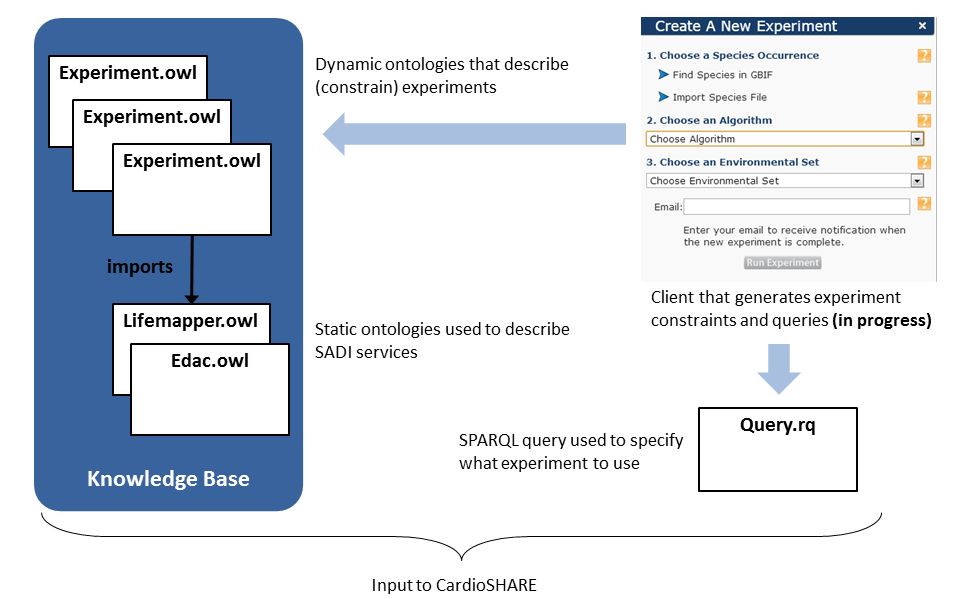
# Goal

To demonstrate how semantic technologies can be used to streamline data from EDAC to Lifemapper

# Semantic Infrastructure



# Experiment.owl

An experiment in ELSeWeb is an ontology that specifies:

* Species occurrence set
* Lifemapper modeling algorithm to employ
* Environmental Scenario Layerset

In particular, the layerset is a stack of EDAC (or any) WCS coverage data. An experiment specifies the “relevant” data layers using OWL restrictions, for example data that:

* is sourced from MODIS or PRISM
* is of type Fractional Snow Cover or Minimum Temperature Normals
* has a certain spatial region (e.g., between -109 and -106 longitude) or a geographic region such as “WesternUnitedStates”
* has a certain duration (e.g., between December 1981 and December 2010)

# Demo Experiments

## Experiment Example: MODIS **Data**

Experiment Description:

* **Location:** <https://raw.github.com/nicholasdelrio/ELSeWeb/master/documents/semantic-web/rdf/ontology/experiments/experiment-1-v3.owl>
* **Algorithm:** BIOCLIM
* **Occurrence Set ID:** 4024107
* **Scenario Layers:**
  + Layer1: (hasDuration some Duration1) and (hasSource value MODIS) and (hasRegion some WesternUnitedStates)
    - Duration1:
    - (hasEndDate value "06/18/2002"^^string)
    - and (hasStartDate value "06/18/2002"^^string)
  + Layer2: (hasRegion some Region2) and (hasSource value MODIS)
    - Region2:
    - (hasLeftLongitude some double[>= -108.0])
    - and (hasLowerLatitude some double[>= 34.0])
    - and (hasRightLongitude some double[<= -104.0])
    - and (hasUpperLatitude some double[<= 39.0])
  + Layer3: (hasDuration some Duration3) and (hasSource value MODIS)
    - Duration3:
    - (hasEndDate value "07/13/2002"^^string)
    - and (hasStartDate value "07/13/2002"^^string)
  + Layer4: (hasDuration some Duration4) and (hasSource value MODIS)
    - Duration3:
    - (hasEndDate value "07/29/2002"^^string)
    - and (hasStartDate value "07/29/2002"^^string)
  + Layer5: (hasDuration some Duration5) and (hasSource value PRISM)
    - Duration5:
    - (hasEndDate value "12/01/2010"^^string)
    - and (hasStartDate value "12/01/1981"^^string)
* **Initiation query:** <https://raw.github.com/nicholasdelrio/ELSeWeb/master/documents/semantic-web/sparql/query-experiment-1-v3.rq>

# Running an ELSeWeb Experiment

1. Login to Lifemapper to get session cookie (<http://lifemapper.org/login>)
2. Choose an experiment
3. Copy the initiation query
4. Paste the query into the ELSeWeb cardioSHARE instance (<http://iw.cs.utep.edu/cardioSHARE-elseweb-v3/>)
5. Click Run
6. On the results segment of the query execution, click on the “modelURL” link