BeakerX

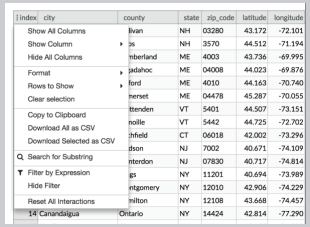
BeakerX is a collection of kernels and extensions to the Jupyter interactive computing environment.

Cheat Sheet

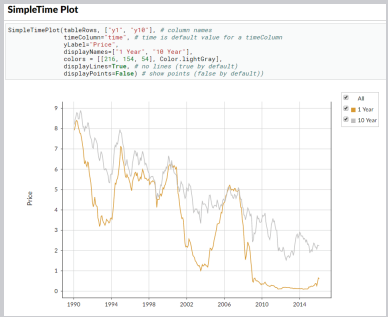
CONTACT	
Documentation	http://beakerx.com/
GitHub	https://github.com/twosigma/beakerx
Gitter Chat	https://gitter.im/twosigma/beakerx
Email	beakerx-feedback@twosigma.com

1_INTERACTIVE TABLES

BeakerX's table widget automatically recognizes pandas dataframes and allows you to search, sort, drag, filter, format, select, graph, hide, pin, and export to CSV or clipboard. This makes connecting to spreadsheets quick and easy.



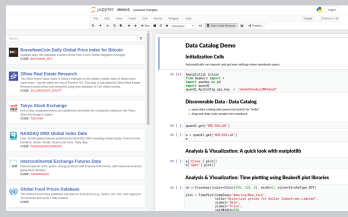
2_INTERACTIVE PLOTS/VISUALIZATIONS



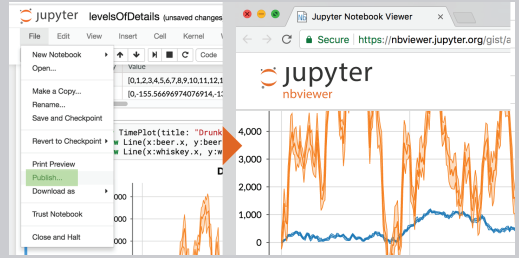
BeakerX provides interactive plots for time-series, scatter plots, histograms, heatmaps, and treemaps. They include unique features for handling many points, nanosecond resolution, zooming, and exporting.

3_DATA CATALOG PANEL

BeakerX's Data Catalog panel lets you securely browse/search for curated datasets and drag-and-drop code snippets into notebooks to explore them.



4_NOTEBOOK PUBLISHING TO GITHUB



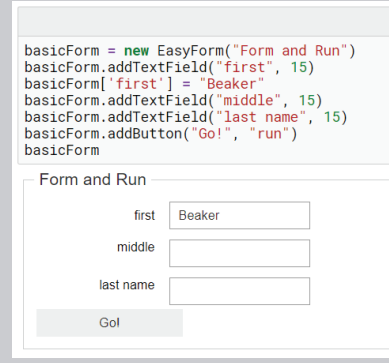
With a single click, convert the current notebook's contents, including any interactive widgets, to a publication that captures the point-in-time state of your notebook as a Gist in GitHub. A new tab opens nbviewer.jupyter.org with the active widgets. This is a link you can send anyone.

5_AUTOMATION WITH EASY FORM

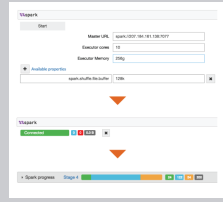
BeakerX introduces an API for easily creating forms that users can fill and trigger execution. This enables users to automate pieces of the analysis workflow.

It's easy to create a form with it, and easy to access the values entered. Just create a form object, add fields to it, and then return it so it's displayed for the user to interact with.

```
basicForm = new EasyForm("Form and Run")
basicForm.addTextField("first", 15)
basicForm['first'] = "Beaker"
basicForm.addTextField("middle", 15)
basicForm.addTextField("last name", 15)
basicForm.addButton("Go!", "run")
basicForm
```



6_SPARK INTEGRATION



BeakerX has a Spark magic with GUIs for configuration, status, progress, and interrupt of Spark jobs. You can either use the GUI or create your own SparkSession with code. The GUI has links to documentation and the standard Spark web UI.

7_JVM KERNELS

BeakerX introduces a new set of JVM-based Kernels to Jupyter that allows you to perform analysis in a wider set of languages.

Out-of-the-box, BeakerX supports Java, Groovy, Scala, Kotlin, and Clojure.

GETTING STARTED

TRY BEAKERX NOW

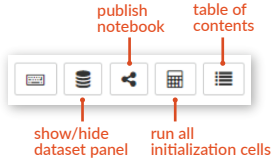
Try it with live with Binder:	http://beakerx.com/binder.html
Run with Docker:	docker run -p 8888:8888 beakerx/beakerx
Explore example notebooks:	http://nbviewer.jupyter.org/github/twosigma/beakerx/blob/master/StartHere.ipynb

