

Plotly (Graphing Libraries) // graphing-libraries-ai-data-
(https://plotly.com/libraries/) (https://plotly.com/libraries/)
utm_source=Webinar%20Dash%20Enterprise%205.6&utm_medium=graphing-libraries&utm_content=sidebar)

Python (v5.24.1)

Forum

(https://community.plotly.com/c/plotly-python/5)

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Star

16,465

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Built-in Continuous Color Scales in Python

A reference for the built-in named continuous (sequential, diverging and cyclical) color scales in Plotly.

New to Plotly?



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Using Built-In Continuous Color Scales

Many Plotly Express functions accept a `color_continuous_scale` argument and many trace types have a `colorscale` attribute in their schema. Plotly comes with a large number of built-in continuous color scales, which can be referred to in Python code when setting the above arguments, either by name in a case-insensitive string e.g. `px.scatter(color_continuous_scale="Viridis")` or by reference e.g. `go.Scatter(marker_colorscale=plotly.colors.sequential.Viridis)`. They can also be reversed by adding `_r` at the end e.g. `"Viridis_r"` or `plotly.colors.sequential.Viridis_r`.

The `plotly.colours` module is also available under `plotly.express.colors` so you can refer to it as `px.colors`.

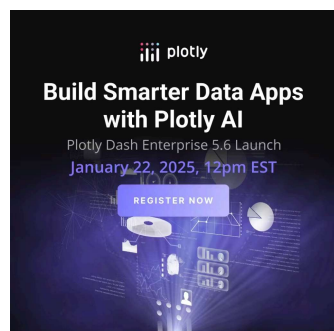
When using continuous color scales, you will often want to [configure various aspects of its range and colorbar \(/python/colorscales/\)](#).

Discrete Color Sequences

Plotly also comes with some built-in [discrete color sequences \(/python/discrete-color/\)](#) which are *not intended* to be used with the `color_continuous_scale` argument as they are not designed for interpolation to occur between adjacent colors.

Named Built-In Continuous Color Scales

You can use any of the following names as string values to set `continuous_color_scale` or `colorscale` arguments. These strings are case-insensitive and you can append `_r` to them to reverse the order of the scale.





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```
import plotly.express as px
from textwrap import wrap

named_colorscales = px.colors.named_colorscales()
print("\n".join(wrap("".join('{:<12}'.format(c) for c in named_colorscales), 96)))
```

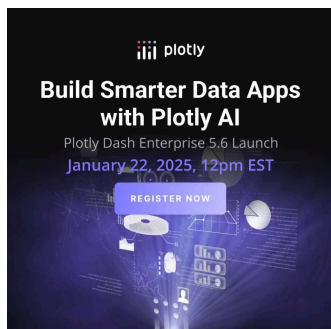
```
aggrnyl  agsunset  blackbody  bluered   blues     blugrn    bluyl     brwnyl
bugn     bupu      burg       burgyl    cividis   darkmint  electric  emrld
gnbu     greens    greys      hot        inferno   jet       magenta   magma
mint     orrd      oranges    oryel     peach     pinkyl    plasma    plotly3
pubu     pubugn    purd       purp      purples   purpor    rainbow   rdbu
rdpu     redor     reds       sunset    sunsetdark teal     tealgrn   turbo
viridis  ylgm      ylgmbu     ylorbr    ylorrd    algae     amp       deep
dense    gray      haline     ice       matter    solar     speed     tempo
thermal  turbid    armyrose   brbg      earth     fall      geyser    prgn
piyg     picnic    portland   puor      rdgy      rdyblu    rdygm     spectral
tealrose temps     tropic     balance   curl      delta     oxy       edge
hsv      icefire   phase      twilight  mrybm     mygbm
```

Built-in color scales are stored as lists of CSS colors:

