*\* See* ***Page 2*** *if you need to setup your project \**

# React integration and hooks

* *Install and setup all React scripts and components (NodeJS:* react*,* react-dom*)*
* Mount the React **App.tsx** in the visual.ts constructor
* Invoke **App’s** update function in the **PBI** update function
* Create mounting hooks in **App** to consume **PBI** update
* Wrap the render elements in Context to expose downstream

# Settings/options for the visual

* Initialize variables in settings.ts
  + This *sets up* the variables for use
* Add entries’ type/description information into capabilities.json
  + And this is what will actually *enables the use* of the settings in **PBI**
* Handle updates to this.visualSettings in the **PBI** update function (before the App.update call)

# Adding external dependencies

* Below are some potential libraries to explore, all of which greatly facilitate the ability to create graphics by providing both **styled** and **headless** components, depending on which library you use.
* Charting Libraries
  + <https://airbnb.io/visx/gallery>
  + <https://uber.github.io/react-vis/>
  + <https://nivo.rocks/chord/canvas/>
  + <https://www.react-graph-gallery.com/>
* Graphics Libraries
  + <https://d3js.org/>
    - <https://observablehq.com/@d3/gallery>
  + <https://pixijs.com/>
    - <https://pixijs.io/examples/#/demos-basic/container.js>

# Packaging a visual

**NOTE:** There are several requirements for [***publishing*** a visual to the *Microsoft marketplace*](https://docs.microsoft.com/en-us/power-bi/developer/visuals/office-store), but these are not enforced for ***packaging*** and using a local .pbiviz file (and its super easy).

* [Update package metadata/information](https://docs.microsoft.com/en-us/power-bi/developer/visuals/package-visual) in pbiviz.json
  + This is **not** an optional step and you may receive errors without correctly doing this
* From the repo, run npm package
* From scratch, run pbiviz package

# Adding a custom .pbiviz file to a dashboard

* See item **#6**
  + <https://github.com/mjn1021/bubbles/blob/master/docs/README.md>

Creating a project

* + Notes
    - Your local computer acts as a server that the PBI service connects to. It uses a **self-signed certificate** for its handshake, and as such, you may need to reconcile the permissions.
    - MS Edge works reliably, more privacy-focused browsers like Brave require additional configuration
  + From GitHub React template repo
    - <https://github.com/mjn1021/bubbles>
  + From scratch
    - Environment setup
    - <https://docs.microsoft.com/en-us/power-bi/developer/visuals/environment-setup?tabs=windows>
    - “Hello World” tutorial
    - <https://docs.microsoft.com/en-us/power-bi/developer/visuals/develop-circle-card>