
webviz_site_generator Documentation

Release 0.1.0

equinor

Jan 20, 2020

Contents

1	webviz package	1
2	webviz visualizations	7
3	Examples	11
3.1	Bar chart	11
3.2	Fan chart	11
3.3	Heat map	12
3.4	Histogram	13
3.5	Line chart	13
3.6	Pie chart	14
3.7	Scatter plot	14
3.8	Scatter plot matrix	15
3.9	Tornado plot	15
4	Introduction	17
4.1	Using folder structure and markdown files	17
4.2	API example	18
	Python Module Index	21
	Index	23

CHAPTER 1

webviz package

This package contains the core functionality for putting together different `Page` instances into a `Webviz` instance. Each `Page` is a collection of `PageElement` instances, which are rendered in the input order on the corresponding page when running `Webviz.write_html()`.

```
from webviz import Webviz, Page

web = Webviz('Main title')
page = Page("Demo", icon='graph')
web.add(page)
web.write_html("./simple_webviz_example", overwrite=True, display=True)
```

This small example will create an instance `web`, add one empty page to it (in addition to the default index/front page), and write the output to a folder `./simple_webviz_example`.

`class webviz.HeaderElement`
Bases: `webviz._header_element.HeaderElement`

A HeaderElement describes one action taken to include a header element to a Page.

Parameters

- `tag` – The tag of the header element, such as ‘script’ or ‘link’.
- `attributes` – Dictionary of attributes of the tag, such as `{'src': 'jquery.js'}`. Value strings can include the template value `{root_folder}` which will be substituted with the path to the root of the site.
- `content` – The content of the text (inner html).
- `source_file` – If the header element refers to a file, then the absolute path to that file.
- `target_file` – The relative path to the file, as it is referred to in the attributes.

`class webviz.Webviz(title, banner_title='Webviz', banner_image=None, copyright_notice=None, theme='default')`
Bases: `object`

An instance of `Webviz` is a collection of `Page` instances, and optionally also `SubMenu` instances. `Webviz` is used to build a collection of these, which can afterwards be rendered as `html`.

There is one special `Page` included as default, `index`, which is the front page in the `html` output.

`add(menu_item)`

Adds an item to the top-level navigation bar of the `Webviz` instance.

Parameters `menu_item` – A `Page` or Submenu to add to the `Webviz` instance.

Raises ValueError, if `menu_item` is neither `Page` nor a `SubMenu`.

`pages`

List of all Pages in the `Webviz` instance.

`write_html(destination, display=False, overwrite=False)`

Writes the `html` to the destination folder.

Parameters

- `destination` – Directory to write the `html` output to.
- `overwrite` – *Optional Parameter*. Whether to ignore if the given destination already exists. Content inside the folder may be deleted.
- `display` – *Optional Parameter*. Whether to open browser to the index page.

Raises ValueError if `overwrite` is False and destination folder exists.

`class webviz.Html(html, js_deps=[], css_deps=[])`

Bases: `webviz._page_element.PageElement`

A page element for adding `html`.

Parameters

- `html` – The `html` string to add to the page.
- `js_deps` – A list of `js` files (absolute path) to be included in the html code.
- `css_deps` – A list of `css` files (absolute path) to be included in the html code.

`get_template()`

Returns The corresponding `jinja2` template for the plot, which can be rendered using:

```
html = self.get_template().render(element=self)
```

`class webviz.Page(title, icon=None)`

Bases: `object`

Container for `PageElement` instances. In order to be rendered the `Page` should be added to a `Webviz` instance.

Parameters

- `title` – String. A title for the page.
- `icon` – *Optional parameter*. Name of an icon provided by the `webviz.Theme` used in the `Webviz` instance this page will be added to.

`add_content(content)`

Add a `PageElement` to the page.

Parameters `content` – The `PageElement` to add.

Raises ValueError if `content` is not a `PageElement`.

header_elements

Returns The set of *css* dependencies for all page elements in the page

resources

Returns The set of *css* dependencies for all page elements in the page

class webviz.SubMenu (title, icon=None)

Bases: object

A submenu is a collection of pages with its own title and icon. The pages in a submenu are grouped together in the navigation of the *Webviz*.

