



OWL 2 Protégé

Lab 9 – INFO216

[Protégé Example on GitHub](#)


Protégé Installation

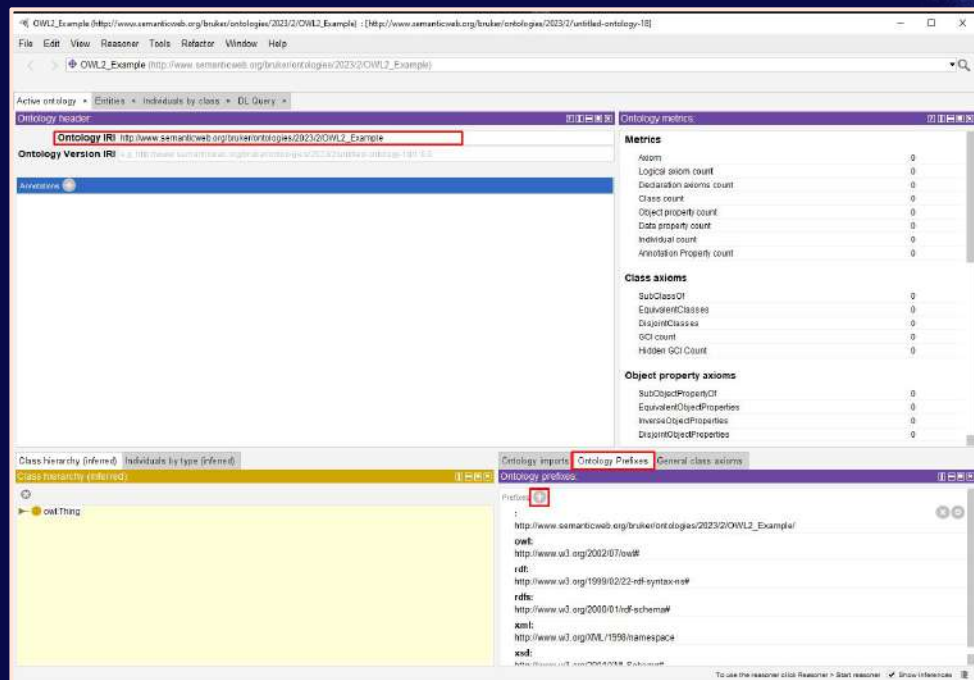
Go to Protégé's [website](#), and follow the instructions for your operating system



