*klovve.drivers.bare_terminal.views.vertical_box.View*
 method), 21
get_native() (*klovve.drivers.bare_terminal.views.viewer.image.View*
 method), 24
get_native() (*klovve.drivers.bare_terminal.views.viewer.pdf.View*
 method), 25
get_native() (*klovve.drivers.bare_terminal.views.window.View*
 method), 21
get_native() (*klovve.drivers.curses._curses_private.View*
 method), 22
get_native() (*klovve.drivers.curses.views.busy_animation.View*
 method), 25
get_native() (*klovve.drivers.curses.views.button.View*
 method), 25
get_native() (*klovve.drivers.curses.views.checkable.View*
 method), 26
get_native() (*klovve.drivers.curses.views.disableable.View*
 method), 26
get_native() (*klovve.drivers.curses.views.dropdown.View*
 method), 26
get_native() (*klovve.drivers.curses.views.dual.View*
 method), 27
get_native() (*klovve.drivers.curses.views.form.section.View*
 method), 23
get_native() (*klovve.drivers.curses.views.form.View*
 method), 23
get_native() (*klovve.drivers.curses.views.formatted_text.View*
 method), 27
get_native() (*klovve.drivers.curses.views.header.View*
 method), 27
get_native() (*klovve.drivers.curses.views.headered_panel.View*
 method), 27
get_native() (*klovve.drivers.curses.views.interact.abstract.View*
 method), 23
get_native() (*klovve.drivers.curses.views.label.View*
 method), 28
get_native() (*klovve.drivers.curses.views.list.View*
 method), 28
get_native() (*klovve.drivers.curses.views.log_pager.View*
 method), 29
get_native() (*klovve.drivers.curses.views.placeholder.View*
 method), 29
get_native() (*klovve.drivers.curses.views.progress.View*
 method), 29
get_native() (*klovve.drivers.curses.views.property_panel.View*
 method), 24
get_native() (*klovve.drivers.curses.views.scrollable.View*
 method), 29
get_native() (*klovve.drivers.curses.views.slider.View*
 method), 30
get_native() (*klovve.drivers.curses.views.split.View*
 method), 30
get_native() (*klovve.drivers.curses.views.tabbed.View*
 method), 24
get_native() (*klovve.drivers.curses.views.text_field.View*
 method), 30
get_native() (*klovve.drivers.curses.views.viewer.image.View*
 method), 24
get_native() (*klovve.drivers.curses.views.viewer.pdf.View*
 method), 25
get_native() (*klovve.drivers.curses.views.window.View*
 method), 31
get_native() (*klovve.drivers.gtk.views._gtk_private.box.View*
 method), 55
get_native() (*klovve.drivers.gtk.views.busy_animation.View*
 method), 59
get_native() (*klovve.drivers.gtk.views.button.View*
 method), 60
get_native() (*klovve.drivers.gtk.views.checkable.View*
 method), 60
get_native() (*klovve.drivers.gtk.views.disableable.View*
 method), 60
get_native() (*klovve.drivers.gtk.views.dropdown.View*
 method), 60
get_native() (*klovve.drivers.gtk.views.dual.View*
 method), 61
get_native() (*klovve.drivers.gtk.views.form.section.View*
 method), 55
get_native() (*klovve.drivers.gtk.views.form.View*
 method), 55
get_native() (*klovve.drivers.gtk.views.formatted_text.View*
 method), 61
get_native() (*klovve.drivers.gtk.views.header.View*
 method), 61
get_native() (*klovve.drivers.gtk.views.headered_panel.View*
 method), 61
get_native() (*klovve.drivers.gtk.views.interact.abstract.View*
 method), 56
get_native() (*klovve.drivers.gtk.views.label.View*
 method), 62
get_native() (*klovve.drivers.gtk.views.list.View*
 method), 62
get_native() (*klovve.drivers.gtk.views.log_pager.View*
 method), 63
get_native() (*klovve.drivers.gtk.views.placeholder.View*
 method), 63
get_native() (*klovve.drivers.gtk.views.progress.View*
 method), 63
get_native() (*klovve.drivers.gtk.views.property_panel.View*
 method), 56
get_native() (*klovve.drivers.gtk.views.scrollable.View*
 method), 63

get_native() (*klovve.drivers.gtk.views.slider.View method*), 64
 get_native() (*klovve.drivers.gtk.views.split.View method*), 64
 get_native() (*klovve.drivers.gtk.views.tabbed.View method*), 56
 get_native() (*klovve.drivers.gtk.views.text_field.View method*), 64
 get_native() (*klovve.drivers.gtk.views.viewer.image.View method*), 58
 get_native() (*klovve.drivers.gtk.views.viewer.pdf.View method*), 59
 get_native() (*klovve.drivers.gtk.views.window.View method*), 65
 get_native() (*klovve.view.BaseView method*), 82
 get_native() (*klovve.view.ComposedView method*), 82
 get_native_stuff() (*klovve.BaseView method*), 9
 get_native_stuff() (*klovve.view.BaseView method*), 82
 get_value() (*klovve.data.value_holder.ComputedValue method*), 17
 get_value() (*klovve.data.value_holder.OneWayBinding method*), 17
 get_value() (*klovve.data.value_holder.ValueHolder method*), 17
 get_width() (*klovve.drivers.curses.vivid.screen.AutoRootAlignmentSizing method*), 49
 get_width() (*klovve.drivers.curses.vivid.screen.ByScreenRootAlignmentSizing method*), 49
 get_width() (*klovve.drivers.curses.vivid.screen.FixedRootAlignmentSizing method*), 50
 get_width() (*klovve.drivers.curses.vivid.screen.RootAlignmentSizing method*), 51
 get_x() (*klovve.drivers.curses.vivid.screen.AnchorRootAlignmentPositioning method*), 49
 get_x() (*klovve.drivers.curses.vivid.screen.CenterRootAlignmentPositioning method*), 49
 get_x() (*klovve.drivers.curses.vivid.screen.FixedRootAlignmentPositioning method*), 50
 get_x() (*klovve.drivers.curses.vivid.screen.RootAlignmentPositioning method*), 50
 get_x() (*klovve.drivers.curses.vivid.screen.RootAlignmentPositioning method*), 50
 get_y() (*klovve.drivers.curses.vivid.screen.AnchorRootAlignmentPositioning method*), 49
 get_y() (*klovve.drivers.curses.vivid.screen.CenterRootAlignmentPositioning method*), 49
 get_y() (*klovve.drivers.curses.vivid.screen.FixedRootAlignmentPositioning method*), 50
 get_y() (*klovve.drivers.curses.vivid.screen.RootAlignmentPositioning method*), 50
 GridLayout (*class in klovve.drivers.curses.vivid.layout*), 48
 gtk_new() (*klovve.drivers.gtk.View static method*), 53
 gtk_orientation (*klovve.drivers.gtk.views.busy_animation.Model property*), 59
 gtk_orientation() (*klovve.drivers.curses.views.busy_animation.Model method*), 25

H

handle_event() (*klovve.drivers.curses.vivid.screen.Screen static method*), 51
 height (*klovve.drivers.curses.vivid.Rectangle property*), 32
 height (*klovve.drivers.curses.vivid.Size property*), 32
 hint_text (*klovve.pieces.text_field.Model property*), 77
 HORIZONTAL (*klovve.drivers.curses.vivid.widgets.box.Orientation attribute*), 37
 HORIZONTAL (*klovve.pieces.busy_animation.Model.Orientation attribute*), 70
 horizontal_alignment
 (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43
 horizontal_expand_greedily
 (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43
 horizontally_scrollable
 (*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable property*), 40

