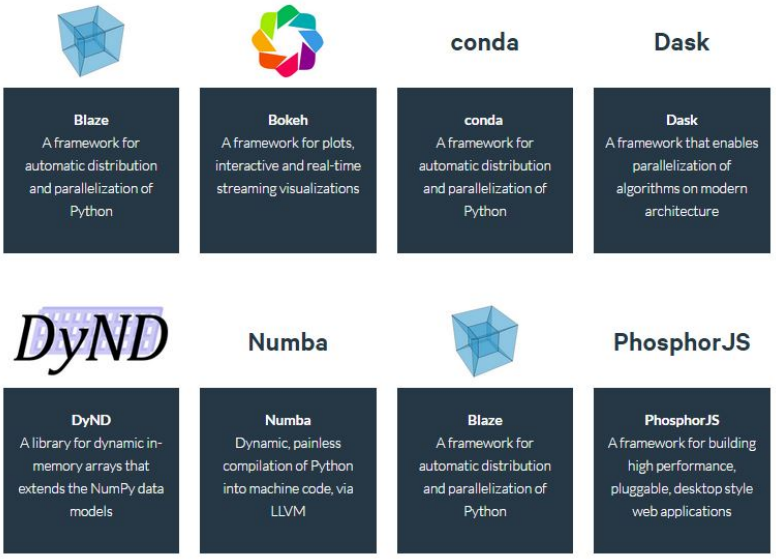
Bokeh in IPython Notebook

Bokeh is a Python interactive visualization library for large datasets that natively uses the latest web technologies. Its goal is to provide elegant, concise construction of novel graphics in the style of Protovis/D3, while delivering high-performance interactivity over large data to thin clients.



Bokeh scales visualization to Big Data

Interactive and real-time streaming visualization framework that scales to Big Data with data shading

Bokeh is a Python data visualization library combining the ideas of the Grammar of Graphics and Protovis, with enhancements to support interactive visualization. Its primary output backend is HTML5 Canvas.

There are many excellent plotting packages for Python, but they generally do not optimize for the particular needs of statistical plotting or multidimensional datasets. Additionally, advanced visual customization is typically difficult for non-programmers, and most libraries do not build a reified data processing pipeline that supports rich interactivity like linked brushing. Bokeh addresses these problems at their core by using a declarative data transformation scheme, and is engineered to operate in a client/server model for the modern web.

Bokeh can produce elegant and interactive visualization like D3.js with high-performance interactivity over very large or streaming datasets. Bokeh can help anyone who would like to quickly and easily create interactive plots, dashboards, and data applications.

Benefits of Bokeh:

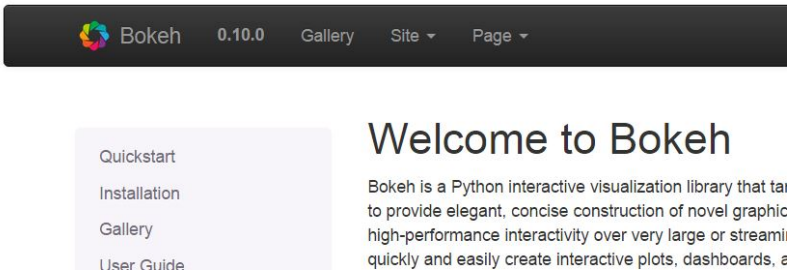
- Bokeh allows you to build complex statistical plots quickly and through simple commands
- Bokeh provides you output in various medium like html, notebook and server
- We can also embed Bokeh visualization to flask and django app
- Bokeh can transform visualization written in other libraries like matplotlib, seaborn, ggplot
- Bokeh has flexibility for applying interaction, layouts and different styling option to visualization

Installation

First, youll need to install a few Python packages :

```
conda install pandas
conda install bokeh
```

IMPORTANT : Version



Challenges with Bokeh

- Like with any upcoming open source library, Bokeh is undergoing a lot of development. So, the code you write today may not be entirely reusable in future.
- It has relatively less visualization options, when compared to D3.js. Hence, it is unlikely in near future that it will challenge D3.js for its crown.
- Given the benefits and the challenges, it is currently ideal to rapidly develop prototypes. However, if you want to create something for production environment, D3.js might still be your best bet.

This workshop will be based on version 0.10. A lot of code for older version of Bokeh no longer work. To check what version you actually have installed, run the following code

```
In [1]: import bokeh
        print(bokeh.__version__)
```

```
0.10.0
```