

# Candlestick Charts in Python

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

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Plotly Studio: Transform any dataset into an interactive data application in minutes with AI. [Sign up for early access now.](https://plotly.com/studio/?utm_medium=graphing_libraries&utm_campaign=studio_early_access&utm_content=sidebar) ([https://plotly.com/studio/?utm\\_medium=graphing\\_libraries&utm\\_campaign=studio\\_early\\_access&utm\\_content=sidebar](https://plotly.com/studio/?utm_medium=graphing_libraries&utm_campaign=studio_early_access&utm_content=sidebar))

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The [candlestick chart](https://en.wikipedia.org/wiki/Candlestick_chart) ([https://en.wikipedia.org/wiki/Candlestick\\_chart](https://en.wikipedia.org/wiki/Candlestick_chart)) is a style of financial chart describing open, high, low and close for a given x coordinate (most likely time). The boxes represent the spread between the open and close values and the lines represent the spread between the low and high values. Sample points where the close value is higher (lower) than the open value are called increasing (decreasing). By default, increasing candles are drawn in green whereas decreasing are drawn in red.

## Simple Candlestick with Pandas

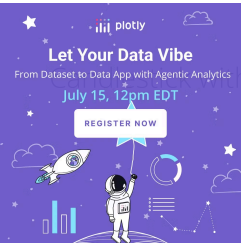
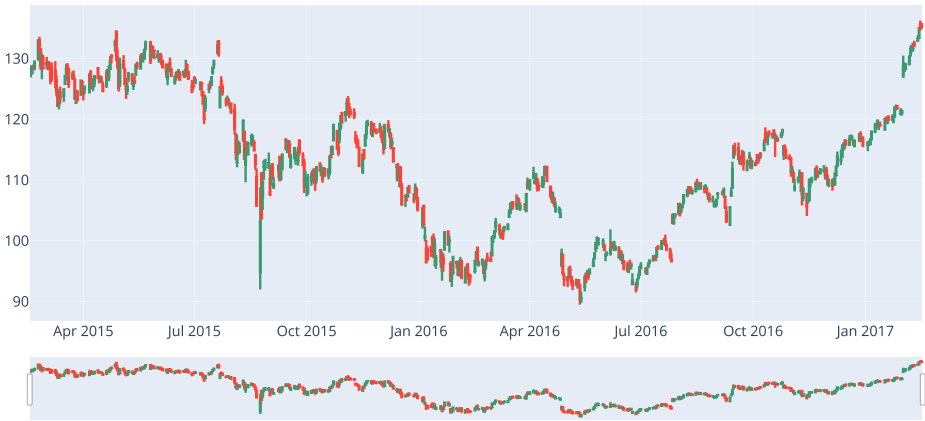
```
import plotly.graph_objects as go

import pandas as pd
from datetime import datetime

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

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

fig.show()
```



out Rangeslider

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

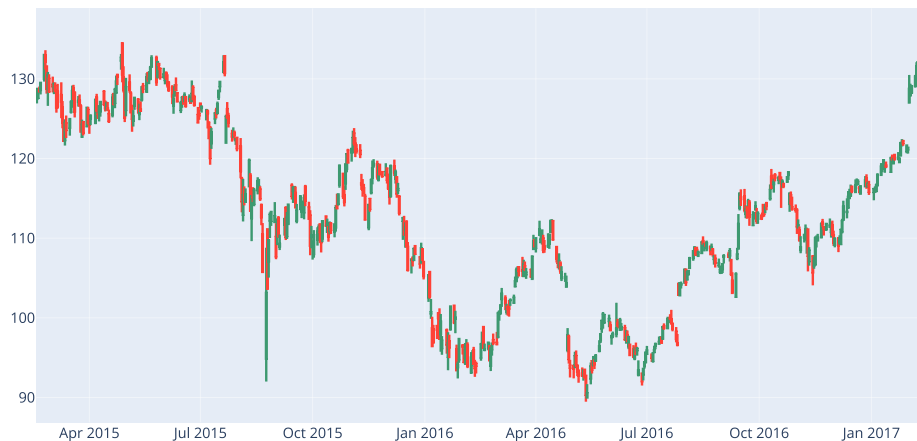
df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=[go.Candlestick(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()
```

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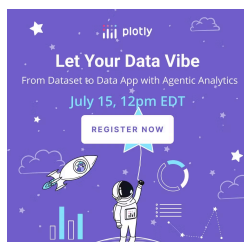
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## Candlestick in Dash

**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) (<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/>).