I

icon (*klovve.pieces.window.Model property*), 78
 Image (*class in klovve.drivers.gtk.views.viewer.image*), 57
 Image_coordinates_to_display_coordinates()
 (*klovve.drivers.gtk.views.viewer.image.Image method*), 57
 image_offset_x (*klovve.drivers.gtk.views.viewer.image.Image attribute*), 57
 image_offset_y (*klovve.drivers.gtk.views.viewer.image.Image attribute*), 57
 in_mainloop() (*in module klovve.application*), 79
 in_mainloop2() (*in module klovve.application*), 79
 inner_size (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43
 inner_view (*klovve.pieces.interact.abstract.Model property*), 66
 insert() (*klovve.data.lists.List method*), 12
 insert() (*klovve.drivers.curses.vivid.data.List method*), 47
 interrupt_glib_mainloop()
 (*klovve.drivers.gtk._Selector method*), 54
 is_answered (*klovve.pieces.interact.Model property*), 66
 is_checked (*klovve.pieces.checkable.Model property*), 71
 is_closed (*klovve.pieces.window.Model property*), 78
 is_disabled (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 43
 is_disabled (*klovve.pieces.disableable.Model property*), 72

is_propagation_stopped
 (*klovve.drivers.curses.vivid.event.base.OngoingEvent*.property), 35

is_selected(*klovve.drivers.curses.vivid.widgets.list.ListRow*.property), 39

is_settable()*(klovve.data.value_holder.ComputedValue*.method), 17

is_settable()*(klovve.data.value_holder.OneWayBinding*.method), 17

is_settable()*(klovve.data.value_holder.TwoWayBinding*.method), 17

is_settable()*(klovve.data.value_holder.ValueHolder*.method), 17

item (*klovve.drivers.curses.vivid.widgets.frame.Frame*.property), 38

item(*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable*.property), 40

item(*klovve.pieces.disableable.Model* property), 72

item(*klovve.pieces.form.section.Model* property), 65

item(*klovve.pieces.placeholder.Model* property), 76

item(*klovve.pieces.scrollable.Model* property), 76

item(*klovve.pieces.tabbed.tab.Model* property), 69

item1(*klovve.pieces.split.Model* property), 77

item2(*klovve.pieces.split.Model* property), 77

item_actions(*klovve.pieces.list.Model* property), 75

item_actions(*klovve.pieces.list_panel.Model* property), 75

item_added()*(klovve.data.lists.ListObserver* method), 12

item_added()*(klovve.drivers.curses.vivid.data.ListObserver* method), 47

item_label_func (*klovve.pieces.dropdown.Model* property), 72

item_label_func (*klovve.pieces.list.Model* property), 75

item_label_func (*klovve.pieces.list_panel.Model* property), 75

item_moved()*(klovve.data.lists.ListObserver* method), 12

item_removed()*(klovve.data.lists.ListObserver* method), 13

item_removed()*(klovve.drivers.curses.vivid.data.ListObserver* method), 47

item_replaced()*(klovve.data.lists.ListObserver* method), 13

item_replaced()*(klovve.drivers.curses.vivid.data.ListObserver* method), 47

items(*klovve.drivers.curses.vivid.widgets.dropdown.DropDown*.property), 38

items(*klovve.drivers.curses.vivid.widgets.list.List*.property), 39

items(*klovve.pieces.dropdown.Model* property), 72

items(*klovve.pieces.form.Model* property), 65

items(*klovve.pieces.horizontal_box.Model* property), 74

items (klovve.pieces.list.Model property), 75

items (klovve.pieces.list_panel.Model property), 75

items (klovve.pieces.tabbed.Model property), 69

items (klovve.pieces.vertical_box.Model property), 78

jumpto()*(klovve.drivers.curses.vivid.widgets.widget.Widget*.Parti method), 41

key(*klovve.drivers.curses.vivid.event.input.KeyboardOngoingEvent*.property), 36

KeyboardOngoingEvent (class in *klovve.drivers.curses.vivid.event.input*), 36

klovve module, 9

 klovve.application module, 79

 klovve.data module, 9

 klovve.data.deps module, 9

 klovve.data.lists module, 11

 klovve.data.model module, 13

 klovve.data.observable_value module, 16

 klovve.data.reaction module, 16

 klovve.data.value_holder module, 17

 klovve.debug module, 80

 klovve.drivers module, 18

 klovve.drivers.bare_terminal module, 18

 klovve.drivers.bare_terminal.views module, 19

 klovve.drivers.bare_terminal.views.checkable module, 19

 klovve.drivers.bare_terminal.views.headered_panel module, 20

 klovve.drivers.bare_terminal.views.interact module, 19

 klovve.drivers.bare_terminal.views.interact.abstract module, 19

 klovve.drivers.bare_terminal.views.label module, 20

 klovve.drivers.bare_terminal.views.log_pager module, 20

 klovve.drivers.bare_terminal.views.placeholder module, 21

klovve.drivers.bare_terminal.views.split
 module, 21
klovve.drivers.bare_terminal.views.vertical_box
 module, 21
klovve.drivers.bare_terminal.views.viewer
 module, 19
klovve.drivers.bare_terminal.views.viewer.image
 module, 19
klovve.drivers.bare_terminal.views.window
 module, 21
klovve.drivers.curses
 module, 22
klovve.drivers.curses.views
 module, 22
klovve.drivers.curses.views._curses_private
 module, 22
klovve.drivers.curses.views._curses_private.box
 module, 22
klovve.drivers.curses.views.busy_animation
 module, 25
klovve.drivers.curses.views.button
 module, 25
klovve.drivers.curses.views.checkable
 module, 26
klovve.drivers.curses.views.disableable
 module, 26
klovve.drivers.curses.views.dropdown
 module, 26
klovve.drivers.curses.views.dual
 module, 27
klovve.drivers.curses.views.form
 module, 23
klovve.drivers.curses.views.form.section
 module, 23
klovve.drivers.curses.views.formatted_text
 module, 27
klovve.drivers.curses.views.header
 module, 27
klovve.drivers.curses.views.headered_panel
 module, 27
klovve.drivers.curses.views.horizontal_box
 module, 28
klovve.drivers.curses.views.interact
 module, 23
klovve.drivers.curses.views.interact.abstract
 module, 23
klovve.drivers.curses.views.label
 module, 28
klovve.drivers.curses.views.list
 module, 28
klovve.drivers.curses.views.log_pager
 module, 29
klovve.drivers.curses.views.placeholder
 module, 29
klovve.drivers.curses.views.progress
 module, 29
klovve.drivers.curses.views.property_panel
 module, 24
klovve.drivers.curses.views.scrollable
 module, 29
klovve.drivers.curses.views.slider
 module, 30
klovve.drivers.curses.views.split
 module, 30
klovve.drivers.curses.views.tabbed
 module, 24
klovve.drivers.curses.views.tabbed.tab
 module, 24
klovve.drivers.curses.views.text_field
 module, 30
klovve.drivers.curses.views.vertical_box
 module, 30
klovve.drivers.curses.views.viewer
 module, 24
klovve.drivers.curses.views.viewer.image
 module, 24
klovve.drivers.curses.views.viewer.pdf
 module, 25
klovve.drivers.curses.views.window
 module, 31
klovve.drivers.curses.vivid
 module, 31
klovve.drivers.curses.vivid.canvas
 module, 45
klovve.drivers.curses.vivid.data
 module, 47
klovve.drivers.curses.vivid.drivers
 module, 33
klovve.drivers.curses.vivid.drivers.curses
 module, 33
klovve.drivers.curses.vivid.drivers.driver
 module, 35
klovve.drivers.curses.vivid.event
 module, 35
klovve.drivers.curses.vivid.event.base
 module, 35
klovve.drivers.curses.vivid.event.input
 module, 36
klovve.drivers.curses.vivid.layout
 module, 48
klovve.drivers.curses.vivid.loop
 module, 49
klovve.drivers.curses.vivid.screen
 module, 49
klovve.drivers.curses.vivid.style
 module, 52
klovve.drivers.curses.vivid.widgets
 module, 36