```
import plotly.express as px

print(px.colors.sequential.Plasma)
```

```
['#0d0887', '#46039f', '#7201a8', '#9c179e', '#bd3786', '#d8576b', '#ed7953', '#fb9f3a', '#fdca26', '#f0f921']
```





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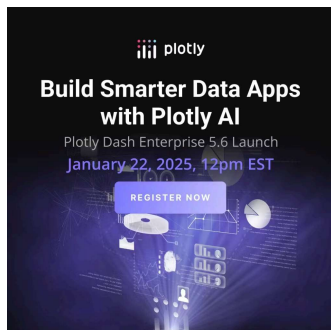
Built-In Cyclical Color scales

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Continuous Color Scales in Dash

Dash (<https://plotly.com/dash/>) is the best way to build analytical apps in Python using Plotly figures. To run the app below, run pip install dash, click "Download" to get the code and run python app.py.

Get started with the official Dash docs (<https://dash.plotly.com/installation>) and **learn how to effortlessly style** (<https://plotly.com/dash/design-kit/>) & **deploy** (<https://plotly.com/dash/app-manager/>) **apps like this with Dash Enterprise** (<https://plotly.com/dash/>).





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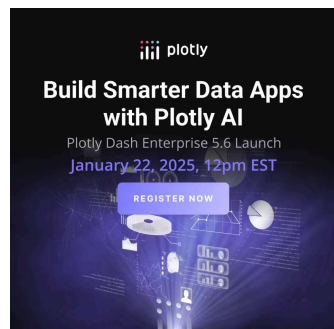
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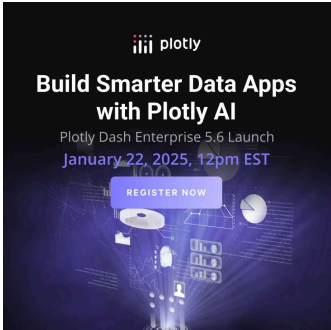


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```
from dash import Dash, dcc, html, Input, Output
import plotly.express as px

colorscales = px.colors.named_colorscales()

app = Dash(__name__)

app.layout = html.Div([
    html.H4('Interactive Plotly Express color scale selection'),
    html.P("Color Scale"),
    dcc.Dropdown(
        id='dropdown',
        options=colorscales,
        value='viridis'
    ),
    dcc.Graph(id="graph"),
])

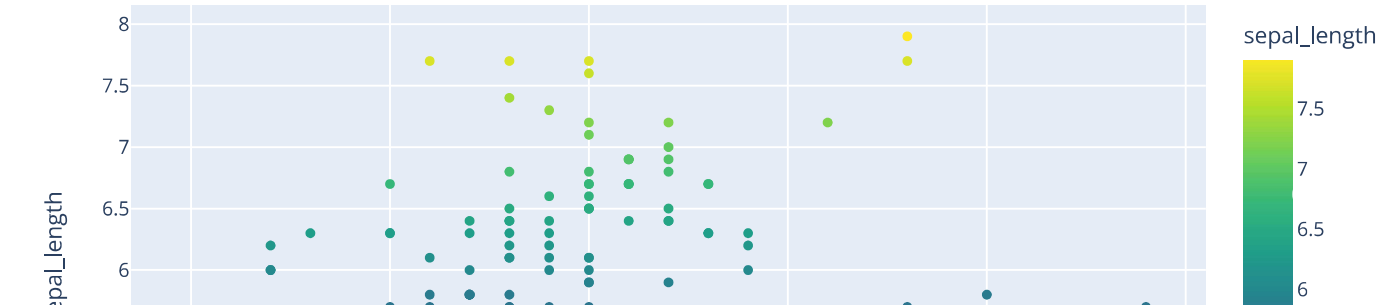
@app.callback(
    Output("graph", "figure"),
    Input("dropdown", "value"))
def change_colorscale(scale):
    df = px.data.iris() # replace with your own data source
```