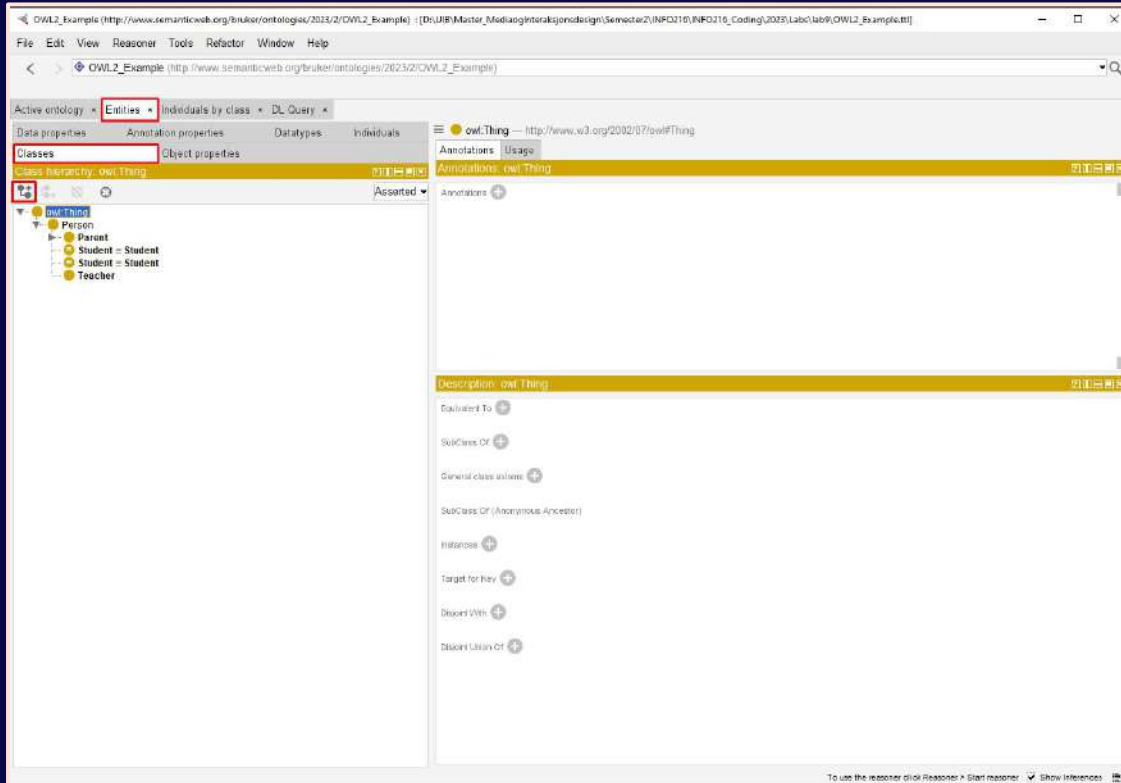
Protégé Name & Prefixes


Under “Active ontology”, you can find the “Ontology IRI” where you can change the name of the ontology by replacing “untitled-ontology-x”; where x is a number.


Under “Ontology Prefixes” you can add new prefixes (e.g. dbpedia / FOAF) by clicking the plus  icon



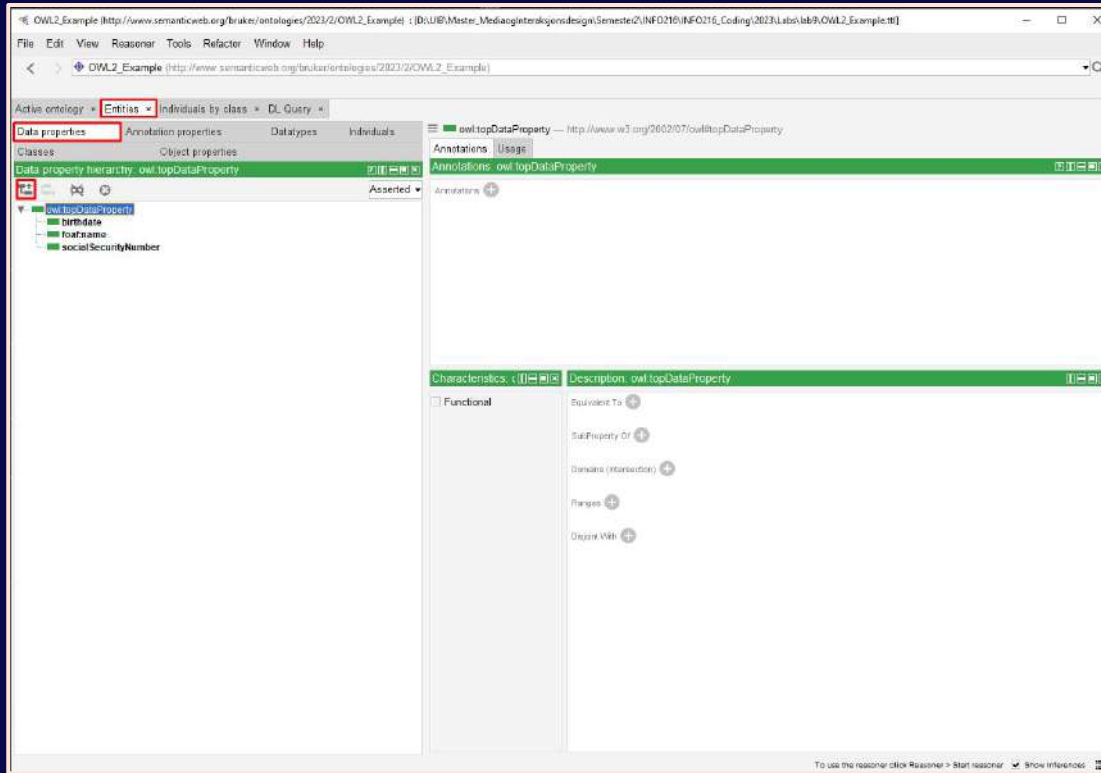
Protégé Classes




Under “Entities” then “Classes” you can create classes and subclasses under “owl:Thing”. To *create* a class click this  icon.

To *delete* a class *highlight* the class & click the following  icon

When *selecting* a Class, you can see options to specify *characteristics*; e.g. is the class disjoint with another class?

