

# Dashboarding with Jupyter Notebooks, Voila and Widgets

[voilà]



🐦 @martinRenou



QuantStack  
Scientific Computing



🐦 @maartenbreddels

# Who are we?



QuantStack  
Scientific Computing



- Scientific Software Engineer
- QuantStack
- @Renou\_Martin

- Ex: astronomer
- Now: freelancer/consultant
- QuantStack partner
- @maartenbreddels

# Agenda

- What problem we try to solve
- Demo
  - Start from a simple notebook
  - ...
  - Deploy a vue/vuetify based responsive web app on mybinder and/or heroku
- Conclusion

# What is the problem?

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only
      - Plotly dash



# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only
      - Plotly dash
      - Panel

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only
      - Plotly dash
      - Panel
    - Jupyter (language agnostic)

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only
      - Plotly dash
      - Panel
    - Jupyter (language agnostic)
      - Voila builds on top of the Jupyter ecosystem: jupyter-server, nbconvert

# What is the problem?

- Sharing Jupyter notebooks results is/was not an easy path
  - Solutions are
    - Python only
      - Plotly dash
      - Panel
    - Jupyter (language agnostic)
      - Voila builds on top of the Jupyter ecosystem: jupyter-server, nbconvert
  - We would like to create modern web apps with minimal knowledge of js/css/web

*“Never do a live demo”*

-Many people

# Future?

# Future?

- Ipymaterialui - React based
- watch GitHub [github.com/maartenbreddels/ipy材料ui](https://github.com/maartenbreddels/ipy材料ui)

# Future?

- Ipymaterialui - React based
  - watch GitHub [github.com/maartenbreddels/ipyaterialui](https://github.com/maartenbreddels/ipyaterialui)
- Template system refactor nbconvert, voila for free



# Future?

- Ipymaterialui - React based
  - watch GitHub [github.com/maartenbreddels/ipyaterialui](https://github.com/maartenbreddels/ipyaterialui)
- Template system refactor nbconvert, voila for free
- Progressive rendering (fast page loads)

# Future?

- Ipymaterialui - React based
  - watch GitHub [github.com/maartenbreddels/ipymaterialui](https://github.com/maartenbreddels/ipymaterialui)
- Template system refactor nbconvert, voila for free
- Progressive rendering (fast page loads)
- Tighter jupyter-server integration

# Conclusions

- Voila
  - Builds on top of the Jupyter ecosystem: jupyter-server, nbconvert
  - Makes it language agnostic
  - Using templates and ipywidgets (ipyvuetify) you can create modern responsive web apps
  - Develop pure widget based apps, or work with a designer