```
from dash import Dash, dcc, html, Input, Output
import plotly.graph_objects as go
import pandas as pd
```

[DOWNLOAD](#)

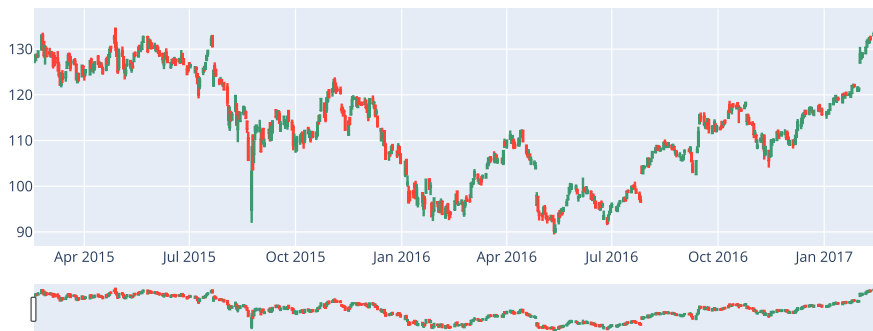
```
app = Dash(__name__)
```

```
app.layout = html.Div([
    html.H4('Apple stock candlestick chart'),
    dcc.Checklist(
        id='toggle-rangeslider',
        options=[{'label': 'Include Rangeslider',
                  'value': 'slider'}],
        value=['slider']
    ),
    dcc.Graph(id='graph'),
])
```

```
@app.callback(
    Output("graph", "figure"),
    Input("toggle-rangeslider", "value"))
def display_candlestick(value):
    df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv') # replace with your own data source
    fig = go.Figure(go.Candlestick(
        df[['date', 'open', 'high', 'low', 'close']])
```

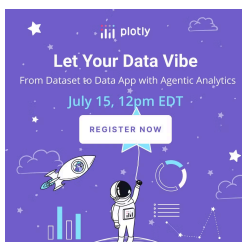
## Apple stock candlestick chart

☒ Include Rangeslider



**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).

## Adding Customized Text and Annotations



```

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')

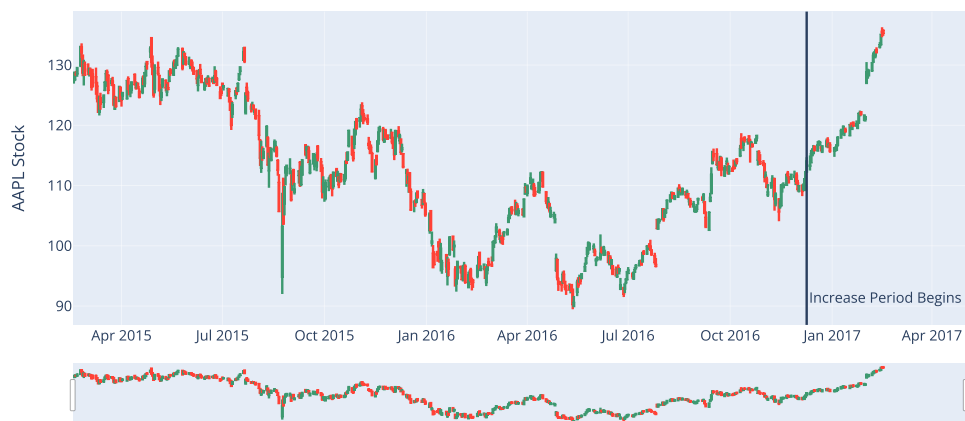
fig = go.Figure(data=[go.Candlestick(x=df['Date'],
                                     open=df['AAPL.Open'], high=df['AAPL.High'],
                                     low=df['AAPL.Low'], close=df['AAPL.Close'])
                  ])

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')]
)

