



KubeCon



CloudNativeCon

Europe 2019

# Gain Insight of Your Cluster With Jupyter Notebooks

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# About me

- Works at VMware
- Working in k8s ecosystem full time for ~2 years
- PSF Fellow, class of Q3 '17
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## A Super Brief History of IPython (Jupyter precursor)

- Invented by Fernando Perez (UC Berkley) in 2001, explodes in popularity around 2012.
- Original intent was for interactive scientific and numerical environment (a la Matlab/Mathematica)
- Has become a de facto medium for replicatable and shareable scientific analysis.
- Several important related projects: nteract, jupyter lab, bokeh, etc.
- Kernels for other languages! (JS, R, Julia and many others)

# Problem Statement

- Want to inspect/introspect a cluster
- Firehose of logs and events (scheduler, controller manager, api server, etc.)
- Hard to see errors, trends, etc. by examining them manually.
- Want to understand scheduling path, in practice.
- Want to better understand bottlenecks or other potential issues.

## In the interest of time ...

- Let's look at some specific cases and see what we find out:
  - Empty namespace thrashing
  - Non-empty namespace thrashing
  - ReplicaSet thrashing
  - Deployment scaling thrashing
  - Deployment thrashing

# Findings

[ WILL BE ON INTERACTIVE NOTEBOOK ]

Thank You

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