

Project Pythia Content Creation - An Intake Cookbook

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July 26, 2022



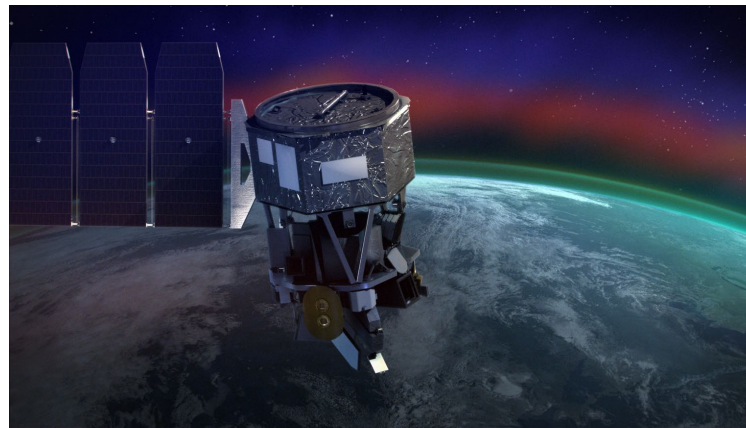
About Me



`<xml />`



AsyncJS



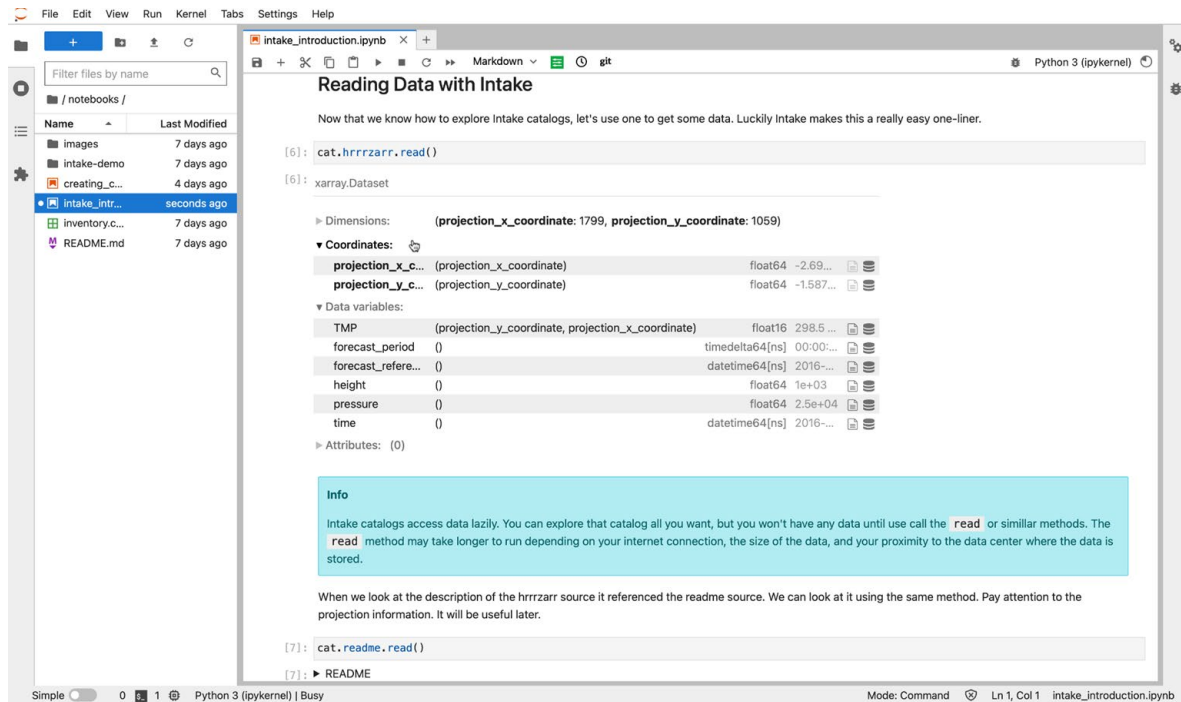
Project Pythia



- Educational working group for Pangeo
- Creates educational resources to teach geoscientist scientific and cloud computing using Python
- Created Pythia Foundations book, a Jupyter Book teaching fundamentals of scientific programming using Python