klovve.drivers.curses.viwid.widgets.box
 module, 36
klovve.drivers.curses.viwid.widgets.busy_animation
 module, 37
klovve.drivers.curses.viwid.widgets.button
 module, 37
klovve.drivers.curses.viwid.widgets.check_button
 module, 37
klovve.drivers.curses.viwid.widgets.dropdown
 module, 38
klovve.drivers.curses.viwid.widgets.entry
 module, 38
klovve.drivers.curses.viwid.widgets.frame
 module, 38
klovve.drivers.curses.viwid.widgets.label
 module, 39
klovve.drivers.curses.viwid.widgets.list
 module, 39
klovve.drivers.curses.viwid.widgets.progress
 module, 39
klovve.drivers.curses.viwid.widgets.progress_bar
 module, 39
klovve.drivers.curses.viwid.widgets.radio_button
 module, 40
klovve.drivers.curses.viwid.widgets.scrollable
 module, 40
klovve.drivers.curses.viwid.widgets.widget
 module, 40
klovve.drivers.gtk
 module, 53
klovve.drivers.gtk.views
 module, 55
klovve.drivers.gtk.views._gtk_private
 module, 55
klovve.drivers.gtk.views._gtk_private.box
 module, 55
klovve.drivers.gtk.views.busy_animation
 module, 59
klovve.drivers.gtk.views.button
 module, 59
klovve.drivers.gtk.views.checkable
 module, 60
klovve.drivers.gtk.views.disableable
 module, 60
klovve.drivers.gtk.views.dropdown
 module, 60
klovve.drivers.gtk.views.dual
 module, 61
klovve.drivers.gtk.views.form
 module, 55
klovve.drivers.gtk.views.form.section
 module, 55
klovve.drivers.gtk.views.formatted_text
 module, 61
klovve.drivers.gtk.views.header
 module, 61
klovve.drivers.gtk.views.headered_panel
 module, 61
klovve.drivers.gtk.views.horizontal_box
 module, 62
klovve.drivers.gtk.views.interact
 module, 56
klovve.drivers.gtk.views.interact.abstract
 module, 56
klovve.drivers.gtk.views.label
 module, 62
klovve.drivers.gtk.views.list
 module, 62
klovve.drivers.gtk.views.log_pager
 module, 63
klovve.drivers.gtk.views.placeholder
 module, 63
klovve.drivers.gtk.views.progress
 module, 63
klovve.drivers.gtk.views.property_panel
 module, 56
klovve.drivers.gtk.views.scrollable
 module, 63
klovve.drivers.gtk.views.slider
 module, 64
klovve.drivers.gtk.views.split
 module, 64
klovve.drivers.gtk.views.tabbed
 module, 56
klovve.drivers.gtk.views.tabbed.tab
 module, 57
klovve.drivers.gtk.views.text_field
 module, 64
klovve.drivers.gtk.views.vertical_box
 module, 64
klovve.drivers.gtk.views.viewer
 module, 57
klovve.drivers.gtk.views.viewer.image
 module, 57
klovve.drivers.gtk.views.viewer.pdf
 module, 59
klovve.drivers.gtk.views.window
 module, 65
klovve.pieces
 module, 65
klovve.pieces.busy_animation
 module, 70
klovve.pieces.button
 module, 71
klovve.pieces.checkable
 module, 71
klovve.pieces.disableable
 module, 72
klovve.pieces.dropdown
 module, 72

klovve.pieces.dual
 module, 72
 klovve.pieces.form
 module, 65
 klovve.pieces.form.section
 module, 65
 klovve.pieces.formatted_text
 module, 73
 klovve.pieces.header
 module, 73
 klovve.pieces.headered_panel
 module, 73
 klovve.pieces.horizontal_box
 module, 74
 klovve.pieces.interact
 module, 66
 klovve.pieces.interact.abstract
 module, 66
 klovve.pieces.interact.message
 module, 66
 klovve.pieces.interact.textline
 module, 67
 klovve.pieces.interact.triggers
 module, 67
 klovve.pieces.interact.yesno
 module, 67
 klovve.pieces.label
 module, 74
 klovve.pieces.list
 module, 75
 klovve.pieces.list_panel
 module, 75
 klovve.pieces.log_pager
 module, 67
 klovve.pieces.log_pager.entry
 module, 68
 klovve.pieces.placeholder
 module, 76
 klovve.pieces.progress
 module, 76
 klovve.pieces.property_panel
 module, 68
 klovve.pieces.property_panel.entry
 module, 69
 klovve.pieces.scrollable
 module, 76
 klovve.pieces.slider
 module, 77
 klovve.pieces.split
 module, 77
 klovve.pieces.tabbed
 module, 69
 klovve.pieces.tabbed.tab
 module, 69

klovve.pieces.text_field
 module, 77
 klovve.pieces.vertical_box
 module, 78
 klovve.pieces.viewer
 module, 70
 klovve.pieces.viewer.image
 module, 70
 klovve.pieces.viewer.pdf
 module, 70
 klovve.pieces.window
 module, 78
 klovve.threading_
 module, 80
 klovve.type_loader
 module, 80
 klovve.view
 module, 82

L

Label (*class in klovve.drivers.curses.vivid.widgets.label*),
 39
 label (*klovve.pieces.form.section.Model property*), 65
 label (*klovve.pieces.property_panel.entry.Model prop-*
 erty), 69
 label (*klovve.pieces.tabbed.tab.Model property*), 69
 LARGE (*klovve.pieces.busy_animation.Model.Size at-*
 tribute), 71
 Layout (*class in klovve.drivers.curses.vivid.layout*), 48
 layout (*klovve.drivers.curses.vivid.widgets.widget.Widget*
 property), 43
 left_button (*klovve.drivers.curses.vivid.event.input.MouseClickOngoing*
 property), 36
 left_x (*klovve.drivers.curses.vivid.Rectangle property*),
 32
 List (*class in klovve.data.lists*), 11
 List (*class in klovve.drivers.curses.vivid.data*), 47
 List (*class in klovve.drivers.curses.vivid.widgets.list*), 39
 list_actions (*klovve.pieces.list.Model property*), 75
 list_actions (*klovve.pieces.list_panel.Model prop-*
 erty), 75
 listen_property() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
 method), 43
 ListObserver (*class in klovve.data.lists*), 12
 ListObserver (*class* in
 klovve.drivers.curses.vivid.data), 47
 ListProperty (*class in klovve.data.model*), 14
 ListProperty() (*in module*
 klovve.drivers.curses.vivid.widgets.widget),
 40
 ListProperty() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
 method), 40
 ListRow (*class in klovve.drivers.curses.vivid.widgets.list*),
 39

Loop (*class in klovve.drivers.curses.vivid.loop*), 49
loop (*klovve.drivers.curses.vivid.drivers.curses.Driver property*), 33
loop (*klovve.drivers.curses.vivid.drivers.driver.Driver property*), 35

M

main_item (*klovve.pieces.dual.Model property*), 72
mainloop (*klovve.drivers.Driver property*), 18
MainloopObjectProxy (*class in klovve.application*), 79
materialize() (*klovve.drivers.curses.vivid.widgets.widget method*), 43
max_value (*klovve.pieces.slider.Model property*), 77
MEDIUM (*klovve.pieces.busy_animation.Model.Size attribute*), 71
message (*klovve.pieces.interact.abstract.Model property*), 66
message (*klovve.pieces.interact.message.Model property*), 66
message (*klovve.pieces.interact.textline.Model property*), 67
message (*klovve.pieces.interact.triggers.Model property*), 67
message (*klovve.pieces.interact.yesno.Model property*), 67
message (*klovve.pieces.log_pager.entry.Model property*), 68
min_value (*klovve.pieces.slider.Model property*), 77
Model (*class in klovve.data.model*), 14
Model (*class in klovve.drivers.curses.views.busy_animation*), 25
Model (*class in klovve.drivers.curses.views.headered_panel*), 27
Model (*class in klovve.drivers.gtk.views.busy_animation*), 59
Model (*class in klovve.drivers.gtk.views.headered_panel*), 61
Model (*class in klovve.pieces.busy_animation*), 70
Model (*class in klovve.pieces.button*), 71
Model (*class in klovve.pieces.checkable*), 71
Model (*class in klovve.pieces.disableable*), 72
Model (*class in klovve.pieces.dropdown*), 72
Model (*class in klovve.pieces.dual*), 72
Model (*class in klovve.pieces.form*), 65
Model (*class in klovve.pieces.form.section*), 65
Model (*class in klovve.pieces.formatted_text*), 73
Model (*class in klovve.pieces.header*), 73
Model (*class in klovve.pieces.headered_panel*), 73
Model (*class in klovve.pieces.horizontal_box*), 74
Model (*class in klovve.pieces.interact*), 66
Model (*class in klovve.pieces.interact.abstract*), 66
Model (*class in klovve.pieces.interact.message*), 66
Model (*class in klovve.pieces.interact.textline*), 67
Model (*class in klovve.pieces.interact.triggers*), 67

