OHLC Charts in Python

How to make interactive OHLC charts in Python with Plotly. Six examples of OHLC charts with Pandas, time series, and yahoo finance data.

The OHLC (https://en.wikipedia.org/wiki/Open-high-low-close_chart) chart (for open, high, low and close) is a style of financial chart describing open, high, low and close values for a given `x` coordinate (most likely time). The tip of the lines represent the `low` and `high` values and the horizontal segments represent the `open` and `close` values. Sample points where the close value is higher (lower) then the open value are called increasing (decreasing). By default, increasing items are drawn in green whereas decreasing are drawn in red.

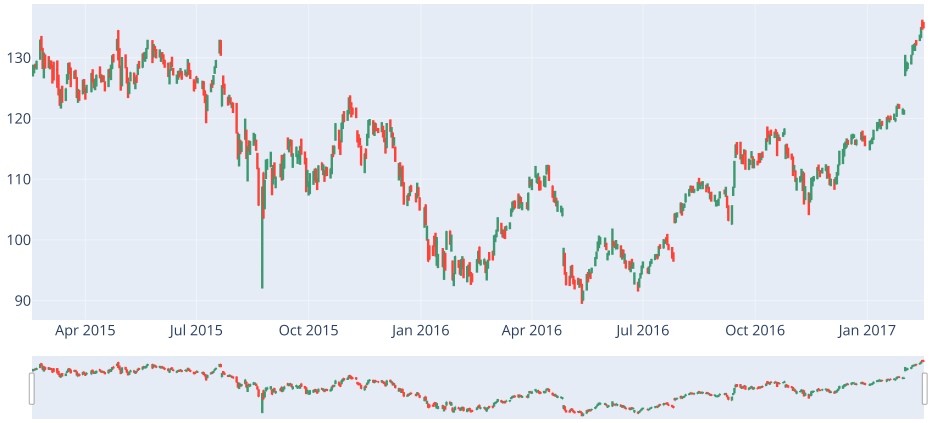
See also Candlestick Charts (https://plotly.com/python/candlestick-charts/) and other financial charts (https://plotly.com/python/#financial-charts).

Simple OHLC Chart with Pandas

```
import plotly.graph_objects as go
import pandas as pd

df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=go.Ohlc(x=df['Date'],
                    open=df['AAPL.Open'],
                    high=df['AAPL.High'],
                    low=df['AAPL.Low'],
                    close=df['AAPL.Close']))
fig.show()
```



hout Rangeslider

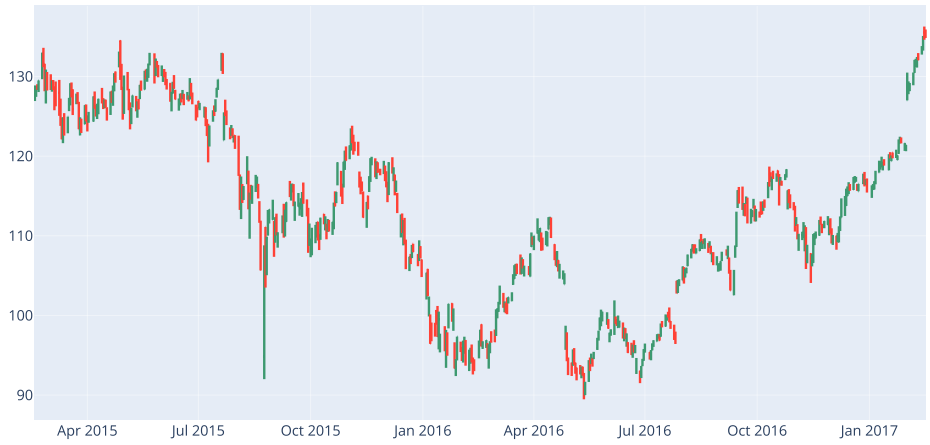
ations

```
import plotly.graph_objects as go

import pandas as pd


df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=go.Ohlc(x=df['Date'],
                open=df['AAPL.Open'],
                high=df['AAPL.High'],
                low=df['AAPL.Low'],
                close=df['AAPL.Close']))
fig.update(layout_xaxis_rangeslider_visible=False)
fig.show()
```



Adding Customized Text and Annotations

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```
import plotly.graph_objects as go
import pandas as pd

df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=go.Ohlc(x=df['Date'],
                open=df['AAPL.Open'],
                high=df['AAPL.High'],
                low=df['AAPL.Low'],
                close=df['AAPL.Close']))

fig.update_layout(
    title=dict(text='The Great Recession'),
    yaxis=dict(title=dict(text='AAPL Stock')),
    shapes = [dict(
        x0='2016-12-09', x1='2016-12-09', y0=0, y1=1, xref='x', yref='paper',
        line_width=2)],
    annotations=[dict(
        x='2016-12-09', y=0.05, xref='x', yref='paper',
        showarrow=False, xanchor='left', text='Increase Period Begins')]
)