Parameters

- **title** – The title of the submenu.
- **icon** – *Optional parameter.* Name of an icon provided by the `webviz.Theme` used in the `Webviz` instance this submenu will be added to.

add_page (page)

Adds a `Page` to the submenu.

Parameters `page` – A `Page` to add to the submenu.

Raises `ValueError` if `page` is not a `Page`.

location

Returns The location of the first page, or `None` if the submenu is empty.

class webviz.Markdown (md)

Bases: `webviz._page_element.PageElement`

A page element for adding *markdown*.

get_template ()

Returns The corresponding `jinja2` template for the plot, which can be rendered using:

```
html = self.get_template().render(element=self)
```

class webviz.PageElement

Bases: object

A page element with data and a template which renders to *html*.

Each element also has a unique `containerId` in order to make unique DOM IDs in the template.

get_template ()

Returns The corresponding `jinja2` template for the plot, which can be rendered using:

```
html = self.get_template().render(element=self)
```

class webviz.Theme

Bases: `webviz._theme.Theme`

A theme contains the templates and files related to building Webviz instance.

There is one entry template, `main.html`, which is rendered for each page.

Webviz exposes a set of `jinja2` macros that set up includes the content. A minimal example of a theme is as follows:

```
{% import macros as webviz with context %}

<html>
<head>
{{ webviz.header()  }}
</head>
<body>
{% call(banner) webviz.banner() %}
<img src='{{banner}}'></img>
{%- endcall %}

<ul>
  {% call(loc, title, current, icon, sub) webviz.iter_menu() %}
    <li> <a href='{{loc}}'> {{icon}} {{title}}</a>
      {% if sub %}
        <ul>
          {% call(sub_loc, sub_title) webviz.iter_sub_menu(sub) %}
            <li><a href='{{sub_loc}}'> {{icon}} {{sub_title}}</a></li>
          {% endcall %}
        </li>
      </ul>
      {% endif %}
    {% endcall %}
  </ul>
  {{ webviz.content()  }}

  {% if copyright_notice %}
    {{ copyright_notice }} 
  {% endif%}
</body>
</html>
```

See the `webviz_default_theme` plugin for a more advanced example.

Parameters

- **template_loader** – A loader where the `main.html`, and all the templates it references, can be found.
- **css_files** – List of additional `css` files to be included on each page.
- **js_files** – List of additional `js` files to be included on each page.
- **resources** – Dictionary of additional files to be included by the template. The key is the relative location where this resource should be found. For instance, if `resources['images'] = ['/absolute/path/to/my_image.jpg']`, the image can be included in the template by the `resources` macro as `webviz.resources('images/my_image.jpg')`.
- **icons** – A dictionary of icons provided by the theme.

class `webviz.JSONPageElement`

Bases: `webviz._page_element.PageElement`

A `JSONPageElement` is a `PageElement` which stores some json-data. The data is either assigned to some key in the json store object or otherwise can be accessed as a json-string.

```
>>> json_page_element['my_json_data'] = {'key': 3}
>>> json_page_element['my_json_data']
{'key': 3}
```

(continues on next page)

(continued from previous page)

```
>>> json_page_element.get_json_dump('my_json_data')
{'key': 3}'
```

The json data can be “dumped”, i.e. stored in a key of the json store object.

```
>>> json_page_element.dump_all_jsons('/my/dir')
{'my_json_data': (json_store['123-567-8910'] = {"key": 3};) }
```

Asking for the json dump will then instead return a lookup in the json-store:

```
>>> json_page_element.get_json_dump('my_json_data')
'json_store["123-567-8910"]'
```

get_js_dep is overridden including js files with assignments to the json store.

dump_all_jsons()

Returns A map from all json-keys to assignments to the json_store.

```
>>> json_page_element.dump_all_jsons()
{'my_json_data' : 'json_store["123-567-8910"] = {"data": 3};'}
```

dump_json_key(key)

Dumps the given json-key.

Raises KeyError, if there is no value for the given json-key.

get_json_dump(key)

Returns Dumped value for the given key. Either lookup in store or a json string.

is_dumped(key)

Returns Whether the json-value with the given key has been dumped.