Model (*class in klovve.pieces.interact.yesno*), 67
Model (*class in klovve.pieces.label*), 74
Model (*class in klovve.pieces.list*), 75
Model (*class in klovve.pieces.list_panel*), 75
Model (*class in klovve.pieces.log_pager*), 67
Model (*class in klovve.pieces.log_pager.entry*), 68
Model (*class in klovve.pieces.placeholder*), 76
Model (*class in klovve.pieces.progress*), 76
Model (*class in klovve.pieces.property_panel*), 68
Model (*class in klovve.pieces.property_panel.entry*), 69
Model (*class in klovve.pieces.scrollable*), 76
Model (*class in klovve.pieces.slider*), 77
Model (*class in klovve.pieces.split*), 77
Model (*class in klovve.pieces.tabbed*), 69
Model (*class in klovve.pieces.tabbed.tab*), 69
Model (*class in klovve.pieces.text_field*), 77
Model (*class in klovve.pieces.vertical_box*), 78
Model (*class in klovve.pieces.viewer.image*), 70
Model (*class in klovve.pieces.viewer.pdf*), 70
Model (*class in klovve.pieces.window*), 78
model (*klovve.drivers.bare_terminal.views.checkable.View attribute*), 20
model (*klovve.drivers.bare_terminal.views.headered_panel.View attribute*), 20
model (*klovve.drivers.bare_terminal.views.interact.abstract.View attribute*), 19
model (*klovve.drivers.bare_terminal.views.label.View attribute*), 20
model (*klovve.drivers.bare_terminal.views.log_pager.View attribute*), 20
model (*klovve.drivers.bare_terminal.views.placeholder.View attribute*), 21
model (*klovve.drivers.bare_terminal.views.split.View attribute*), 21
model (*klovve.drivers.bare_terminal.views.vertical_box.View attribute*), 21
model (*klovve.drivers.bare_terminal.views.viewer.image.View attribute*), 19
model (*klovve.drivers.bare_terminal.views.window.View attribute*), 21
model (*klovve.drivers.curses.views.busy_animation.View attribute*), 25
model (*klovve.drivers.curses.views.button.View attribute*), 26
model (*klovve.drivers.curses.views.checkable.View attribute*), 26
model (*klovve.drivers.curses.views.disableable.View attribute*), 26
model (*klovve.drivers.curses.views.dropdown.View attribute*), 26
model (*klovve.drivers.curses.views.dual.View attribute*), 27
model (*klovve.drivers.curses.views.form.section.View attribute*), 23

```

model (klovve.drivers.curses.views.form.View attribute), 23
model (klovve.drivers.curses.views.formatted_text.View attribute), 27
model (klovve.drivers.curses.views.header.View attribute), 27
model (klovve.drivers.curses.views.headered_panel.View attribute), 28
model (klovve.drivers.curses.views.horizontal_box.View attribute), 28
model (klovve.drivers.curses.views.interact.abstract.View attribute), 23
model (klovve.drivers.curses.views.label.View attribute), 28
model (klovve.drivers.curses.views.list.View attribute), 28
model (klovve.drivers.curses.views.log_pager.View attribute), 29
model (klovve.drivers.curses.views.placeholder.View attribute), 29
model (klovve.drivers.curses.views.progress.View attribute), 29
model (klovve.drivers.curses.views.property_panel.View attribute), 24
model (klovve.drivers.curses.views.scrollable.View attribute), 29
model (klovve.drivers.curses.views.slider.View attribute), 30
model (klovve.drivers.curses.views.split.View attribute), 30
model (klovve.drivers.curses.views.tabbed.tab.View attribute), 24
model (klovve.drivers.curses.views.tabbed.View attribute), 24
model (klovve.drivers.curses.views.text_field.View attribute), 30
model (klovve.drivers.curses.views.vertical_box.View attribute), 30
model (klovve.drivers.curses.views.viewer.image.View attribute), 24
model (klovve.drivers.curses.views.viewer.pdf.View attribute), 25
model (klovve.drivers.curses.views.window.View attribute), 31
model (klovve.drivers.gtk.views.busy_animation.View attribute), 59
model (klovve.drivers.gtk.views.button.View attribute), 60
model (klovve.drivers.gtk.views.checkable.View attribute), 60
model (klovve.drivers.gtk.views.disableable.View attribute), 60
model (klovve.drivers.gtk.views.dropdown.View attribute), 60
model (klovve.drivers.gtk.views.dual.View attribute), 61
model (klovve.drivers.gtk.views.section.View attribute), 56
model (klovve.drivers.gtk.views.form.View attribute), 55
model (klovve.drivers.gtk.views.formatted_text.View attribute), 61
model (klovve.drivers.gtk.views.header.View attribute), 61
model (klovve.drivers.gtk.views.headered_panel.View attribute), 62
model (klovve.drivers.gtk.views.horizontal_box.View attribute), 62
model (klovve.drivers.gtk.views.interact.abstract.View attribute), 56
model (klovve.drivers.gtk.views.label.View attribute), 62
model (klovve.drivers.gtk.views.list.View attribute), 62
model (klovve.drivers.gtk.views.log_pager.View attribute), 63
model (klovve.drivers.gtk.views.placeholder.View attribute), 63
model (klovve.drivers.gtk.views.progress.View attribute), 63
model (klovve.drivers.gtk.views.property_panel.View attribute), 56
model (klovve.drivers.gtk.views.scrollable.View attribute), 63
model (klovve.drivers.gtk.views.slider.View attribute), 64
model (klovve.drivers.gtk.views.split.View attribute), 64
model (klovve.drivers.gtk.views.tabbed.tab.View attribute), 57
model (klovve.drivers.gtk.views.tabbed.View attribute), 56
model (klovve.drivers.gtk.views.text_field.View attribute), 64
model (klovve.drivers.gtk.views.vertical_box.View attribute), 64
model (klovve.drivers.gtk.views.viewer.image.View attribute), 59
model (klovve.drivers.gtk.views.viewer.pdf.View attribute), 59
model (klovve.drivers.gtk.views.window.View attribute), 65
model (klovve.pieces.busy_animation.View attribute), 71
model (klovve.pieces.button.View attribute), 71
model (klovve.pieces.checkable.View attribute), 71
model (klovve.pieces.disableable.View attribute), 72
model (klovve.pieces.dropdown.View attribute), 72
model (klovve.pieces.dual.View attribute), 72
model (klovve.pieces.form.section.View attribute), 66
model (klovve.pieces.form.View attribute), 65
model (klovve.pieces.formatted_text.View attribute), 73
model (klovve.pieces.header.View attribute), 73
model (klovve.pieces.headered_panel.View attribute), 74
model (klovve.pieces.horizontal_box.View attribute), 74
model (klovve.pieces.interact.abstract.View attribute), 66