DOWNLOAD

Interactive Plotly Express color scale selection

Color Scale

viridis





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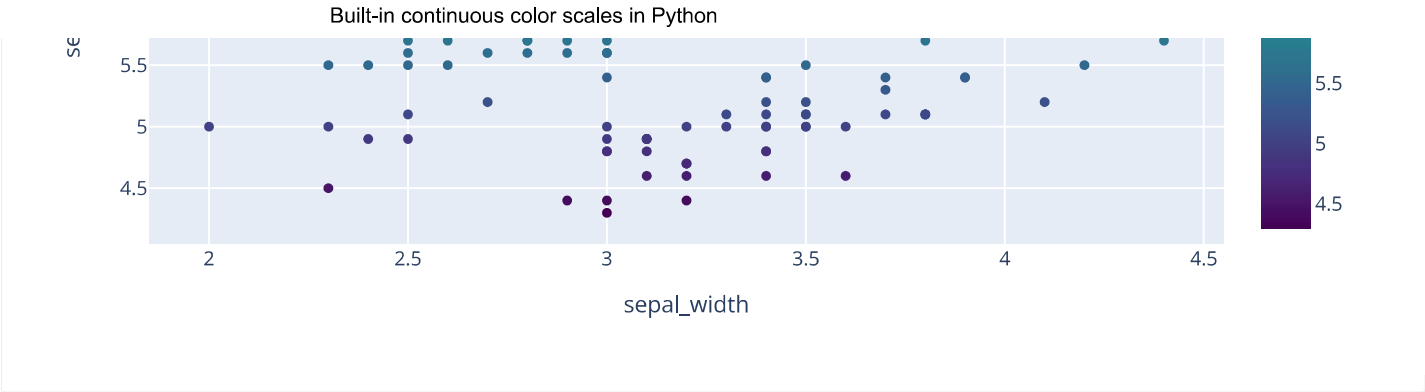
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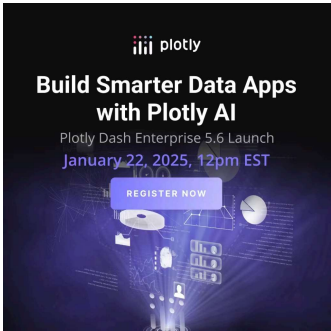


Sign up for Dash Club → Free cheat sheets plus updates from Chris Parmer and Adam Schroeder delivered to your inbox every two months. Includes tips and tricks, community apps, and deep dives into the Dash architecture. [Join now \(https://go.plotly.com/dash-club?utm_source=Dash+Club+2022&utm_medium=graphing_libraries&utm_content=inline\)](https://go.plotly.com/dash-club?utm_source=Dash+Club+2022&utm_medium=graphing_libraries&utm_content=inline).

Built-In Sequential Color scales

A collection of predefined sequential colorscales is provided in the `plotly.colors.sequential` module. Sequential color scales are appropriate for most continuous data, but in some cases it can be helpful to use a diverging or cyclical color scale (see below).

Here are all the built-in scales in the `plotly.colors.sequential` module:





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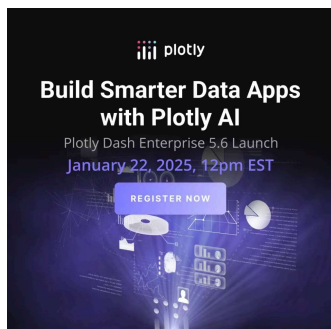
Built-In Diverging Color scales

Built-In Cyclical Color scales

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```
import plotly.express as px