CHAPTER 2

webviz visualizations

```
class webviz_plotly.FilteredPlotly(data, check_box_columns=[], slider_columns=[], drop-down_columns=[], *args, **kwargs)
Bases: webviz_plotly.Plotly
```

Page Element for adding filtering controls to Plotly plots that take a dataframe. Values are grouped by labels, for instance:

```
index,value,labels
01-01-2020,3,A
02-01-2020,4,B
```

If ‘labels’ is chosen as a dropdown_column, then the value 4 will be chosen if the dropdown menu is set to the label B, and the value 3 will be chosen if the dropdown is set to A.

The `FilteredPlotly.process_data()` handles the generation of the plot data. For the example above, it is given the following dataframes:

```
index,value
01-01-2020,3
```

and

```
index,value,
02-01-2020,4
```

Layout and config is then generated that insert the required controls.

Parameters

- **data** – A dataframe, or list of dataframes, that can be processed by `process_data`. Each dataframe will be grouped based on `check_box_columns` and given as a parameter list to `process data`. A special label, `FilteredPlotly.wildcard` (“*” by default), signifies that the data should be present in all groups. If a dataframe does not contain a column it is treated as if all rows have the wildcard label.

- **check_box_columns** – Columns in the dataframes that contain labels to be filtered on by check boxes.
- **slider_columns** – Columns in the dataframe that contain labels to be filtered on by a slider.
- **dropdown_columns** – Columns in the dataframe that contain labels to be filtered on by a dropdown menu.

```
get_template()  
    overrides webviz.PageElement.get_template().
```

```
names_match(filters, names1, names2)
```

```
process_data(*datas)
```

Returns List of traces to be used a data for the Plotly Page Element.

```
wildcard = '*'
```

```
class webviz_plotly.Plotly(data, layout={}, config={}, **kwargs)  
Bases: webviz._json_page_element.JSONPageElement
```

Plotly page element. Arguments are the same as `plotly.plot()` from `plotly.js`. See <https://plot.ly/javascript/> for usage.

Parameters

- **xaxis** – Will create a label for the x-axis.
- **yaxis** – Will create a label for the y-axis.
- **logx** – boolean value to toggle x-axis logarithmic scale.
- **logy** – boolean value to toggle y-axis logarithmic scale.
- **xrange** – list of minimum and maximum value. Ex: [3, 15].
- **yrange** – list of minimum and maximum value. Ex: [3, 15].

Note: `Plotly` will not allow the modebarbuttons in `DISALLOWED_BUTTONS`, as these are not useful for the visualizations implemented in `webviz`.

```
DISALLOWED_BUTTONS = ['sendDataToCloud', 'resetScale2d']  
add_annotation(**kwargs)  
get_template()  
    Overrides webviz.PageElement.get_template().  
handle_args(title=None, xrange=None, yrange=None, xaxis=None, yaxis=None, logx=False,  
            logy=False)
```

```
class webviz_bar_chart.BarChart(data, barmode='group', logy=False, *args, **kwargs)  
Bases: webviz_plotly.FilteredPlotly
```

Bar chart page element.

Parameters

- **data** – Either a file path to a `csv` file or a `pandas.DataFrame`. If a dataframe is given, each column is one set of bars in the chart. The dataframe index is used for the horizontal values. Similarly for the `csv` file, where a special column named `index` will be used for the horizontal values.

- **barmode** – Either 'group', 'stack', 'relative' or 'overlay'. Defines how multiple bars per index-value are combined. See [plotly.js layout-barmode](#).

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

class webviz_heat_map.**HeatMap** (*data*, **args*, ***kwargs*)

Bases: [webviz_plotly.FilteredPlotly](#)

Line chart page element.

Parameters **data** – Either a file path to a *csv* file or a [pandas.DataFrame](#). Each column of the dataframe becomes one line in the chart. Similarly for the *csv* file, but a special column `index` will be used as the horizontal value.

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

class webviz_histogram.**Histogram** (*data*, *xlabel=None*, *ylabel='[%]'*, *barmode='overlay'*, *histnorm='percent'*, *nbinsx=0*, *logy=False*, *logx=False*, **args*, ***kwargs*)

Bases: [webviz_plotly.FilteredPlotly](#)

Histogram page element.