```

model (*klovve.pieces.interact.triggers.View attribute*), 67
model (*klovve.pieces.label.View attribute*), 74
model (*klovve.pieces.list.View attribute*), 75
model (*klovve.pieces.log_pager.entry.View attribute*), 68
model (*klovve.pieces.log_pager.View attribute*), 68
model (*klovve.pieces.placeholder.View attribute*), 76
model (*klovve.pieces.progress.View attribute*), 76
model (*klovve.pieces.property_panel.entry.View attribute*), 69
model (*klovve.pieces.property_panel.View attribute*), 68
model (*klovve.pieces.scrollable.View attribute*), 76
model (*klovve.pieces.slider.View attribute*), 77
model (*klovve.pieces.split.View attribute*), 77
model (*klovve.pieces.tabbed.tab.View attribute*), 69
model (*klovve.pieces.tabbed.View attribute*), 69
model (*klovve.pieces.text_field.View attribute*), 77
model (*klovve.pieces.vertical_box.View attribute*), 78
model (*klovve.pieces.viewer.image.View attribute*), 70
model (*klovve.pieces.viewer.pdf.View attribute*), 70
model (*klovve.pieces.window.View attribute*), 78
model (*klovve.view.ViewTreeNode property*), 83
Model.Orientation (class in *klovve.pieces.busy_animation*), 70
Model.Size (class in *klovve.pieces.busy_animation*), 70
Model.State (class in *klovve.pieces.headered_panel*), 73
model_type() (*klovve.drivers.Driver method*), 18
model_type() (*klovve.type_loader.DefaultTypeLoader method*), 80
model_type() (*klovve.type_loader.TypeLoader method*), 81
module
 klovve, 9
 klovve.application, 79
 klovve.data, 9
 klovve.data.deps, 9
 klovve.data.lists, 11
 klovve.data.model, 13
 klovve.data.observable_value, 16
 klovve.data.reaction, 16
 klovve.data.value_holder, 17
 klovve.debug, 80
 klovve.drivers, 18
 klovve.drivers.bare_terminal, 18
 klovve.drivers.bare_terminal.views, 19
 klovve.drivers.bare_terminal.views.checkable, 19
 klovve.drivers.bare_terminal.views.headered_panel, 20
 klovve.drivers.bare_terminal.views.interact, 19
 klovve.drivers.bare_terminal.views.interact.abstract, 19
 klovve.drivers.bare_terminal.views.interact.interact, 19
 klovve.drivers.bare_terminal.views.interact.scrollable, 19
 klovve.drivers.bare_terminal.views.placeholder, 20
 klovve.drivers.bare_terminal.views.progress, 20
 klovve.drivers.bare_terminal.views.property_panel, 24
 klovve.drivers.bare_terminal.views.scrollable, 29
 klovve.drivers.bare_terminal.views.slider, 30
 klovve.drivers.curses, 22
 klovve.drivers.curses.views, 22
 klovve.drivers.curses.views._curses_private, 22
 klovve.drivers.curses.views._curses_private.box, 22
 klovve.drivers.curses.views.busy_animation, 25
 klovve.drivers.curses.views.button, 25
 klovve.drivers.curses.views.checkable, 26
 klovve.drivers.curses.views.disableable, 26
 klovve.drivers.curses.views.dropdown, 26
 klovve.drivers.curses.views.dual, 27
 klovve.drivers.curses.views.form, 23
 klovve.drivers.curses.views.form.section, 23
 klovve.drivers.curses.views.formatted_text, 27
 klovve.drivers.curses.views.header, 27
 klovve.drivers.curses.views.headered_panel, 27
 klovve.drivers.curses.views.horizontal_box, 28
 klovve.drivers.curses.views.interact, 23
 klovve.drivers.curses.views.interact.abstract, 23
 klovve.drivers.curses.views.label, 28
 klovve.drivers.curses.views.list, 28
 klovve.drivers.curses.views.log_pager, 29
 klovve.drivers.curses.views.placeholder, 29
 klovve.drivers.curses.views.progress, 29
 klovve.drivers.curses.views.property_panel, 29
 klovve.drivers.curses.views.scrollable, 29
 klovve.drivers.curses.views.slider, 30

klovve.drivers.curses.views.split, 30
 klovve.drivers.curses.views.tabbed, 24
 klovve.drivers.curses.views.tabbed.tab,
 24
 klovve.drivers.curses.views.text_field,
 30
 klovve.drivers.curses.views.vertical_box,
 30
 klovve.drivers.curses.views.viewer, 24
 klovve.drivers.curses.views.viewer.image,
 24
 klovve.drivers.curses.views.viewer.pdf,
 25
 klovve.drivers.curses.views.window, 31
 klovve.drivers.curses.vivid, 31
 klovve.drivers.curses.vivid.canvas, 45
 klovve.drivers.curses.vivid.data, 47
 klovve.drivers.curses.vivid.drivers, 33
 klovve.drivers.curses.vivid.drivers.curses,
 33
 klovve.drivers.curses.vivid.drivers.driver,
 35
 klovve.drivers.curses.vivid.event, 35
 klovve.drivers.curses.vivid.event.base,
 35
 klovve.drivers.curses.vivid.event.input,
 36
 klovve.drivers.curses.vivid.layout, 48
 klovve.drivers.curses.vivid.loop, 49
 klovve.drivers.curses.vivid.screen, 49
 klovve.drivers.curses.vivid.style, 52
 klovve.drivers.curses.vivid.widgets, 36
 klovve.drivers.curses.vivid.widgets.box,
 36
 klovve.drivers.curses.vivid.widgets.busy_animation, 37
 klovve.drivers.curses.vivid.widgets.button,
 37
 klovve.drivers.curses.vivid.widgets.check_button, 37
 klovve.drivers.curses.vivid.widgets.dropdown, 38
 klovve.drivers.curses.vivid.widgets.entry, 38
 klovve.drivers.curses.vivid.widgets.frame, 38
 klovve.drivers.curses.vivid.widgets.label, 39
 klovve.drivers.curses.vivid.widgets.list, 39
 klovve.drivers.curses.vivid.widgets.progress_bar, 39
 klovve.drivers.curses.vivid.widgets.radio_button, 40
 klovve.drivers.curses.vivid.widgets.scrollable, 40
 klovve.drivers.curses.vivid.widgets.widget,
 40
 klovve.drivers.gtk, 53
 klovve.drivers.gtk.views, 55
 klovve.drivers.gtk.views._gtk_private, 55
 klovve.drivers.gtk.views._gtk_private.box,
 55
 klovve.drivers.gtk.views.busy_animation,
 59
 klovve.drivers.gtk.views.button, 59
 klovve.drivers.gtk.views.checkable, 60
 klovve.drivers.gtk.views.disableable, 60
 klovve.drivers.gtk.views.dropdown, 60
 klovve.drivers.gtk.views.dual, 61
 klovve.drivers.gtk.views.form, 55
 klovve.drivers.gtk.views.form.section, 55
 klovve.drivers.gtk.views.formatted_text,
 61
 klovve.drivers.gtk.views.header, 61
 klovve.drivers.gtk.views.headered_panel,
 61
 klovve.drivers.gtk.views.horizontal_box,
 62
 klovve.drivers.gtk.views.interact, 56
 klovve.drivers.gtk.views.interact.abstract,
 56
 klovve.drivers.gtk.views.label, 62
 klovve.drivers.gtk.views.list, 62
 klovve.drivers.gtk.views.log_pager, 63
 klovve.drivers.gtk.views.placeholder, 63
 klovve.drivers.gtk.views.progress, 63
 klovve.drivers.gtk.views.property_panel,
 63
 klovve.drivers.gtk.views.scrollable, 63
 klovve.drivers.gtk.views.slider, 64
 klovve.drivers.gtk.views.split, 64
 klovve.drivers.gtk.views.tabbed, 56
 klovve.drivers.gtk.views.tabbed.tab, 57
 klovve.drivers.gtk.views.text_field, 64
 klovve.drivers.gtk.views.vertical_box, 64
 klovve.drivers.gtk.views.viewer, 57
 klovve.drivers.gtk.views.viewer.image, 57
 klovve.drivers.gtk.views.viewer.pdf, 59
 klovve.drivers.gtk.views.window, 65
 klovve.pieces, 65
 klovve.pieces.busy_animation, 70
 klovve.pieces.button, 71
 klovve.pieces.checkable, 71
 klovve.pieces.disableable, 72
 klovve.pieces.dropdown, 72
 klovve.pieces.dual, 72
 klovve.pieces.form, 65

