

# Getting Started with Jupyter Notebook

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Posit Workbench supports launching Jupyter Notebook sessions from the Posit Workbench home page. [Jupyter Notebook](#) is a browser-based tool for interactive authoring of documents that combines explanatory text, mathematics, computations, and their rich media output.


This section of the Workbench User Guide contains information specific to using Jupyter Notebook within Posit Workbench. For complete details on using Jupyter Notebook please refer to the [Jupyter Notebook Documentation](#).

## Start a Jupyter Notebook session

To start a new session:

- From the Posit Workbench home page, click + **New Session**.
- Click the **Jupyter Notebook** button.
- Click the **Start Session** button.

Once the session is ready Posit Workbench automatically opens Jupyter Notebook in your current browser window.

 **Tip**

If you do not see **Jupyter Notebook** as an option in the Editor drop-down, then please reach out to your System Administrator for Posit Workbench.

## Interactive Python Visualization Libraries

```
In [ ]: import numpy as np
import plotly.offline as py
import plotly.figure_factory as ff
from bokeh.models import HoverTool, WheelZoomTool
from bokeh.plotting import figure
from bokeh.io import show, output_notebook
output_notebook()
```

### Plotly

```
In [ ]: py.init_notebook_mode()
t = np.linspace(-1, 1.2, 2000)
x = (t**3) + (0.3 * np.random.randn(2000))
y = (t**6) + (0.3 * np.random.randn(2000))

colorscale = ['#7A4579', '#D56073', 'rgb(236,158,105)', (1, 1, 0.2), (0.98,0.98,0.98)]

fig = ff.create_2d_density(
    x, y, colorscale=colorscale,
    hist_color='rgb(255, 237, 222)', point_size=3
)

py.iplot(fig, filename='histogram_subplots')
```

### Bokeh

```
In [ ]: n = 500
x = 2 + 2*np.random.standard_normal(n)
y = 2 + 2*np.random.standard_normal(n)

p = figure(title="Hexbin for 500 points", match_aspect=True,
           tools="wheel_zoom,pan,reset", background_fill_color='#440154')
p.grid.visible = False


r, bins = p.hexbin(x, y, size=0.5, hover_color="pink", hover_alpha=0.8)
```

Sessions

+ New Session

 New Session  
Create a new session

Projects

 ...eractive-visualization.ipynb  
(Home) OWNER: ME  
LAST USED:

 arrow\_testing

New Session

 Jupyter Notebook	 JupyterLab	 RStudio Pro	 VS Code
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Session Name