Parameters

- **data** – Either a file path to a *csv* file or a [pandas.DataFrame](#). If a dataframe is given, each column is one set of bars in the chart. The dataframe index is used for the horizontal values. Similarly for the *csv* file, where a special column named `index` will be used for the horizontal values.
- **barmode** – Either 'group', 'stack', 'relative' or 'overlay'. Defines how multiple bars per index-value are combined. See [plotly.js layout-barmode](#).
- **histnorm** – Either '', 'percent', 'probability', 'density' or 'probability density'. Specifies type of normalization used. See [plotly.js histogram-histnorm](#).
- **nbinsx** – Maximum number of desired bins. Default value 0 will generate optimal number of bins.

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

class webviz_line_chart.**LineChart** (*data*, *logy=False*, **args*, ***kwargs*)

Bases: [webviz_plotly.FilteredPlotly](#)

Line chart page element.

Parameters **data** – Either a file path to a *csv* file or a [pandas.DataFrame](#). If a dataframe is given, each column is one line in the chart. The dataframe index is used for the horizontal values. Similarly for the *csv* file, where a special column named `index` will be used for the horizontal values.

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

class webviz_pie_chart.**PieChart** (*data*, *num_per_row=4*)

Bases: [webviz_plotly.Plotly](#)

Pie chart page element.

Parameters

- **data** – Value for each sector, or csv file (one column for each sector). Each row (line) becomes a separate pie chart. If there is a column with the name ‘pie_chart_label’ it is used for the name of each pie chart.
- **num_per_row** – If more than one pie chart, number per row.

class `webviz_scatter_plot.ScatterPlot` (*data*, *logy=False*, **args*, ***kwargs*)

Bases: `webviz_plotly.FilteredPlotly`

Scatter plot page element.

Parameters **data** – Either a file path to a *csv* file or a `pandas.DataFrame`. If a dataframe is given, each column is one set of points in the chart. The dataframe index is used for the horizontal values. Similarly for the *csv* file, where a special column named `index` will be used for the horizontal values.

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

class `webviz_tornado_plot.TornadoPlot` (**args*, ***kwargs*)

Bases: `webviz_plotly.FilteredPlotly`

Tornado plot page element.

Parameters

- **data** – Either a file path to a *csv* file or a `pandas.DataFrame`. There are two columns: ‘low’ and ‘high’ describing.
- **high_text** – Optional text

process_data (*data*)

Returns List of traces to be used a data for the Plotly Page Element.

CHAPTER 3

Examples

The different webviz visualization plugins can, when installed, be imported using e.g.

```
from webviz.page_elements import BarChart, LineChart, PieChart, ScatterPlotMatrix
```

3.1 Bar chart

```
from webviz import Webviz, Page
from webviz.page_elements import BarChart
import pandas as pd

web = Webviz('Bar Chart Example')

page = Page('Bar Chart')

bars1 = [10, 15, 13, 17]
bars2 = [16, 5, 11, 9]

bars = pd.DataFrame({'bars1': bars1, 'bars2': bars2})

page.add_content(BarChart(bars))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.2 Fan chart

```
from webviz import Webviz, Page
from webviz.page_elements import FanChart
import pandas as pd
```

(continues on next page)

(continued from previous page)

```
web = Webviz('Fan Chart Example')

page = Page('Fan Chart')

index = ['2012-01-01', '2012-01-02', '2012-01-03', '2012-01-04']

name = ['line-1', 'line-1', 'line-1', 'line-1']

mean = [10, 15, 13, 17]

p10 = [11, 16, 13, 18]

p90 = [9, 14, 12, 16]

areaMax = [16, 17, 16, 19]

areaMin = [4, 1, 9, 8]

lines = pd.DataFrame({
    'index': index,
    'name': name,
    'mean': mean,
    'p10': p10,
    'p90': p90,
    'max': areaMax,
    'min': areaMin
})

observations = pd.DataFrame({
    'name': ['line-2', 'line-3'],
    'value': [4, 3],
    'error': 2
})

page.add_content(FanChart(lines, observations))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.3 Heat map

```
from webviz import Webviz, Page
from webviz.page_elements import HeatMap
import pandas as pd

web = Webviz('Heat Map Example')

page = Page('Heat Map')

lines = pd.DataFrame(
    [[1, 20, 30, 50, 1], [20, 1, 60, 80, 30], [30, 60, 1, -10, 20]],
    columns=['Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday'],
    index=['Morning', 'Afternoon', 'Evening']
)
```