fig.show()
```

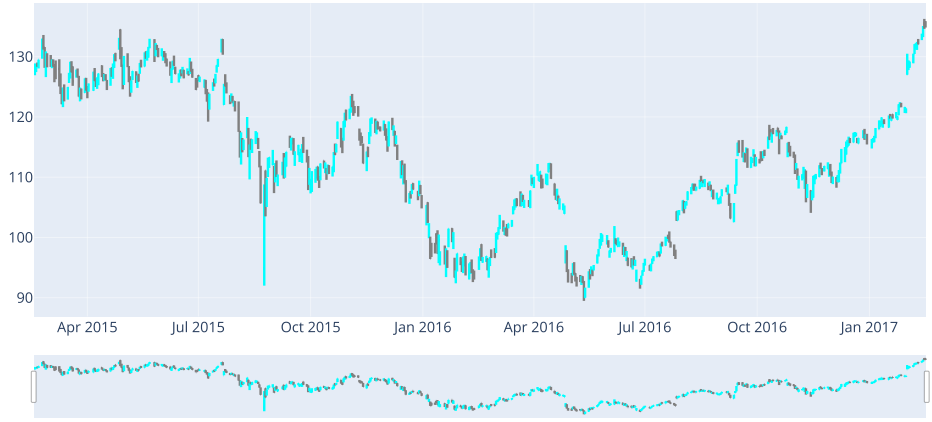
Custom OHLC Colors

ations

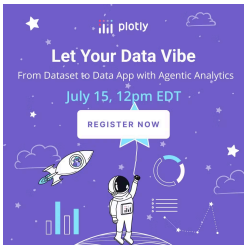
```
import plotly.graph_objects as go
import pandas as pd

df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=[go.Ohlc(
    x=df['Date'],
    open=df['AAPL.Open'], high=df['AAPL.High'],
    low=df['AAPL.Low'], close=df['AAPL.Close'],
    increasing_line_color= 'cyan', decreasing_line_color= 'gray'
)])
fig.show()
```



Simple OHLC with `datetime` Objects



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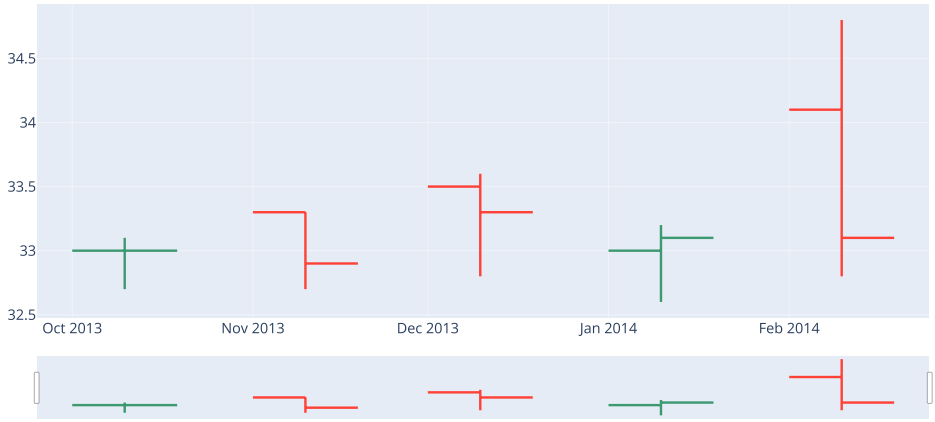
```
import plotly.graph_objects as go

from datetime import datetime

open_data = [33.0, 33.3, 33.5, 33.0, 34.1]
high_data = [33.1, 33.3, 33.6, 33.2, 34.8]
low_data = [32.7, 32.7, 32.8, 32.6, 32.8]
close_data = [33.0, 32.9, 33.3, 33.1, 33.1]
dates = [datetime(year=2013, month=10, day=10),
         datetime(year=2013, month=11, day=10),
         datetime(year=2013, month=12, day=10),
         datetime(year=2014, month=1, day=10),
         datetime(year=2014, month=2, day=10)]

fig = go.Figure(data=[go.Ohlc(x=dates,
                          open=open_data, high=high_data,
                          low=low_data, close=close_data)])
fig.show()
```



Custom Hovertext

ations

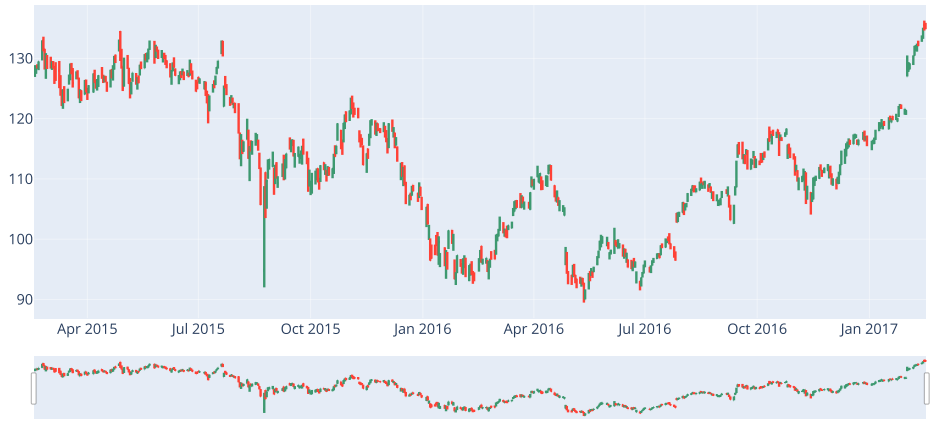
```
import plotly.graph_objects as go

import pandas as pd
from datetime import datetime

hovertext=[]
for i in range(len(df['AAPL.Open'])):
    hovertext.append('Open: '+str(df['AAPL.Open'][i])+'<br>Close: '+str(df['AAPL.Close'][i]))

df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=go.Ohlc(x=df['Date'],
                open=df['AAPL.Open'],
                high=df['AAPL.High'],
                low=df['AAPL.Low'],
                close=df['AAPL.Close'],
                text=hovertext,
                hoverinfo='text'))
fig.show()
```



Reference

For more information on candlestick attributes, see: https://plotly.com/python/reference/ohlc/ (https://plotly.com/python/reference/ohlc/)

What About Dash?

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:

ations

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