May 5, 2020

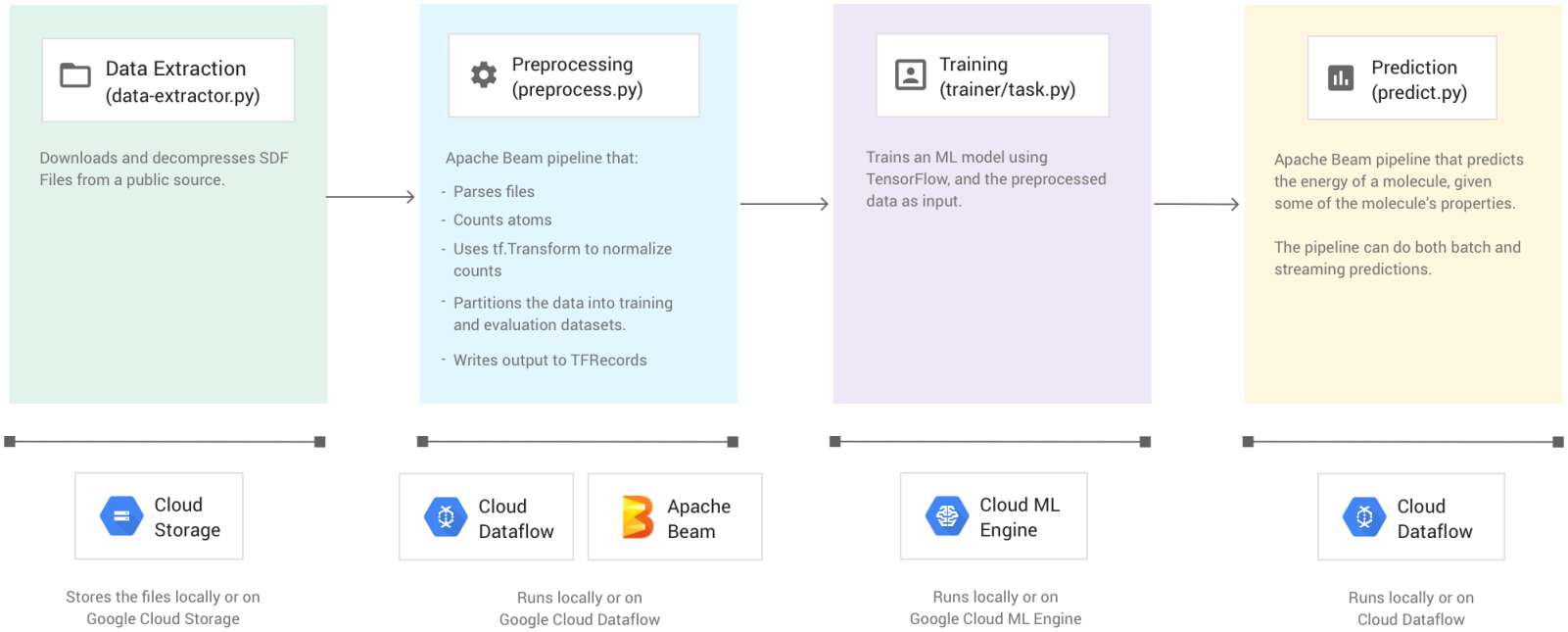
Apache BEAM – Batch + strEAM

Recommended links:

- How to use Google Cloud Dataflow with TensorFlow for batch predictive analysis
- Guide to common Cloud Dataflow use-case patterns
  - Part 1
  - Part 2

Apache BEAM – Batch + strEAM: Experiment

- Molecules (google samples) Molecules (github instructions)



Apache BEAM – Batch + strEAM: Experiment

- This example uses:
  - Google Cloud Dataflow
  - Google Machine Learning
  - Apache Beam
  - Tensorflow transformations and Estimators
  - Structured data files (SDF, chemical data file format)

Apache BEAM molecules experiment: technical objectives

1. Understand the differences between Google Dataflow and Dataproc
2. Understand how a pipeline is created
3. Understand the learning task
4. Understand the contents of each script in the pipeline
5. Understand how to use transformations and estimators in Tensorflow
6. Run the pipeline as is locally (`run-local`) and in the cloud (`run-cloud`) (are there any differences in performance?)
7. Vary the `max-data-files` parameter with values 10, 100, 1000
8. Modify this program to include the actual ENERGY of each molecule in the predictions file
9. Modify this program to allow for cross-validation

NOTE: You may need to start with Codelab 2 in order to understand how to create a pipeline