(continues on next page)

(continued from previous page)

```
page.add_content(HeatMap(lines))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.4 Histogram

```
from webviz import Webviz, Page
from webviz.page_elements import Histogram
import pandas as pd
import numpy as np

web = Webviz('Histogram Example')

page = Page('Histogram')

normal = [x for x in np.random.normal(size=1000).tolist()]
poisson = [x for x in np.random.poisson(10, 1000).tolist()]
triangular = [x for x in np.random.triangular(0, 10, 20, 1000).tolist()]

data = pd.DataFrame({'normal': normal, 'poisson': poisson,
                     'triangular': triangular})

page.add_content(Histogram(data, nbinsx=20))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.5 Line chart

```
from webviz import Webviz, Page
from webviz.page_elements import LineChart
import pandas as pd

web = Webviz('Line Chart Example')

page = Page('Line Chart')

line1 = [10, 15, 13, 17]

line2 = [16, 5, 11, 9]

lines = pd.DataFrame({
    'line 1': line1,
    'line 2': line2,
    'line 3': line2,
    'line 4': line2,
    'line 5': line2,
    'line 6': line2,
})

page.add_content(LineChart(lines))
```

(continues on next page)

(continued from previous page)

```
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.6 Pie chart

```
from webviz import Webviz, Page
import pandas as pd
from webviz.page_elements import PieChart

web = Webviz('Pie Chart Example')

page = Page('Pie Chart')

frame = pd.DataFrame(
    [[19, 26, 55], [33, 14, 55]],
    columns=['sector 1', 'sector 2', 'sector 3'])

page.add_content(PieChart(frame))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.7 Scatter plot

```
from webviz import Webviz, Page
from webviz_scatter_plot import ScatterPlot
import pandas as pd

web = Webviz('Scatter Plot Example')

page = Page('Scatter Plot')

index = ['2012-01-01', '2012-01-02', '2012-01-03', '2012-01-04']

point1 = [10, 15, 13, 17]

point2 = [16, 5, 11, 9]

points = pd.DataFrame({
    'index': index,
    'points 1': point1,
    'points 2': point2
})

points.set_index('index', inplace=True)

page.add_content(ScatterPlot(points))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.8 Scatter plot matrix

```
from webviz import Webviz, Page
from webviz.page_elements import ScatterPlotMatrix
import pandas as pd

web = Webviz('Scatter Plot Matrix Example')

page = Page('Scatter Plot Matrix')

point1 = [10.6, 15, 13.4, 17]
point2 = [16, 5, 11, 9.7]
point3 = [51, 25.6, 51, 23]
point4 = [19, 75.1, 23, 49]
name = ['name1', 'name1', 'name2', 'name2']

points = pd.DataFrame({
    'point1': point1,
    'point2': point2,
    'point3': point3,
    'point4': point4,
    'name': name
})

page.add_content(ScatterPlotMatrix(points))
web.add(page)
web.write_html("./webviz_example", overwrite=True, display=False)
```

3.9 Tornado plot

```
from webviz import Webviz, Page
from webviz.page_elements import TornadoPlot
import pandas as pd

web = Webviz('Tornado Plot Example')

page = Page('Tornado Plot')

high = [0.8, 1, 0.3, 0.4]

low = [0.5, -0.7, -.5, -0.1]

index = ['A', 'B', 'C', 'D']

bars = pd.DataFrame(
    {'low': low, 'high': high},
    index=index
)

plot = TornadoPlot(bars)
plot.add_annotation(
    x=low[1],
    y=index[1],
    ay=0,
```

(continues on next page)

(continued from previous page)

```
    ax=-20,  
    text='label')  
page.add_content(plot)  
web.add(page)  
web.write_html("./webviz_example", overwrite=True, display=False)
```

CHAPTER 4

Introduction

Welcome! You are now browsing the documentation for `webviz` - a static site generator, optionally including different kind of interactive visualizations. `webviz` facilitates automatic visualization using the popular open source libraries `d3.js` and `plotly.js`.

`webviz` creates `html` output such that the report can be viewed through a web browser. The site generator can be used in two different ways: using `yaml` and `markdown`, or the `webviz` Python API.

4.1 Using folder structure and markdown files

Webviz can be executed using