fig = px.colors.sequential.swatches_continuous()
fig.show()
```





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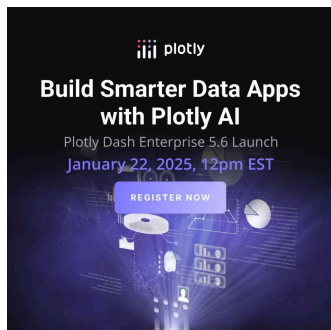
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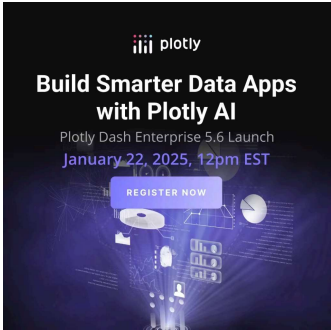


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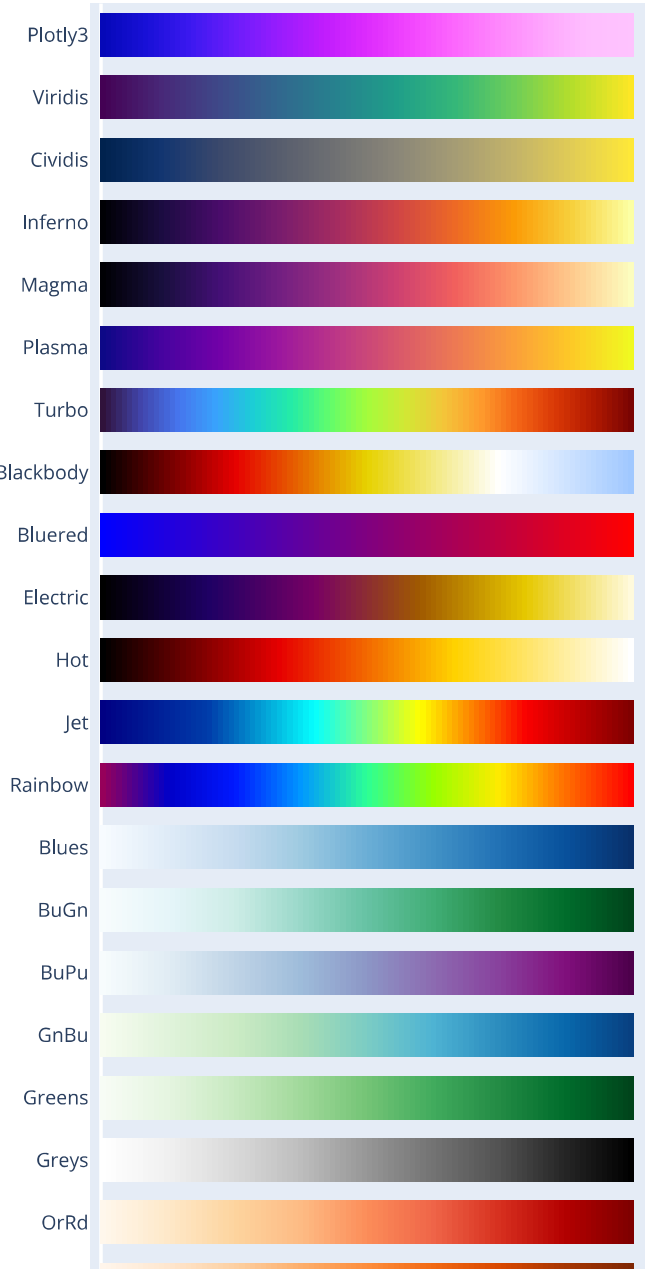
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plotly.colors.sequential



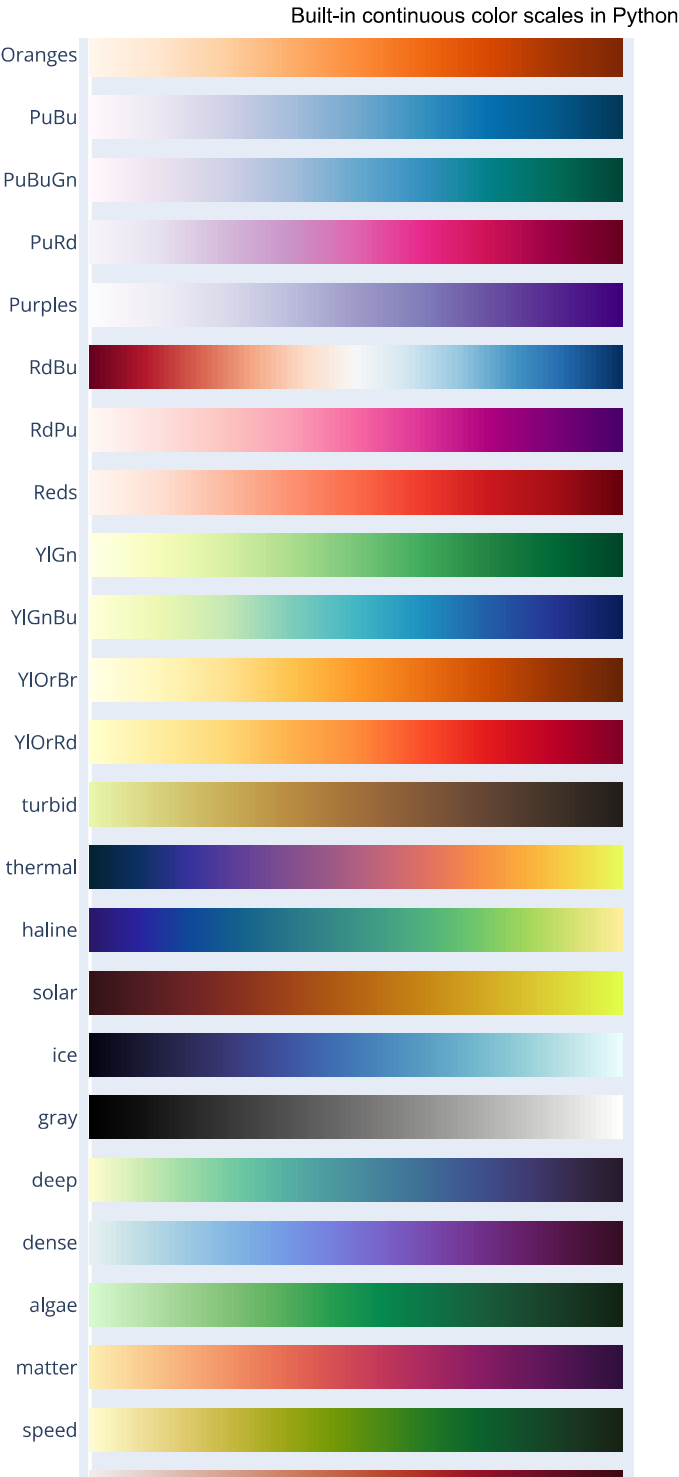
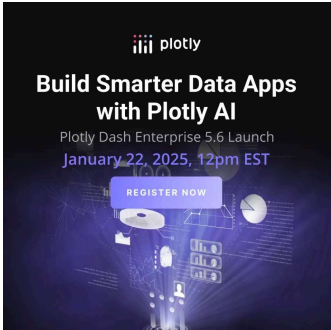


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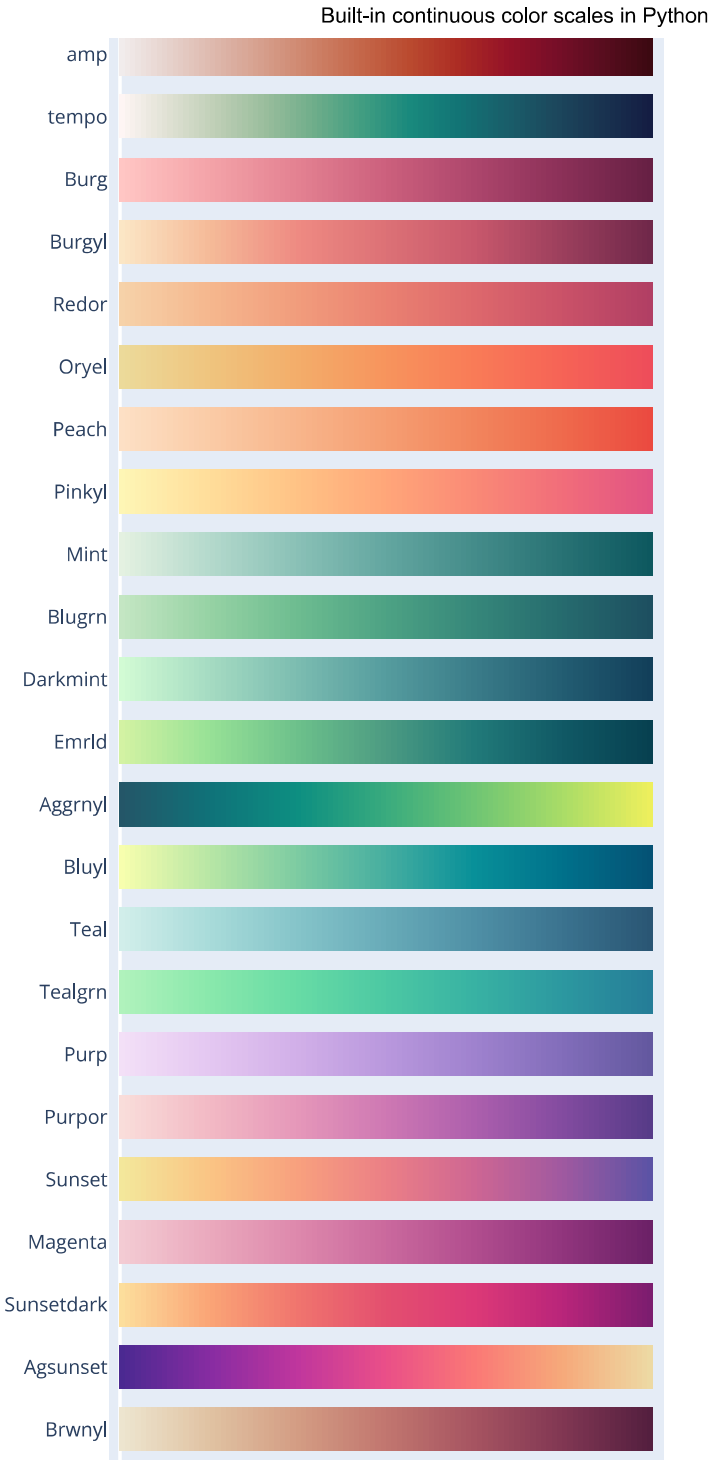
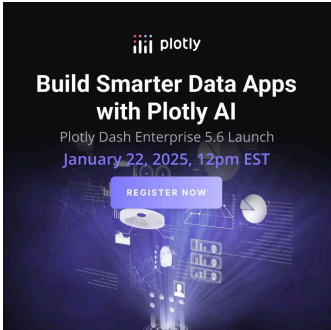


