

Restful Data Storage and Visualization

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For operation of a satellite mission (and other projects) it is a very common need to store and display large amounts of data. We can group such data in two categories: planning data and timeseries data. Planning data typically consists of records that contain time ranges and ancillary information (such as for booking of groundstation contact times), where as timeseries data is composed of time-stamped datasets (such as from onboard measurements).

There are certainly many different software applications (open source and proprietary) available to tackle those issues. What we have created however, is an ecosystem that is composed of microservices with REST APIs, exclusively developed in Python3 and flexible to build various kinds of system applications.

In brief, we have developed a timeseries datastore and a documents store that provide REST API interfaces to store, manipulate, and query large amounts of data. A neat Python rest interface provides a pythonic interface to those services. Finally, a data visualization library that uses Vega-Lite inspired syntax and supports interactive plotting makes it convenient to plot those data.

In this tutorial I will show you how to use those Python modules for storing your large amounts of data and to display it.

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