klovve.pieces.form.section, 65
 klovve.pieces.formatted_text, 73
 klovve.pieces.header, 73
 klovve.pieces.headered_panel, 73
 klovve.pieces.horizontal_box, 74
 klovve.pieces.interact, 66
 klovve.pieces.interact.abstract, 66
 klovve.pieces.interact.message, 66
 klovve.pieces.interact.textline, 67
 klovve.pieces.interact.triggers, 67
 klovve.pieces.interact.yesno, 67
 klovve.pieces.label, 74
 klovve.pieces.list, 75
 klovve.pieces.list_panel, 75
 klovve.pieces.log_pager, 67
 klovve.pieces.log_pager.entry, 68
 klovve.pieces.placeholder, 76
 klovve.pieces.progress, 76
 klovve.pieces.property_panel, 68
 klovve.pieces.property_panel.entry, 69
 klovve.pieces.scrollable, 76
 klovve.pieces.slider, 77
 klovve.pieces.split, 77
 klovve.pieces.tabbed, 69
 klovve.pieces.tabbed.tab, 69
 klovve.pieces.text_field, 77
 klovve.pieces.vertical_box, 78
 klovve.pieces.viewer, 70
 klovve.pieces.viewer.image, 70
 klovve.pieces.viewer.pdf, 70
 klovve.pieces.window, 78
 klovve.threading_, 80
 klovve.type_loader, 80
 klovve.view, 82
MouseClickOngoingEvent (class in *klovve.drivers.curses.vivid.event.input*), 36
move() (*klovve.data.lists.List* method), 12
moved_by() (*klovve.drivers.curses.vivid.Point* method), 31

N

name (*klovve.drivers.curses.vivid.event.base.OngoingEvent* property), 35
 name (*klovve.pieces.property_panel.entry.Model* property), 69
 name (*klovve.pieces.window.Model* property), 78
name() (*klovve.drivers.bare_terminal.Driver* static method), 18
name() (*klovve.drivers.curses.Driver* static method), 22
name() (*klovve.drivers.Driver* static method), 18
name() (*klovve.drivers.gtk.Driver* static method), 53
name_tuple (*klovve.view.ViewTreeNode* property), 83
new_object_created() (*klovve.debug._Memory* method), 80

no_dependency_tracking() (in module *klovve.data.deps*), 10
notify_dependency() (in module *klovve.data.deps*), 11
notify_property_value_changed() (in module *klovve.data.deps*), 11
NullLayout (class in *klovve.drivers.curses.vivid.layout*), 49

O

ObservableValue (class in *klovve.data.observable_value*), 16
ObservableValueProtocol (class in *klovve.data.observable_value*), 16
observe_list() (in module *klovve.data.model*), 15
offset (*klovve.drivers.curses.vivid.widgets.widget.Widget* property), 43
on_click (*klovve.drivers.curses.vivid.widgets.button.Button* property), 37
on_dematerialized() (*klovve.drivers.curses.vivid.widgets.widget.Widget* method), 43
on_materialized() (*klovve.drivers.curses.vivid.widgets.widget.Widget* method), 43
on_selection_activated (*klovve.drivers.curses.vivid.widgets.list.List* property), 39
OneWayBinding (class in *klovve.data.value_holder*), 17
OngoingEvent (class in *klovve.drivers.curses.vivid.event.base*), 35
only_single_time (*klovve.pieces.log_pager.entry.Model* property), 68
only_verbose (*klovve.pieces.log_pager.entry.Model* property), 68
Orientation (class in *klovve.drivers.curses.vivid.widgets.box*), 37
orientation (*klovve.drivers.curses.vivid.widgets.box.Box* property), 37
orientation (*klovve.pieces.busy_animation.Model* property), 71
original_image_height (*klovve.drivers.gtk.views.viewer.image.Image* property), 57
original_image_width (*klovve.drivers.gtk.views.viewer.image.Image* property), 57
Outer (class in *klovve.drivers.gtk.views.viewer.image*), 58

P

paint() (*klovve.drivers.curses.vivid.widgets.check_button.CheckButton* method), 37
paint() (*klovve.drivers.curses.vivid.widgets.entry.Entry* method), 38