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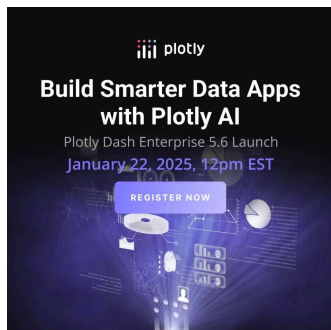
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Note: RdBu was included in the sequential module by mistake, even though it is a diverging color scale. It is intentionally left in for backwards-compatibility reasons.

Built-In Diverging Color scales

A collection of predefined diverging color scales is provided in the `plotly.colors.diverging` module. Diverging color scales are appropriate for continuous data that has a natural midpoint other otherwise informative special value, such as 0 altitude, or the boiling point of a liquid. These scales are intended to be used when [explicitly setting the midpoint of the scale](https://python.colorscales/#setting-the-midpoint-of-a-color-range-for-a-diverging-color-scale) ([\(/python/colorscales/#setting-the-midpoint-of-a-color-range-for-a-diverging-color-scale\)](https://python.colorscales/#setting-the-midpoint-of-a-color-range-for-a-diverging-color-scale)).

Here are all the built-in scales in the `plotly.colors.diverging` module:





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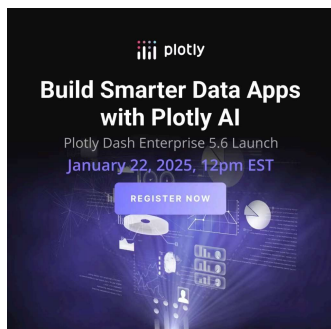
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```
import plotly.express as px

fig = px.colors.diverging.swatches_continuous()
fig.show()
```