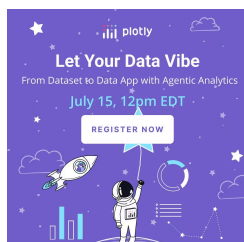
fig.show()

```

The Great Recession



## Custom Candlestick Colors



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

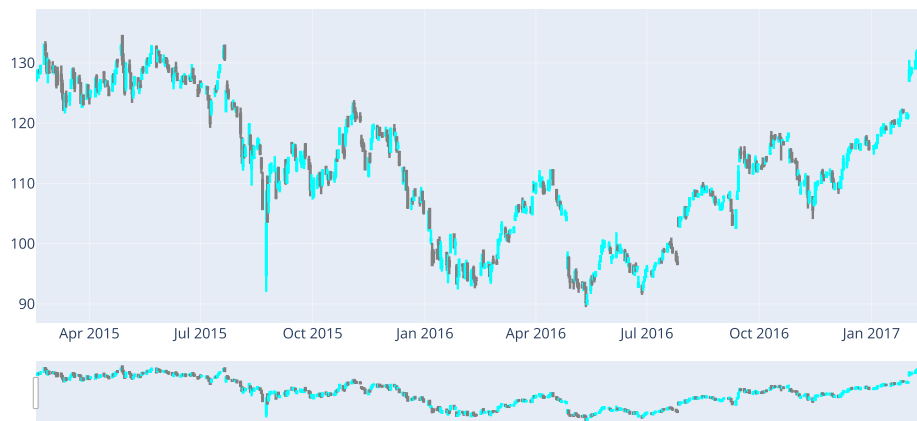
df = pd.read_csv('https://raw.githubusercontent.com/plotly/datasets/master/finance-charts-apple.csv')

fig = go.Figure(data=[go.Candlestick(
    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'
)])

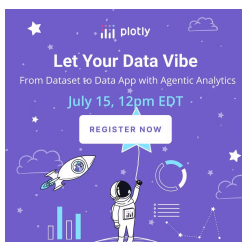
fig.show()
```

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Simple Example with `datetime` Objects

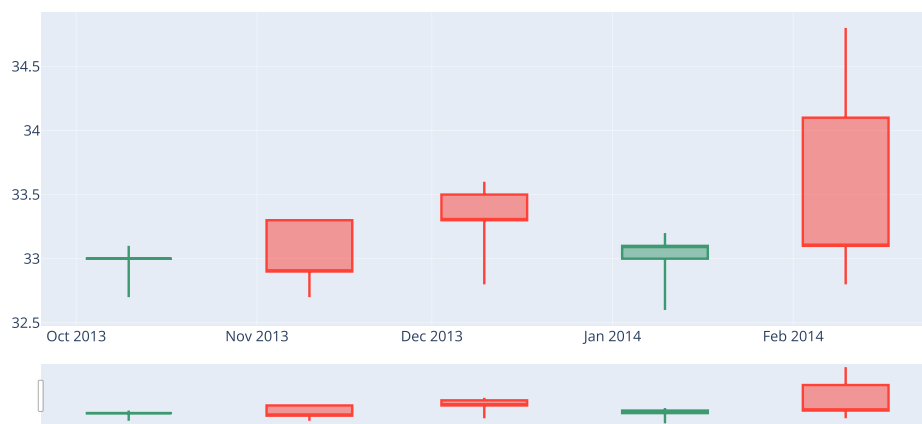


```
import plotly.graph_objects as go
from datetime import datetime

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)]

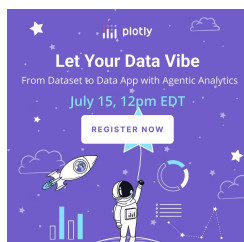
fig = go.Figure(data=[go.Candlestick(x=dates,
                                    open=open_data, high=high_data,
                                    low=low_data, close=close_data)])

fig.show()
```



## Reference

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



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:


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```
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
```



# Dash your way to interactive web apps.

No JavaScript required!

GET STARTED NOW


### My First App with Data, Graph, and Controls

pop

lifeExp

gdpPerCap

country	pop	continent	lifeExp	gdpPerCap
Afghanistan	31889923	Asia	43.828	974.5883384
Albania	3600523	Europe	76.423	5937.829525999999
Algeria	33333216	Africa	72.381	6223.367465
Angola	12420476	Africa	42.731	4707.231267
Argentina	40301927	Americas	75.32	12779.37964
Australia	20434176	Oceania	81.235	34435.367439999995
Austria	8199783	Europe	79.829	36126.4927
Bahrain	706573	Asia	75.635	29796.04834
Bangladesh	150448339	Asia	64.062	1761.253792
Belgium	10391226	Europe	79.441	33962.48968
Benin	8878314	Africa	56.728	1441.284873
Bolivia	9119152	Americas	65.554	3821.137884



([https://dash.plotly.com/tutorial?utm\\_medium=graphing\\_libraries&utm\\_content=python\\_footer](https://dash.plotly.com/tutorial?utm_medium=graphing_libraries&utm_content=python_footer))

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