Provenance
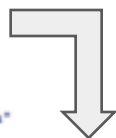# in `gammapy`

https://openprovenance.org/store/documents/1191.svg
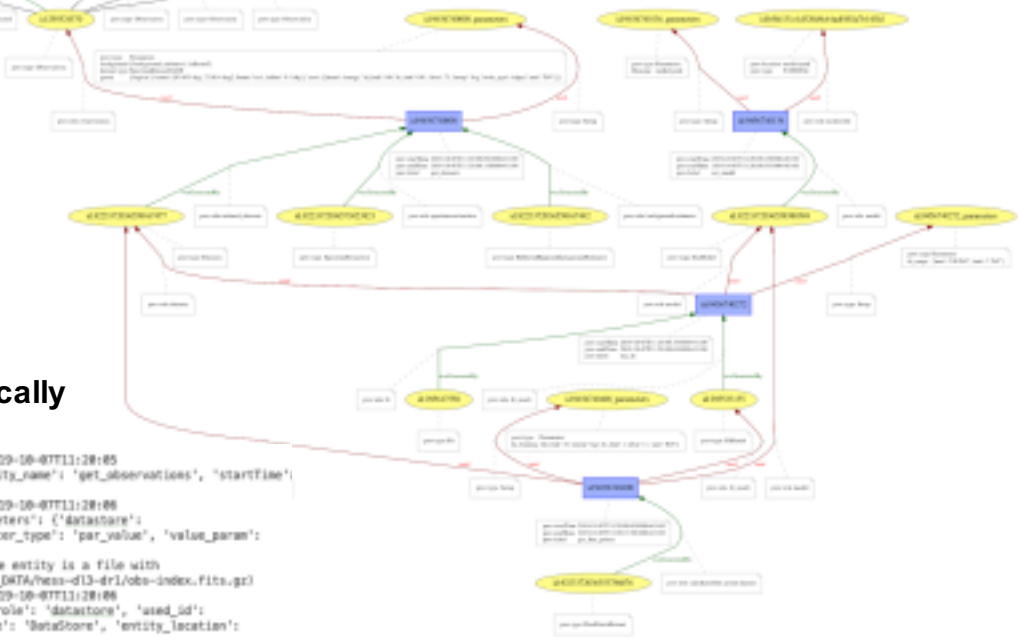
1/ definition.yaml file for description/template
(already **integrated** to the code by the developers)

```
activities:

    get_observations:
        description:
            "Fetch observations from the data store according
            to criteria defined in the configuration"
        parameters:
        - name: datastore
          description: "DataStore path as string"
          value: settings.observations.datastore
        - name: filters
          description: "Filter criteria to select observations"
          value: settings.observations.filters
        usage:
        - role: datastore
          description: "DataStore object file"
          entityType: DataStore
          location: settings.observations.datastore
        generation:
        - role: observations selected
          description: "Observations selected"
          entityType: Observations
          value: observations
          has_members:
              entityType: Observation
              list: observations.list
              id: obs_id
              namespace: ""

    get_datasets:
        description: "Produce reduced datasets"
        parameters:
```

2/ entries **automatically** stored in the log file

```
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:05
.884436_PROV_{'activity_id': 9456793112, 'activity_name': 'get_observations', 'startTime':
'2019-10-07T11:20:05.884419'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091102_PROV_{'activity_id': 9456793112, 'parameters': {'datastore':
'$GAMMAPY_DATA/hess-dl3-dr1', 'filters': [{'filter_type': 'par_value', 'value_param':
'Crab', 'variable': 'TARGET_NAME'}]}}
INFO:gammapy.utils.provenance.provenance:_PROV_The entity is a file with
hash=3585d8a6f0ad20fecc226aa22dd9dfd2 ($GAMMAPY_DATA/hess-dl3-dr1/obs-index.fits.gz)
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091413_PROV_{'activity_id': 9456793112, 'used_role': 'datastore', 'used_id':
'3585d8a6f0ad20fecc226aa22dd9dfd2', 'entity_type': 'DataStore', 'entity_location':
'$GAMMAPY_DATA/hess-dl3-dr1'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091474_PROV_{'activity_id': 9456793112, 'generated_role': 'observations selected',
'generated_id': 295524570, 'entity_type': 'Observations'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091527_PROV_{'entity_id': 295524570, 'member_id': 23502, 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091571_PROV_{'entity_id': 295524570, 'member_id': 23523, 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091613_PROV_{'entity_id': 295524570, 'member_id': 23526, 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091655_PROV_{'entity_id': 295524570, 'member_id': 23559, 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:_PROV_2019-10-07T11:20:06
.091801_PROV_{'activity_id': 9456793112, 'endTime': '2019-10-07T11:20:06.091808'}
```

3/ export to W3C PROV
or search in provenance records

@ M. Servillat & J. E. Ruiz

Provenance in `gammapy`

https://openprovenance.org/store/documents/1191.svg

@ M. Servillat & J. E. Ruiz