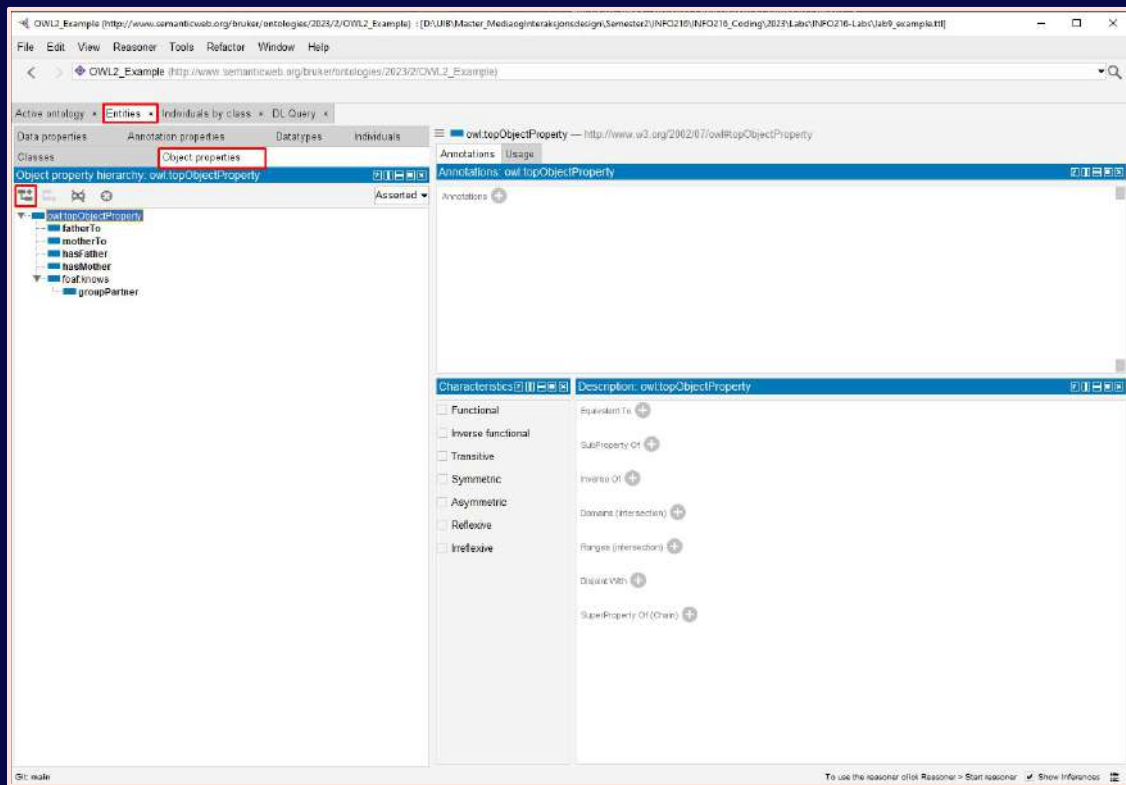



Under “Entities” then “Data properties” you can create properties under “owl:topDataProperty”. To create a property click this  icon.


To delete a property highlight the property & click the following  icon

When selecting a Property, you can see options to specify characteristics; e.g. what are the domain (subject) and range (object) of triples with that property?

Protégé Data Properties



Under “Entities” then “Object properties” you can create properties under “owl:topObjectProperty”. To create a property click this  icon.

To delete a property highlight the property & click the following  icon

When selecting a Property, you can see options to specify characteristics; e.g. what are the domain (subject) and range (object) of triples with that property?

Protégé Object Properties

Data VS Object Properties

Data Properties

Describes the **relation** between instances and **datavalues**.

For instance:

```
foaf:name rdfs:domain foaf:Person  
foaf:name rdfs:range xsd:string
```

ex:Emma foaf:name "Emma"

Object Properties


Describes the **relation** between two **instances/individuals**.

For instance:

```
ex:teaches rdfs:domain ex:Lecturer  
ex:teaches rdfs:range ex:Student
```