```
python -m webviz site_folder
```

where `site_folder` is a folder containing `markdown` files. See [the github repository](#) for an example. In the `site_folder`, there are two special files: `index.md` and `config.yaml`. `index.md` is the landing page for the site and `config.yaml` contains configuration info, such as which theme to use.

In `markdown` files, page elements (such as visualizations) can be added using:

```
{} { page_element(  
    name,  
    *args,  
    **kwargs  
) }
```

`name string`: name of page element. Page elements are the following: `Html`, `FilteredPlotly`, `Plotly`, `LineChart`, `BarChart`, `PieChart`, `TornadoPlot`, `FanChart`, `ScatterPlotMatrix`, `Map`, `Histogram`, `ScatterPlot`, `HeatMap`

`*args args`: args of page elements method

`**kwargs kwargs`: kwargs of page elements method

4.2 API example

The example below creates several (currently empty) pages, linked together through a navigation menu. Further below you will see examples on how to add content to the different pages.

```
from webviz import Webviz, Page, SubMenu, Markdown

web = Webviz('Main title', theme='minimal')

ex1 = Page('Example 1')
ex2 = Page('Example 2')
ex3 = Page('Markdown example')

some_content = (r"""

# Markdown support
***

> __You can pass markdown within a triple-quotes__<br>
> _Also known as multiline comments_

|First Header|Second Header|Third Header|
|:-----:|:-----:|-----:|
|Content Cell|`Content Cell`|Content|
|Content Cell|Content Cell|Content

---

#!python
def hello():
    print('Hello World')
---

If you want to use math formulas, you have several different options. You can
use double dollar signs:

```
$$ \left(\frac{\sqrt{x}}{y^3}\right) $$
```

Result: $$ \left(\frac{\sqrt{x}}{y^3}\right) $$

Or you can wrap it between special commands like this:

```
\begin{equation}
\cos(2\theta) = \cos^2\theta - \sin^2\theta \label{my_cos_equation}.
\end{equation}
```

Result:
\begin{equation}
\cos(2\theta) = \cos^2\theta - \sin^2\theta \label{my_cos_equation}.
\end{equation}

All equations with labels can easily be referred to in the text as
```\eqref{my_cos_equation}```, resulting in something like
\eqref{my_cos_equation}.
```

(continues on next page)

(continued from previous page)

If you want an equation without numbering add "notag":

```
```
\begin{equation}
\lim_{x \rightarrow \infty} \exp(-x) = 0.\notag
\end{equation}
```
```

Result:

```
\begin{equation}
\lim_{x \rightarrow \infty} \exp(-x) = 0.\notag
\end{equation}
```

If you want to write multi-line equations aligned on e.g. the equal sign, you can also do that:

```
```
\begin{align}
f(x) &= (x+a)(x+b) \\
&= x^2 + (a+b)x + ab
\end{align}
```
```

Result:

```
\begin{align}
f(x) &= (x+a)(x+b) \\
&= x^2 + (a+b)x + ab
\end{align}
```

The & operator indicates what to align on. You can also write in-line equations or symbols inbetween, like ```\(\alpha\)` ```\(\alpha\)` and ```\(\gamma\)` ```\(\gamma\)`.

To prevent build failing because of backslashes, use a rawstring format by adding `r` in front of the string.

You can read more about the input format [here] (<http://docs.mathjax.org/en/latest/tex.html#>).

Example:

```
`formula = Markdown(r'$$x_{1,2} = \frac{-b \pm \sqrt{b^2-4ac}}{2b}.$$`
```

Renders out to this:

```
$$x_{1,2} = \frac{-b \pm \sqrt{b^2-4ac}}{2b}.
```

```
ex3.add_content(Markdown(some_content))
```

```
submenu1 = SubMenu('Menu 1')
submenu2 = SubMenu('Menu 2')
submenu3 = SubMenu('Menu 3')
```

(continues on next page)

(continued from previous page)

```
submenu1.add_page(ex1)
submenu2.add_page(ex2)
submenu3.add_page(ex3)

web.add(submenu1)
web.add(submenu2)
web.add(submenu3)

web.write_html("./webviz_example", overwrite=True, display=False)
```

When the site is created by running `webviz.Webviz.write_html()`, the output is a folder containing all the files needed for opening and running the site in a browser.