Jupyter Notebook

- Code and markdown interspersed in a document
- Great way to document research
- Useful for interacting with programs running in the cloud



The screenshot shows a Jupyter Notebook interface with a file browser on the left and a code editor on the right. The code editor contains the following Python code:

```
[6]: cat.hrrrzarr.read()
[6]: xarray.Dataset
```

The output of the code is displayed below the code cells:

```
Dimensions: (projection_x_coordinate: 1799, projection_y_coordinate: 1059)
Coordinates:
  projection_x_c... (projection_x_coordinate)    float64 -2.69...
  projection_y_c... (projection_y_coordinate)    float64 -1.587...
Data variables:
  TMP (projection_y_coordinate, projection_x_coordinate)    float16 298.5 ...
  forecast_period 0                                         timedelta64[ns] 00:00:...
  forecast_refere... 0                                     datetime64[ns] 2016-...
  height 0                                                  float64 1e+03
  pressure 0                                                float64 2.5e+04
  time 0                                                    datetime64[ns] 2016-...
```

Attributes: (0)

Info

Intake catalogs access data lazily. You can explore that catalog all you want, but you won't have any data until use call the `read` or similar methods. The `read` method may take longer to run depending on your internet connection, the size of the data, and your proximity to the data center where the data is stored.

When we look at the description of the hrrrzarr source it referenced the readme source. We can look at it using the same method. Pay attention to the projection information. It will be useful later.

```
[7]: cat.readme.read()
[7]: README
```

Cookbooks

- Show example workflows
- Builds on Pythia Foundations book
- Designed to be binderized
- Community created

LADIES' HOME JOURNAL



Betty Crocker
announces—
**First Really New Cake
In 100 Years!**

NEW IN TASTE! **NEW IN TEXTURE!** **NEW IN THE WAY IT'S MADE!** **NEW "SURPRISE" INGREDIENT!**

Betty Crocker Orange Chiffon

This recipe has been developed specially for SOFTASILK Cake Flour. Don't risk costly baking waste by using another flour with it.

RECIPE FOR 10-IN. TUBE CAKE
(or 8 or 9-in. SQUARE CAKE)

GET READY
Heat oven to 325° if low moderate, 350° if moderate. Sift an ample amount of SOFTASILK Cake Flour onto a square of paper.

STEP 1

Measure level measuring cups (do not pack) and sift together into mixing bowl:	2½ cups sifted SOFTASILK Cake Flour (sift again lightly into cup—don't pack!)	1½ cups sugar	1½ cup plus 2 tbsp. flour
	1½ cups sifter 3 tsp. double-action baking powder	1½ tsp. salt	1½ tsp.
	½ cup cooking oil such as Mazola or Wesson	5 unbeaten egg yolks (medium-sized)	½ cup
Make a "well" and add in order:	grated rind of 2 oranges (about 2 tbsp.)	juice of 2 medium-sized oranges plus water to make ½ cup	2 yolks
			1 tbsp.
			juice of 1 orange plus water to make ½ cup
			1½ cup plus 2 tbsp.

Beat with spoon until smooth.

STEP 2

Measure into large mixing bowl:	1 cup egg whites (7 or 8)	½ cup (4 egg whites)
	½ tsp. cream of tartar	½ tsp.



A Cookbook to Teach Intake

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Search the docs ...

Intake Cookbook

INTRODUCTION TO INTAKE

[Introduction to Intake](#)

[Creating Intake Catalogs](#)

Theme by [Project Pythia](#).