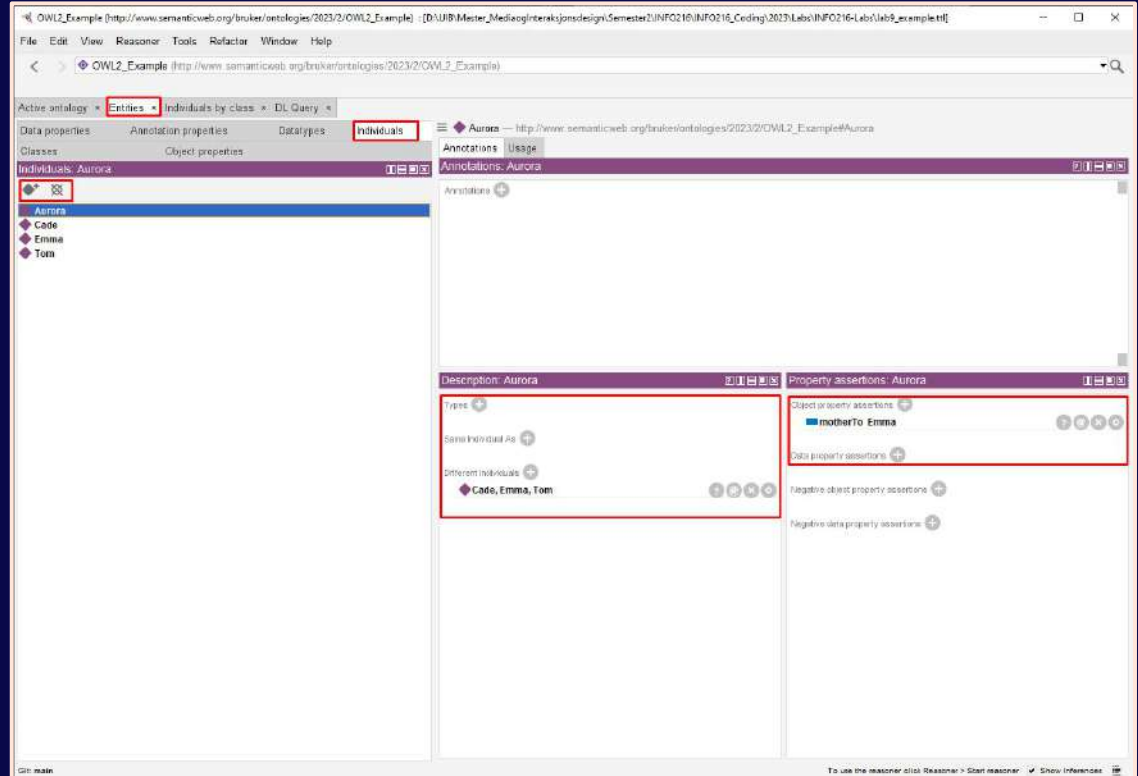
ex:Jeff ex:teaches ex:Emma

Protégé Individuals

Under “Entities” then “Individuals” you can create individuals. To *create* an individual click this  icon.

To *delete* an individual *highlight* it & click the following  icon

When *selecting* an individual you can specify characteristics for that individual; for example using the specified object and data properties in your ontology.

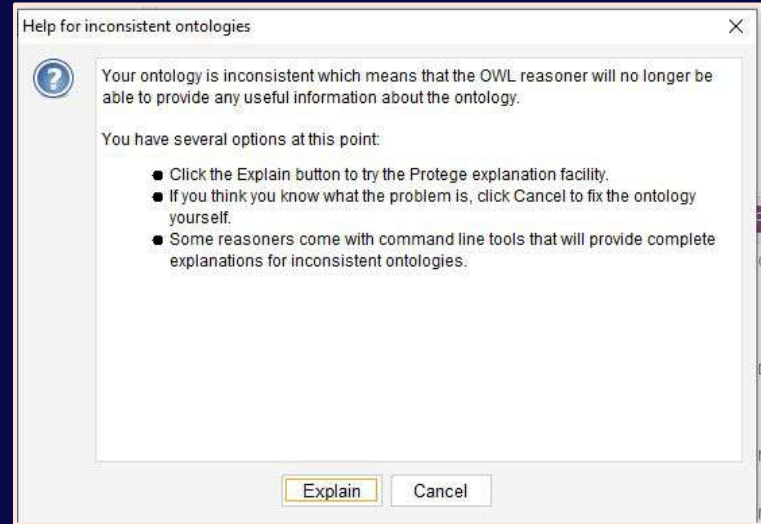




Protégé Reasoner Inconsistencies

If you have any *inconsistencies* in your ontology the following warning (see image) will appear when running the reasoner.

The inconsistency will also be highlighted in red within Protégé



Tip to understand Protégé

- Open the turtle file I provided in your IDE (e.g. VSCode)
- Pick a random Class, Data Property, Object Property and Individual. E.g. you could look at:
 - Father (Class)
 - foaf:name (Data Property)
 - fatherTo (Object Property)
 - Emma (Individual)
- Try to get an understanding of how they are defined. For example are they a subClassOf/subPropertyOf anything?
- Then browse Protégé and observe how the Class, Properties and Individual are defined in Protégé. For example: how does a Class become a subClassOf something?