For information about how to use the webviz Python API, see the [webviz package](#).

---

## Python Module Index

---

### W

`webviz`, 1  
`webviz_bar_chart`, 8  
`webviz_heat_map`, 9  
`webviz_histogram`, 9  
`webviz_line_chart`, 9  
`webviz_pie_chart`, 9  
`webviz_plotly`, 7  
`webviz_scatter_plot`, 10  
`webviz_tornado_plot`, 10



---

## Index

---

### A

add() (*webviz.Webviz method*), 2  
add\_annotation() (*webviz\_plotly.Plotly method*), 8  
add\_content() (*webviz.Page method*), 2  
add\_page() (*webviz.SubMenu method*), 3

### B

BarChart (*class in webviz\_bar\_chart*), 8

### D

DISALLOWED\_BUTTONS (*webviz\_plotly.Plotly attribute*), 8  
dump\_all\_jsons() (*webviz.JSONPageElement method*), 5  
dump\_json\_key() (*webviz.JSONPageElement method*), 5

### F

FilteredPlotly (*class in webviz\_plotly*), 7

### G

get\_json\_dump() (*webviz.JSONPageElement method*), 5  
get\_template() (*webviz.Html method*), 2  
get\_template() (*webviz.Markdown method*), 3  
get\_template() (*webviz.PageElement method*), 3  
get\_template() (*webviz\_plotly.FilteredPlotly method*), 8  
get\_template() (*webviz\_plotly.Plotly method*), 8

### H

handle\_args() (*webviz\_plotly.Plotly method*), 8  
header\_elements (*webviz.Page attribute*), 2  
HeaderElement (*class in webviz*), 1  
HeatMap (*class in webviz\_heat\_map*), 9  
Histogram (*class in webviz\_histogram*), 9  
Html (*class in webviz*), 2

### I

is\_dumped() (*webviz.JSONPageElement method*), 5

### J

JSONPageElement (*class in webviz*), 4

### L

LineChart (*class in webviz\_line\_chart*), 9  
location (*webviz.SubMenu attribute*), 3

### M

Markdown (*class in webviz*), 3

### N

names\_match() (*webviz\_plotly.FilteredPlotly method*), 8

### P

Page (*class in webviz*), 2  
PageElement (*class in webviz*), 3  
pages (*webviz.Webviz attribute*), 2  
PieChart (*class in webviz\_pie\_chart*), 9  
Plotly (*class in webviz\_plotly*), 8  
process\_data() (*webviz\_bar\_chart.BarChart method*), 9  
process\_data() (*webviz\_heat\_map.HeatMap method*), 9  
process\_data() (*webviz\_histogram.Histogram method*), 9  
process\_data() (*webviz\_line\_chart.LineChart method*), 9  
process\_data() (*webviz\_plotly.FilteredPlotly method*), 8  
process\_data() (*webviz\_scatter\_plot.ScatterPlot method*), 10  
process\_data() (*webviz\_tornado\_plot.TornadoPlot method*), 10

## R

`resources (webviz.Page attribute)`, 3

## S

`ScatterPlot (class in webviz_scatter_plot)`, 10

`SubMenu (class in webviz)`, 3

## T

`Theme (class in webviz)`, 3

`TornadoPlot (class in webviz_tornado_plot)`, 10

## W

`Webviz (class in webviz)`, 1

`webviz (module)`, 1

`webviz_bar_chart (module)`, 8

`webviz_heat_map (module)`, 9

`webviz_histogram (module)`, 9

`webviz_line_chart (module)`, 9

`webviz_pie_chart (module)`, 9

`webviz_plotly (module)`, 7

`webviz_scatter_plot (module)`, 10

`webviz_tornado_plot (module)`, 10

`wildcard (webviz_plotly.FilteredPlotly attribute)`, 8

`write_html () (webviz.Webviz method)`, 2