paint() (*klovve.drivers.curses.vivid.widgets.frame.Frame* *refresh_curses_window()*
method), 38
paint() (*klovve.drivers.curses.vivid.widgets.label.Label*
method), 39
paint() (*klovve.drivers.curses.vivid.widgets.progress_bar*.*ProgressChanged_handler()*
method), 39
paint() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
method), 43
paint2() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
method), 43
parent (*klovve.drivers.curses.vivid.widgets.widget.Widget*
property), 43
path (*klovve.pieces.viewer.pdf.Model* *property*), 70
pixbuf (*klovve.drivers.gtk.views.viewer.image.Image* *attribute*), 57
pixbuf (*klovve.drivers.gtk.views.viewer.image.Outer* *attribute*), 58
Point (*class in klovve.drivers.curses.vivid*), 31
popup() (*klovve.drivers.curses.vivid.screen.Screen*
method), 51
position (*klovve.drivers.curses.vivid.widgets.widget.Widget*
property), 43
prepare() (*klovve.drivers.gtk._Source* *method*), 54
process_curses_input()
(klovve.drivers.curses.vivid.drivers.curses.Driver *resize_widget_soon()*
method), 33
progress (*klovve.pieces.headered_panel.Model* *prop-*
erty), 73
ProgressBar (*class* *in*
klovve.drivers.curses.vivid.widgets.progress_bar), 39
Property (*class in klovve.data.model*), 15
Property() (*in* *module*
klovve.drivers.curses.vivid.widgets.widget), 40
Property() (*klovve.drivers.curses.vivid.widgets.widget*.*Widget*
method), 41
PropertyBase (*class in klovve.data.model*), 15
R
r (*klovve.drivers.curses.vivid.canvas.Canvas*.*Color* *at-*
tribute), 45
r (*klovve.drivers.curses.vivid.canvas.Canvas*.*Color* *attribute*), 46
RadioButton (*class* *in*
klovve.drivers.curses.vivid.widgets.radio_button), 40
rank() (*klovve.drivers.bare_terminal.Driver* *static*
method), 18
rank() (*klovve.drivers.curses.Driver* *static method*), 22
rank() (*klovve.drivers.Driver* *static method*), 18
rank() (*klovve.drivers.gtk.Driver* *static method*), 53
reaction() (*in module klovve.data.reaction*), 16
Rectangle (*class in klovve.drivers.curses.vivid*), 31
register() (*klovve.drivers.gtk._Selector* *method*), 54
remove() (*klovve.data.observable_value.ObservableValue*
method), 16
remove_changed_handler()
(klovve.data.observable_value.ObservableValueProtocol
method), 16
remove_fd() (*klovve.drivers.gtk._Source* *method*), 54
repaint_widget_soon()
(klovve.drivers.curses.vivid.drivers.curses.Driver
method), 33
repaint_widget_soon()
(klovve.drivers.curses.vivid.drivers.driver.Driver
method), 35
request_repaint() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
method), 43
request_resize() (*klovve.drivers.curses.vivid.widgets.widget.Widget*
method), 43
resize_widget_soon()
(klovve.drivers.curses.vivid.drivers.curses.Driver
method), 33
rich (*klovve.drivers.curses.vivid.canvas.Canvas*.*FullColor*
attribute), 45
rich (*klovve.drivers.curses.vivid.canvas.FullColor* *at-*
tribute), 46
right_button (*klovve.drivers.curses.vivid.event.input.MouseClickOngoing*
property), 36
right_x (*klovve.drivers.curses.vivid.Rectangle* *prop-*
erty), 32
root_style (*klovve.drivers.curses.vivid.widgets.widget.Widget*
property), 43
RootAlignment (*class* *in*
klovve.drivers.curses.vivid.screen), 50
RootAlignmentPositioning (*class* *in*
klovve.drivers.curses.vivid.screen), 50
RootAlignmentSizing (*class* *in*
klovve.drivers.curses.vivid.screen), 50
roots (*klovve.drivers.curses.vivid.screen.Screen* *prop-*
erty), 51
roots_and_alignments
(klovve.drivers.curses.vivid.screen.Screen
property), 51
RootStyle (*class in klovve.drivers.curses.vivid.style*), 52
run() (*klovve.application.ApplicationInternal* *method*), 79
run() (*klovve.drivers.curses.vivid.drivers.curses._Loop*
method), 34
run() (*klovve.drivers.curses.vivid.loopLoop* *method*),

```

49
running_apps (klovve.application.ApplicationInternal
attribute), 79

S
Screen (class in klovve.drivers.curses.vivid.screen), 51
screen (klovve.drivers.curses.vivid.widgets.widget.Widget
property), 43
screen_position (klovve.drivers.curses.vivid.event.input.Mouse
property), 36
screen_position (klovve.drivers.curses.vivid.event.input.Scroll
property), 36
screens (klovve.drivers.curses.vivid.drivers.curses.Driver
property), 33
screens (klovve.drivers.curses.vivid.drivers.driver.Driver
property), 35
Scrollable (class in klovve.drivers.curses.vivid.widgets.scrollable),
40
ScrollOngoingEvent (class in
klovve.drivers.curses.vivid.event.input), 36
select() (klovve.drivers.gtk._Selector method), 54
selected_index (klovve.drivers.curses.vivid.widgets.dropdown.
property), 38
selected_item (klovve.drivers.curses.vivid.widgets.dropdown.
property), 38
selected_item (klovve.pieces.dropdown.Model prop-
erty), 72
selected_item (klovve.pieces.list.Model property), 75
selected_item (klovve.pieces.list_panel.Model prop-
erty), 75
selected_item_index
(klovve.drivers.curses.vivid.widgets.list.List
property), 39
selected_items (klovve.pieces.list.Model property), 75
set_answer() (klovve.pieces.interact.Model method),
66
set_inner_size() (klovve.drivers.curses.vivid.widgets.widget.
method), 43
set_layout() (klovve.drivers.curses.vivid.widgets.widget.
method), 43
set_offset() (klovve.drivers.curses.vivid.widgets.widget.
method), 43
set_parent() (klovve.drivers.curses.vivid.widgets.widget.
method), 44
set_position() (klovve.drivers.curses.vivid.widgets.widget.
method), 44
set_root_style() (klovve.drivers.curses.vivid.widgets.widget.
method), 44
set_size() (klovve.drivers.curses.vivid.layout.GridLayout
method), 48
set_size() (klovve.drivers.curses.vivid.layout.Layout
method), 48
set_size() (klovve.drivers.curses.vivid.layout.NullLayout
method), 49

set_size() (klovve.drivers.curses.vivid.widgets.frame.Frame
method), 38
set_size() (klovve.drivers.curses.vivid.widgets.scrollable.Scrollable
method), 40
set_size() (klovve.drivers.curses.vivid.widgets.widget.Widget
method), 44
set_source() (klovve.drivers.gtk.views.viewer.image.Outer
method), 58
set_value() (klovve.data.value_holder.ComputedValue
method), 17
set_value() (klovve.data.value_holder.OneWayBinding
method), 17
set_value() (klovve.data.value_holder.ValueHolder
method), 17
show_window() (klovve.drivers.bare_terminal.Driver
method), 18
show_window() (klovve.drivers.curses.Driver method),
22
show_window() (klovve.drivers.Driver method), 18
show_window() (klovve.drivers.gtk.Driver method), 53
side_item (klovve.pieces.dual.Model property), 72
since_startup (klovve.debug._Memory property), 80
Size (class in klovve.drivers.curses.vivid),
32
size (klovve.drivers.curses.vivid.Screen
property), 34
size (klovve.drivers.curses.vivid.screen.Screen
property), 51
size (klovve.drivers.curses.vivid.widgets.widget.Widget
property), 44
size (klovve.pieces.busy_animation.Model property), 71
sleep_until_stopped()
(klovve.application.Application
method), 79
sleep_until_stopped()
(klovve.application.ApplicationInternal
method), 79
SMALL_WIDGET (klovve.pieces.busy_animation.Model.Size
attribute), 71
SOURCE (klovve.drivers.gtk.views.viewer.image.Outer
attribute), 58
SOURCE (klovve.pieces.viewer.image.Model property), 70
spinner_size (klovve.drivers.gtk.views.busy_animation.Model
property), 59
spinner_size() (klovve.drivers.curses.views.busy_animation.Model
attribute), 40
start() (klovve.application.Application method), 79
start() (klovve.application.ApplicationInternal
method), 79
state (klovve.pieces.headered_panel.Model property),
73
step_value (klovve.pieces.slider.Model property), 77
STOP (klovve.drivers.curses.vivid.widgets.widget.Alignment
method), 79

```

attribute), 40
stop_propagation() (*klovve.drivers.curses.vivid.event.base.OngoingEvent method*), 35
Style (*class in klovve.drivers.curses.vivid.style*), 52
style (*klovve.drivers.curses.vivid.screen.Screen property*), 51
style_atom (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 44
style_atom_by_name() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 44
StyleAtom (*class in klovve.drivers.curses.vivid.style*), 53
SUCCESSFUL (*klovve.pieces.headered_panel.Model.State attribute*), 73
SUCCESSFUL_WITH_WARNING (*klovve.pieces.headered_panel.Model.State attribute*), 73
suggestion (*klovve.pieces.interact.textline.Model property*), 67

T

text (*klovve.drivers.curses.vivid.widgets.entry.Entry property*), 38
text (*klovve.drivers.curses.vivid.widgets.label.Label property*), 39
text (*klovve.pieces.busy_animation.Model property*), 71
text (*klovve.pieces.button.Model property*), 71
text (*klovve.pieces.checkable.Model property*), 71
text (*klovve.pieces.formatted_text.Model property*), 73
text (*klovve.pieces.header.Model property*), 73
text (*klovve.pieces.label.Model property*), 74
text (*klovve.pieces.text_field.Model property*), 77
text() (*klovve.drivers.curses.vivid.canvas.Canvas method*), 46
text() (*klovve.drivers.curses.vivid.drivers.curses._Canvas method*), 33
ThreadingError, 80
TINY (*klovve.pieces.busy_animation.Model.Size attribute*), 71
title (*klovve.pieces.headered_panel.Model property*), 74
title (*klovve.pieces.window.Model property*), 78
title2 (*klovve.pieces.window.Model property*), 78
title_label_background (*klovve.drivers.curses.views.headered_panel.Model property*), 27
title_label_css_classes (*klovve.drivers.gtk.views.headered_panel.Model property*), 61
title_secondary_items (*klovve.pieces.headered_panel.Model property*), 74
top_left (*klovve.drivers.curses.vivid.Rectangle property*), 32
top_y (*klovve.drivers.curses.vivid.Rectangle property*),
topmost (*klovve.drivers.curses.vivid.screen.Screen property*), 51
translate_coordinates() (*klovve.drivers.curses.vivid.screen.Screen method*), 51
translate_coordinates_with_visibility_check() (*klovve.drivers.curses.vivid.screen.Screen method*), 52
triggers (*klovve.pieces.interact.abstract.Model property*), 66
triggers (*klovve.pieces.interact.triggers.Model property*), 67
try_focus() (*klovve.drivers.curses.vivid.widgets.widget.Widget method*), 44
TwoWayBinding (*class in klovve.data.value_holder*), 17
TypeLoader (*class in klovve.type_loader*), 81

U

unregister() (*klovve.drivers.gtk._Selector method*), 54
update() (*klovve.data.lists.List method*), 12
update() (*klovve.drivers.curses.vivid.data.List method*), 47
update() (*klovve.drivers.curses.vivid.screen.Screen method*), 52
update_curses_screensize() (*klovve.drivers.curses.vivid.drivers.curses._Screen method*), 34