Jupyter Notebook Session

Cluster

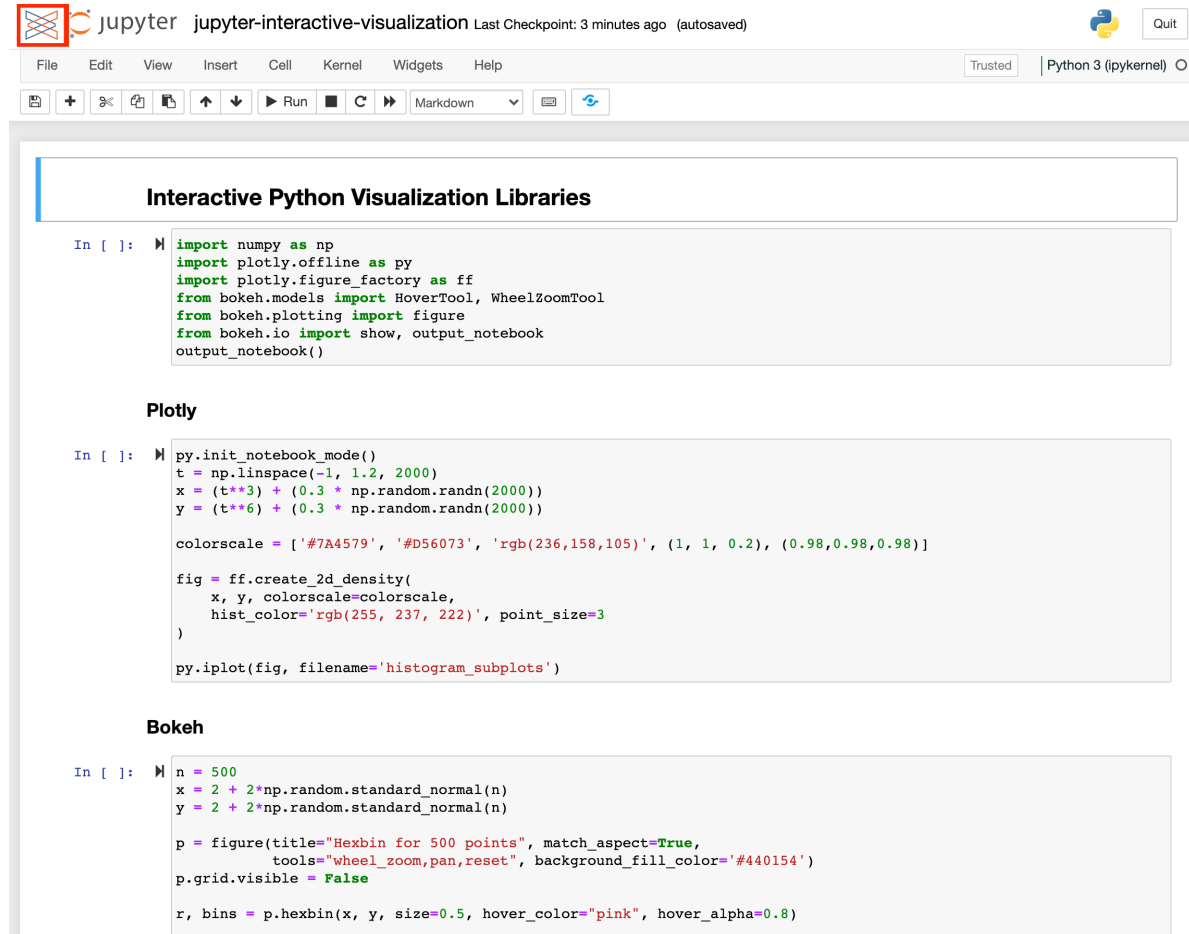
Local

Join session when ready

Cancel Start Session

## Return to the Posit Workbench home page

To return to the Posit Workbench home page, click the **Posit** logo located in the top-left section of the browser window. This will navigate you to the Posit Workbench home page.



The screenshot shows a JupyterLab interface with the following elements:

- Header:** "jupyter jupyter-interactive-visualization Last Checkpoint: 3 minutes ago (autosaved)" with a Python logo and a "Quit" button.
- Menu:** File, Edit, View, Insert, Cell, Kernel, Widgets, Help. Trusted | Python 3 (pykernel)
- Toolbar:** Includes icons for home, refresh, undo, redo, run, and a dropdown menu set to "Markdown".
- Section Header:** "Interactive Python Visualization Libraries"
- Code Cell 1:**

```
In [ ]: | import numpy as np
import plotly.offline as py
import plotly.figure_factory as ff
from bokeh.models import HoverTool, WheelZoomTool
from bokeh.plotting import figure
from bokeh.io import show, output_notebook
output_notebook()
```
- Section Header:** "Plotly"
- Code Cell 2:**

```
In [ ]: | py.init_notebook_mode()
t = np.linspace(-1, 1.2, 2000)
x = (t**3) + (0.3 * np.random.randn(2000))
y = (t**6) + (0.3 * np.random.randn(2000))

colorscale = ['#7A4579', '#D56073', 'rgb(236,158,105)', (1, 1, 0.2), (0.98,0.98,0.98)]

fig = ff.create_2d_density(
    x, y, colorscale=colorscale,
    hist_color='rgb(255, 237, 222)', point_size=3
)

py.iplot(fig, filename='histogram_subplots')
```
- Section Header:** "Bokeh"
- Code Cell 3:**

```
In [ ]: | n = 500
x = 2 + 2*np.random.standard_normal(n)
y = 2 + 2*np.random.standard_normal(n)

p = figure(title="Hexbin for 500 points", match_aspect=True,
          tools="wheel_zoom,pan,reset", background_fill_color='#440154')
p.grid.visible = False

r, bins = p.hexbin(x, y, size=0.5, hover_color="pink", hover_alpha=0.8)
```