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INTAKE

Introduction to Intake

Overview

Intake is a python library that provides a consistent interface for accessing data regardless of where or how it is stored. In this notebook you will learn to:

1. Interact with Intake catalogs
2. Use Intake to access data stored in the cloud
3. Use Intake to load data into Dask

Prerequisites

Concepts	Importance	Notes
Times and Dates in Python	Necessary	
Intro to Xarray	Necessary	

On this page

- Overview
- Prerequisites
- Imports
- Interacting with Intake Catalogs
- Reading Data with Intake
- Summary
- Resources and references



cookbooks.projectpythia.org/intake-cookbook

Making the Cookbook



- Follow the contributor's guide
- Use the template repo on Github
- Add your Jupyter notebooks
- Transfer the repo to ProjectPythiaCookbooks

Documenting Intake Catalogs

```
import intake
from IPython.display import Markdown as md
cat = intake.open_catalog("catalog.yml")
md(cat.example_source_1.description)
```

In the source description

An example source with **markdown** in the description.

```
import intake
from IPython.display import Markdown as md
cat = intake.open_catalog("catalog.yml")
md(cat.description)
```

In the catalog description

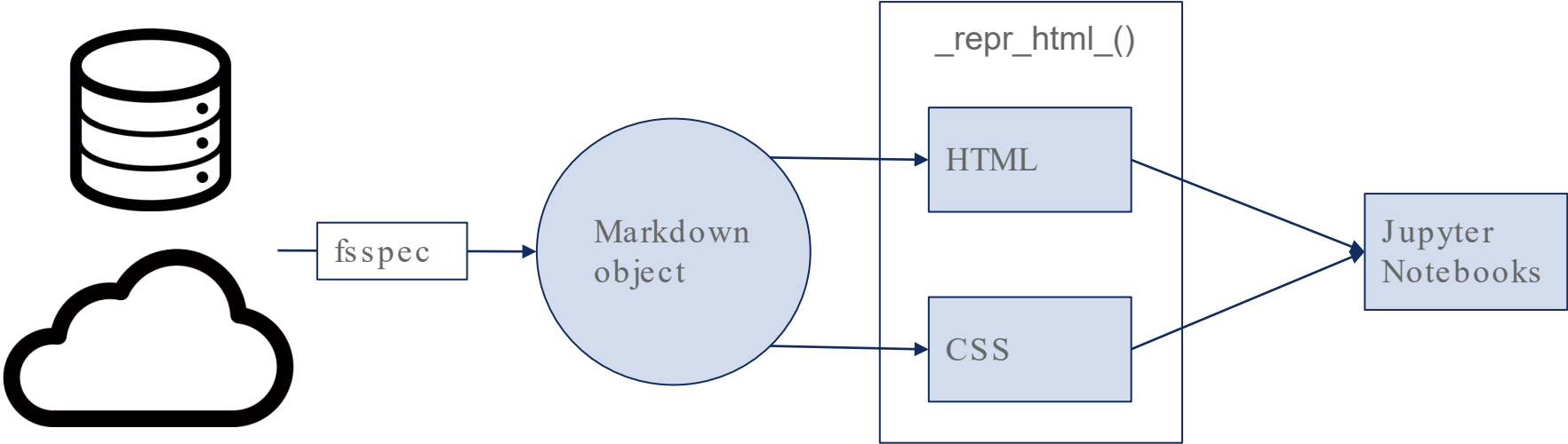
A catalog with **markdown** in the description.

```
import intake
cat = intake.open_catalog("catalog.yml")
cat.example_source_4.read()
```

With intake-markdown

Example documentation source using **markdown**

intake - markdown



Check Out My Cookbook



Acknowledgement and References

Acknowledgement:

- A special thanks to my mentors who have supporting me in every challenge I faced this summer.
- Thanks to the Project Pythia community for creating the Pythia Foundations book. I reference it often.

Image Attribution:

- UVU Letters, [Ben P L](#) from Provo, USA
- Web Development Technologies, Daniel Iversen
- ICON and Airglow, NASA Goddard's Conceptual Image Lab/B. Monroe
- KitchenAid mixer, www.yourbestdigs.com/reviews/best-stand-mixer/

References:

- [Project Pythia](#)
- [Project Pythia Cookbooks](#)
- [About Pangeo](#)
- [Intake Documentation](#)
- [intake-markdown](#)