INSTALL BEAKERX LOCALLY WITH CONDA

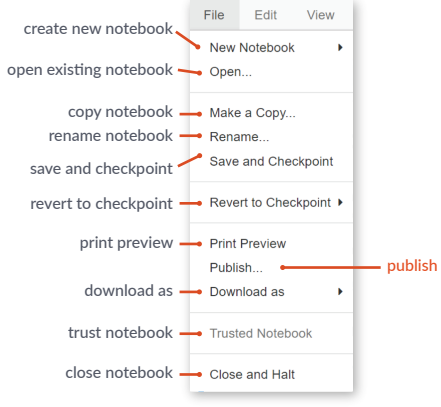
1_Create and activate a new conda environment	conda create -y -n beakerx 'python>=3' && source activate beakerx
2_Install BeakerX	conda config --env --add pinned_packages 'openjdk>8.0.121' && conda install -y -c conda-forge ipywidgets beakerx

TOOLBARS AND MENUS

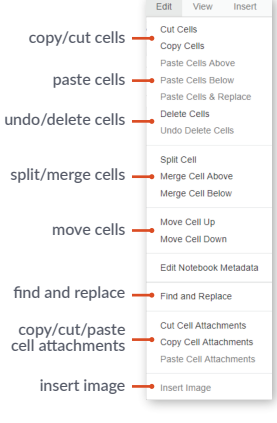
BEAKERX TOOLBARS



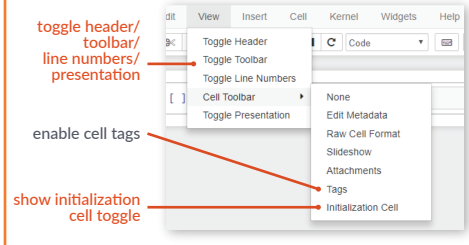
SAVING/LOADING NOTEBOOKS



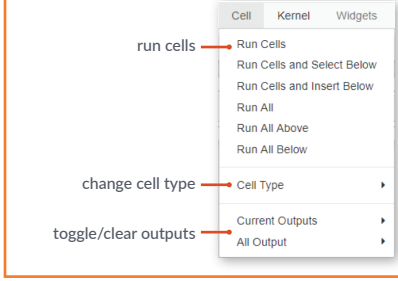
EDIT/INSERT CELLS



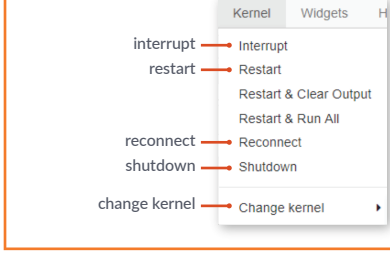
VIEW CELLS



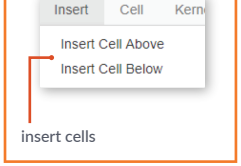
EXECUTE CELLS



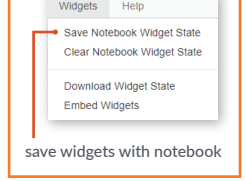
MANAGE KERNEL



INSERT CELLS

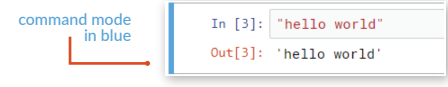


MANAGE WIDGETS



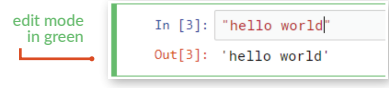
KEYBOARD SHORTCUTS

COMMAND MODE



Shortcut	Description
Esc	Enables Command Mode
Shift-Enter	Run Cell, select below
Ctrl-Enter	Run Cell
Alt-Enter	Run Cell, insert below
Y	To code
M	To markdown
R	To raw
1,2,3,4,5,6	To Heading 1,2,3,4,5,6
Up / K	Select cell above
Down / J	Select cell below
A/B	Insert cell above / below
X	Cut selected cell
C	Copy selected cell
Shift-V	Paste cell above
V	Paste cell below
Z	Undo last cell deletion
D twice (D,D)	Delete selected cell
Shift-M	Merge cell below
Ctrl-S	Save and Checkpoint
L	Toggle line numbers
O	Toggle output
Shift-O	Toggle output scrolling
H	Show keyboard shortcut help
I twice (I,I)	Interrupt Kernel
0 twice (0,0)	Restart kernel
Space	Scroll down
Shift-Space	Scroll up

EDIT MODE



Shortcut	Description
Enter	Enter edit mode
Tab	Code completion or indent
Ctrl-]	Indent
Ctrl-[	De-indent
Ctrl-A	Select all
Ctrl-Z	Undo
Ctrl-Shift-Z or Ctrl-Y	Redo
Ctrl-Home or Ctrl-Up	Go to cell start
Ctrl-End or Ctrl-Down	Go to cell end
Ctrl-/	Toggle comments on selected lines

PYTHON MAGICS

Magic	Description
%lsmagic	List all Magic commands
%load	Insert code from an external script
%load_ext	Load a Jupyter extension by name
%time, %timeit	Time execution of a Python statement or expression
%matplotlib	Set up matplotlib to work interactively
%%bash	Run cells with bash in a subprocess
%%html	Render the cell as a block of HTML

JVM MAGICS

Magic	Description
%lsmagic	List all Magic commands
%classpath	Add jars to the classpath of the JVM
%import	Add import for Java class
%unimport	Remove import for Java class
%time, %timeit	Time execution of a Python statement or expression
%%bash	Run cells with bash in a subprocess
%%html	Render the cell as a block of HTML

Note: Options added by BeakerX are highlighted in Red