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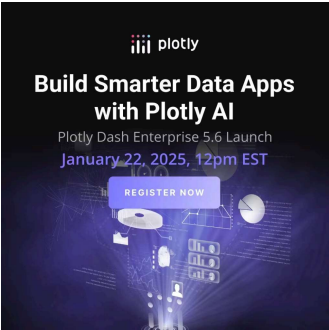
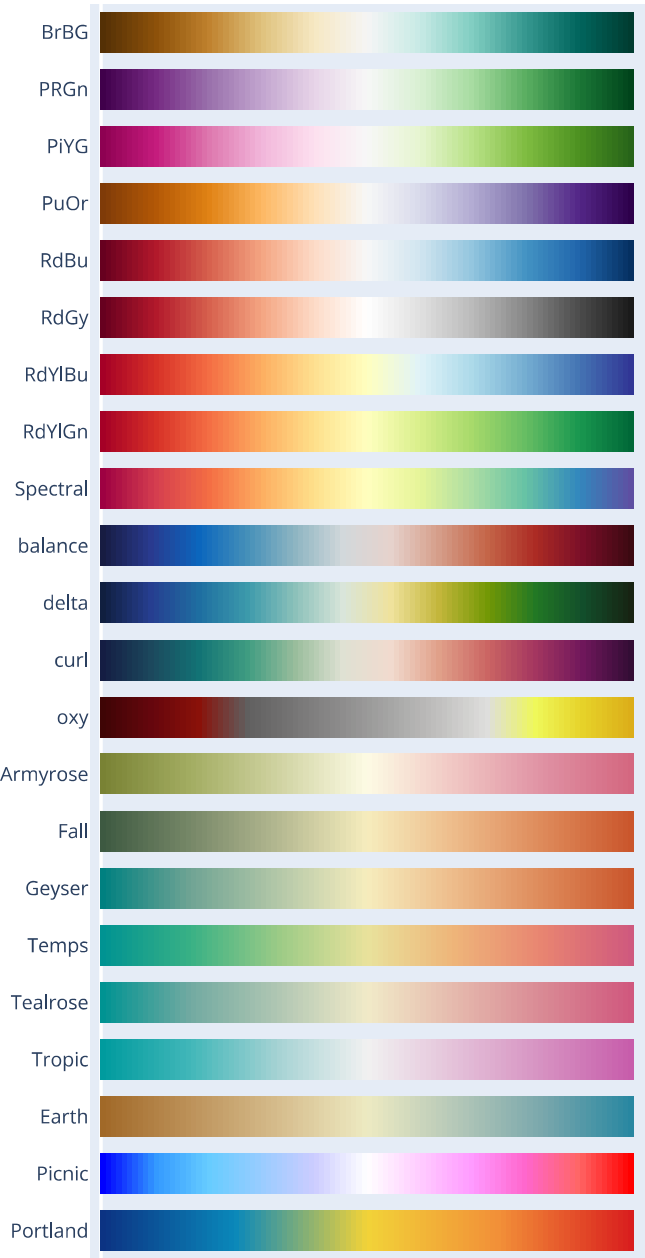
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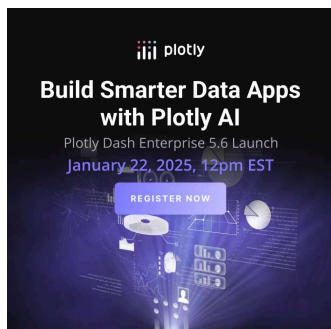
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A collection of predefined cyclical color scales is provided in the `plotly.colors.cyclical` module. Cyclical color scales are appropriate for continuous data that has a natural cyclical structure, such as temporal data (hour of day, day of week, day of year, seasons) or complex numbers or other phase or angular data.

