Welcome to the JPL/Caltech Virtual Summer on Big Data Analytics!

The exercises for the Big Data Architectures: Fundamentals module are described in this document.

Exercises

Pre-requisites

1. Review paper from Ding & Medvidovic on Focus:
    a. http://sunset.usc.edu/~neno/Focus/DingMedvidovic.pdf
2. Review the Next Generation Climate Architecture document here:
    a. http://sunset.usc.edu/classes/cs578_2013b/NGCA_ArchitecturalDescription.pdf
3. Download and install PyLint: http://www.pylint.org/ (which includes PyReverse)
4. Download and install the code for Apache Open Climate Workbench (OCW) version 0.3-incubating, http://climate.apache.org/
    a. Download here: http://www.apache.org/dyn/closer.cgi/incubator/climate/

Assignment Description

1. Select two of the sub-modules from Apache OCW to open up in PyLint and PyReverse as a UML diagram
    a. For example, you should have a list of modules inside of (select *two*)
        i. rcmet/src/main/python/rcmes
            1. cli
            2. resources
            3. services
            4. storage
            5. toolkit
            6. utils
2. Identify at least *two* software architectural styles present in your two selected modules from #1
    a. For example, do you see evidence of components from the Peer to Peer style? How about the Client/Server Style?
        i. Identify specifically what classes and code elements provide hints and evidence of each style
3. Identify at least *four components* and *two* connectors used in each of the two sub-modules you selected in #1 (so, *eight* total components, and *four* total connectors).
    a. The architectural style analysis you did in #2 should aid in this.
4. For each of the *two* OCW modules from 31, name *one* requirement from the Next Generation Climate Architecture (NGCA) that the OCW module satisfies.
    a. You should name *two* total requirements from NGCA
5. Extra Credit: attempt a Focus-based analysis on two of the modules from #1 to arrive at a *partially recovered architectural model (RAM)*.
    a. Analyze the RAM – what components are present? What connectors? What requirements from #4 does the RAM address?