V

value (*klovve.data.reaction._ReactionModel property*), 16
value (*klovve.drivers.curses.vivid.widgets.progress_bar.ProgressBar property*), 39
value (*klovve.pieces.interact.textline.View.TModel property*), 67
value (*klovve.pieces.progress.Model property*), 76
value (*klovve.pieces.slider.Model property*), 77
ValueHolder (*class in klovve.data.value_holder*), 17
values (*klovve.pieces.property_panel.Model property*), 68
verify_correct_thread() (*in module klovve.threading_*), 80
VERTICAL (*klovve.drivers.curses.vivid.widgets.box.Orientation attribute*), 37
VERTICAL (*klovve.pieces.busy_animation.Model.Orientation attribute*), 70
vertical_alignment (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 44
vertical_expand_greedily (*klovve.drivers.curses.vivid.widgets.widget.Widget property*), 44

vertically_scrollable
 (*klovve.drivers.curses.vivid.widgets.scrollable.Scrollable* class in *klovve.drivers.curses.views.scrollable*), 29
 property), 40

View (class in *klovve.drivers.bare_terminal.views.checkable*), 19

View (class in *klovve.drivers.bare_terminal.views.headered*), 20

View (class in *klovve.drivers.bare_terminal.views.interact.abstract*), 19

View (class in *klovve.drivers.bare_terminal.views.label*), 20

View (class in *klovve.drivers.bare_terminal.views.log_pager*), 20

View (class in *klovve.drivers.bare_terminal.views.placeholder*), 21

View (class in *klovve.drivers.bare_terminal.views.split*), 21

View (class in *klovve.drivers.bare_terminal.views.vertical_box*), 21

View (class in *klovve.drivers.curses*), 22

View (class in *klovve.drivers.curses.views._curses_private.button*), 22

View (class in *klovve.drivers.curses.views.busy_animation*), 25

View (class in *klovve.drivers.curses.views.checkable*), 26

View (class in *klovve.drivers.curses.views.disableable*), 26

View (class in *klovve.drivers.curses.views.dropdown*), 26

View (class in *klovve.drivers.curses.views.dual*), 27

View (class in *klovve.drivers.curses.views.form*), 23

View (class in *klovve.drivers.curses.views.form.section*), 23

View (class in *klovve.drivers.curses.views.formatted_text*), 27

View (class in *klovve.drivers.curses.views.header*), 27

View (class in *klovve.drivers.curses.views.headered_panel*), 27

View (class in *klovve.drivers.curses.views.horizontal_box*), 28

View (class in *klovve.drivers.curses.views.interact.abstract*), 23

View (class in *klovve.drivers.curses.views.label*), 28

View (class in *klovve.drivers.curses.views.list*), 28

View (class in *klovve.drivers.curses.views.log_pager*), 29

View (class in *klovve.drivers.curses.views.placeholder*), 29

View (class in *klovve.drivers.curses.views.progress*), 29

View (class in *klovve.drivers.curses.views.property_panel*), 24

View (class in *klovve.drivers.gtk.views.button*), 59

View (class in *klovve.drivers.gtk.views.checkable*), 60

View (class in *klovve.drivers.gtk.views.disableable*), 60

View (class in *klovve.drivers.gtk.views.dropdown*), 60

View (class in *klovve.drivers.gtk.views.dual*), 61

View (class in *klovve.drivers.gtk.views.form*), 55

View (class in *klovve.drivers.gtk.views.form.section*), 55

View (class in *klovve.drivers.gtk.views.header*), 61

View (class in *klovve.drivers.gtk.views.headered_panel*), 61

View (class in *klovve.drivers.gtk.views.horizontal_box*), 62

View (class in *klovve.drivers.gtk.views.interact.abstract*), 56

View (class in *klovve.drivers.gtk.views.label*), 62

View (class in *klovve.drivers.gtk.views.list*), 62

View (class in *klovve.drivers.gtk.views.log_pager*), 63

View (class in *klovve.drivers.gtk.views.placeholder*), 63

View (class in *klovve.drivers.gtk.views.progress*), 63

View (class in *klovve.drivers.gtk.views.property_panel*), 56

View (class in *klovve.drivers.gtk.views.scrollable*), 63

View (class in *klovve.drivers.gtk.views.slider*), 64

View (class in *klovve.drivers.gtk.views.split*), 64

View (class in *klovve.drivers.gtk.views.tabbed*), 56

View (class in *klovve.drivers.gtk.views.tabbed.tab*), 57

View (class in *klovve.drivers.gtk.views.text_field*), 64

View (class in *klovve.drivers.gtk.views.vertical_box*), 64

View (class in *klovve.drivers.gtk.views.viewer.image*), 58

View (class in *klovve.drivers.gtk.views.viewer.pdf*), 59

View (class in *klovve.drivers.gtk.views.window*), 65

View (class in *klovve.pieces.busy_animation*), 71

View (class in *klovve.pieces.button*), 71

View (class in *klovve.pieces.checkable*), 71

View (class in *klovve.pieces.disableable*), 72

V

View (*class in klovve.pieces.dropdown*), 72
 View (*class in klovve.pieces.dual*), 72
 View (*class in klovve.pieces.form*), 65
 View (*class in klovve.pieces.form.section*), 65
 View (*class in klovve.pieces.formatted_text*), 73
 View (*class in klovve.pieces.header*), 73
 View (*class in klovve.pieces.headered_panel*), 74
 View (*class in klovve.pieces.horizontal_box*), 74
 View (*class in klovve.pieces.interact.abstract*), 66
 View (*class in klovve.pieces.interact.message*), 66
 View (*class in klovve.pieces.interact.textline*), 67
 View (*class in klovve.pieces.interact.triggers*), 67
 View (*class in klovve.pieces.interact.yesno*), 67
 View (*class in klovve.pieces.label*), 74
 View (*class in klovve.pieces.list*), 75
 View (*class in klovve.pieces.list_panel*), 75
 View (*class in klovve.pieces.log_pager*), 67
 View (*class in klovve.pieces.log_pager.entry*), 68
 View (*class in klovve.pieces.placeholder*), 76
 View (*class in klovve.pieces.progress*), 76
 View (*class in klovve.pieces.property_panel*), 68
 View (*class in klovve.pieces.property_panel.entry*), 69
 View (*class in klovve.pieces.scrollable*), 76
 View (*class in klovve.pieces.slider*), 77
 View (*class in klovve.pieces.split*), 77
 View (*class in klovve.pieces.tabbed*), 69
 View (*class in klovve.pieces.tabbed.tab*), 69
 View (*class in klovve.pieces.text_field*), 77
 View (*class in klovve.pieces.vertical_box*), 78
 View (*class in klovve.pieces.viewer.image*), 70
 View (*class in klovve.pieces.viewer.pdf*), 70
 View (*class in klovve.pieces.window*), 78
 view() (*klovve.view.ViewTreeNode method*), 83
 View.TModel (*class in klovve.pieces.interact.textline*), 67
 view_base_type() (*klovve.type_loader.DefaultTypeLoader method*), 80
 view_base_type() (*klovve.type_loader.TypeLoader method*), 81
 view_type() (*klovve.drivers.Driver method*), 18
 view_type() (*klovve.type_loader.DefaultTypeLoader method*), 80
 view_type() (*klovve.type_loader.TypeLoader method*), 81
 ViewError, 82
 ViewFactory (*class in klovve.view*), 82
 ViewFactory._Node (*class in klovve.view*), 82
 ViewTreeNode (*class in klovve.view*), 83

W

Widget (*class in klovve.drivers.curses.vivid.widgets.widget*), 40
 Widget.Parti (*class in klovve.drivers.curses.vivid.widgets.widget*), 40

width (*klovve.drivers.curses.vivid.Rectangle property*), 32
 width (*klovve.drivers.curses.vivid.Size property*), 32
 with_height() (*klovve.drivers.curses.vivid.Size method*), 32
 with_width() (*klovve.drivers.curses.vivid.Size method*), 32
 with_x() (*klovve.drivers.curses.vivid.Point method*), 31
 with_y() (*klovve.drivers.curses.vivid.Point method*), 31

X

x (*klovve.drivers.curses.vivid.Point property*), 31

Y

y (*klovve.drivers.curses.vivid.Point property*), 31

Z

zoom_factor (*klovve.drivers.gtk.views.viewer.image.Image attribute*), 58
 zoom_in() (*klovve.drivers.gtk.views.viewer.image.Image method*), 58
 zoom_out() (*klovve.drivers.gtk.views.viewer.image.Image method*), 58