Here are all the built-in scales in the `plotly.colors.cyclical` module:





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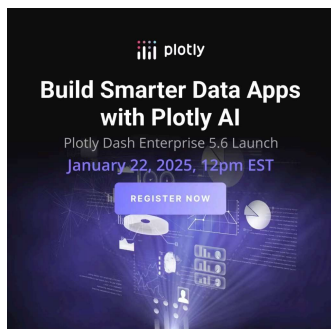
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```
import plotly.express as px

fig = px.colors.cyclical.swatches_cyclical()
fig.show()

fig = px.colors.cyclical.swatches_continuous()
fig.show()
```





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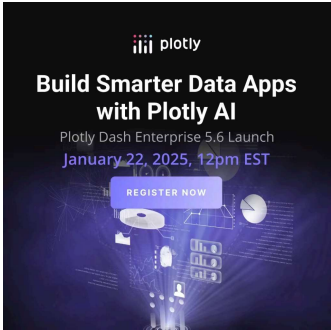
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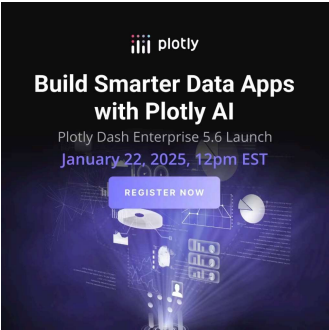
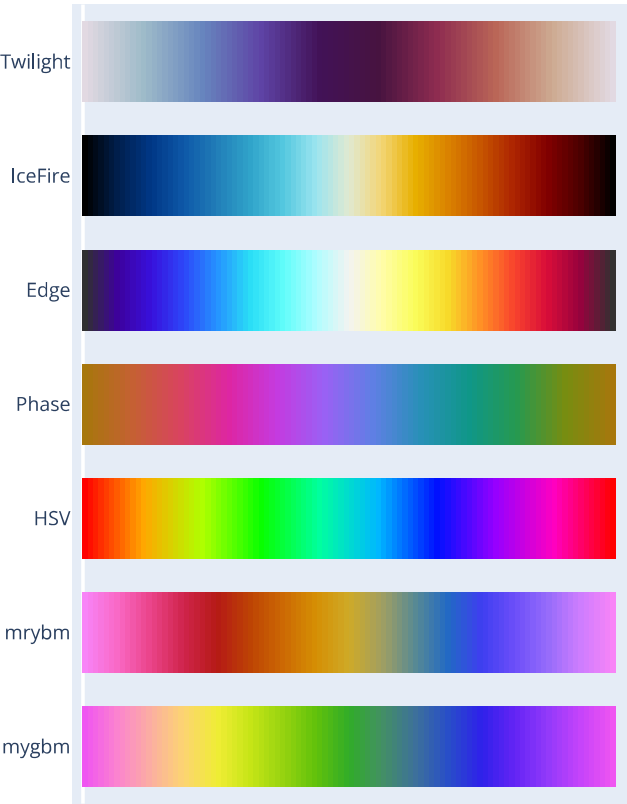
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Dash (<https://dash.plot.ly/>) is an open-source framework for building analytical applications, with no Javascript required, and it is tightly integrated with the Plotly graphing library.

Learn about how to install Dash at <https://dash.plot.ly/installation> (<https://dash.plot.ly/installation>).

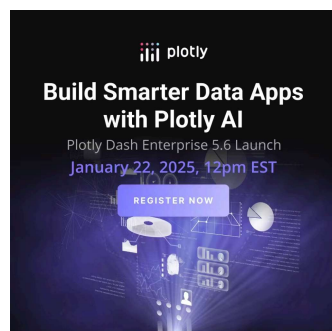
Everywhere in this page that you see `fig.show()`, you can display the same figure in a Dash application by passing it to the figure argument of the Graph component (<https://dash.plot.ly/dash-core-components/graph>) from the built-in `dash_core_components` package like this:

```
import plotly.graph_objects as go # or plotly.express as px
fig = go.Figure() # or any Plotly Express function e.g. px.bar(...)
# fig.add_trace( ... )
# fig.update_layout( ... )

from dash import Dash, dcc, html

app = Dash()
app.layout = html.Div([
    dcc.Graph(figure=fig)
])

app.run_server(debug=True, use_reloader=False) # Turn off reloader if inside Jupyter
```






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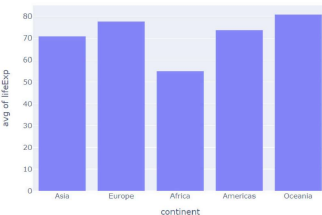
lifeExp

gdpPerCap

country	pop	continent	lifeExp	gdpPerCap
Afghanistan	31889923	Asia	43.828	974.5801384
Albania	3600523	Europe	76.423	5927.62925999999
Algeria	33333216	Africa	72.301	6223.367465
Angola	12420476	Africa	42.731	4797.231267
Argentina	40301927	Americas	75.32	12779.37964
Australia	20434176	Oceania	81.235	34435.367439999995
Austria	8199783	Europe	79.829	36126.4927
Bahrain	708573	Asia	75.635	29796.04834
Bangladesh	150448339	Asia	64.062	1391.253792
Belgium	10392236	Europe	79.441	33692.60508
Benin	8078314	Africa	56.728	1441.284873
Bolivia	9119152	Americas	65.554	3822.137084

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avg of lifeExp



continent

(https://dash.plotly.com/tutorial?utm_medium=graphing_libraries&utm_content=python_footer)

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