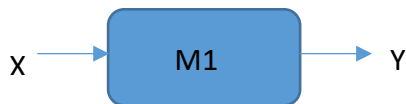


# Creating Simple Instances for Analytics Model

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In this exercise we will create instances of the entities created in the previous exercise in order to understand how to populate the model. The aim is also to learn how to link them with a relation.

As an example, we will create 2 instances of class Variable : X, Y. Then an instance of a model : M1. This instance of model has variable instances X and Y as it's input/output like this :



## Steps of building the instance model M1 using Protégé

### Step 1: Opening the model and setting the view

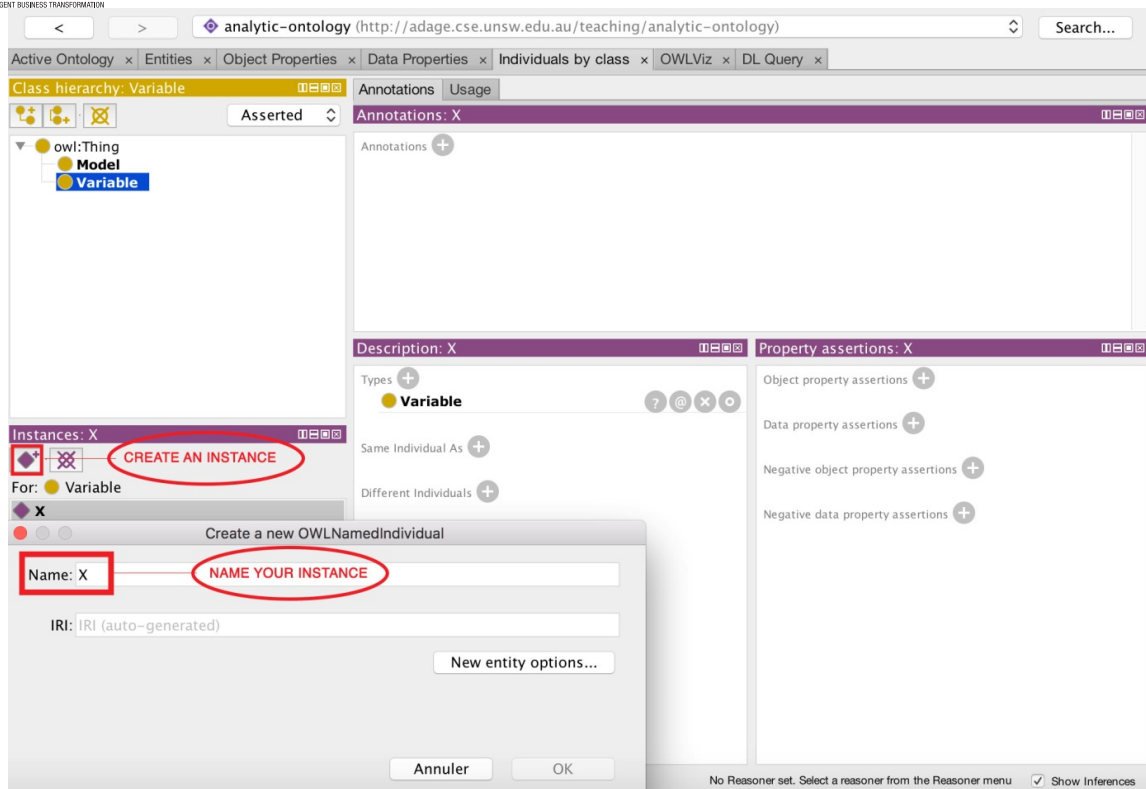
First you need to open the ontology from the previous exercise called "simple model.owl" using File -> Open.

Then you need to activate the views that will allow you to do this exercise. To activate them, go to : Window > Tabs > Object properties (Select Object properties if it is not ticked already). Window > Tabs > Data properties (Select Data properties if it is not ticked already)

### Step 2: Creating instances of Variable and Model concepts

In Protégé go to the "Individuals by class" tab and select the "Variable" class where you want to create instances. Click on the "Create an Instance" icon (see the screenshot below), then name your instance X. Repeat this process to create another instance named Y.

Now select the "Model" class and add an instance called M1.



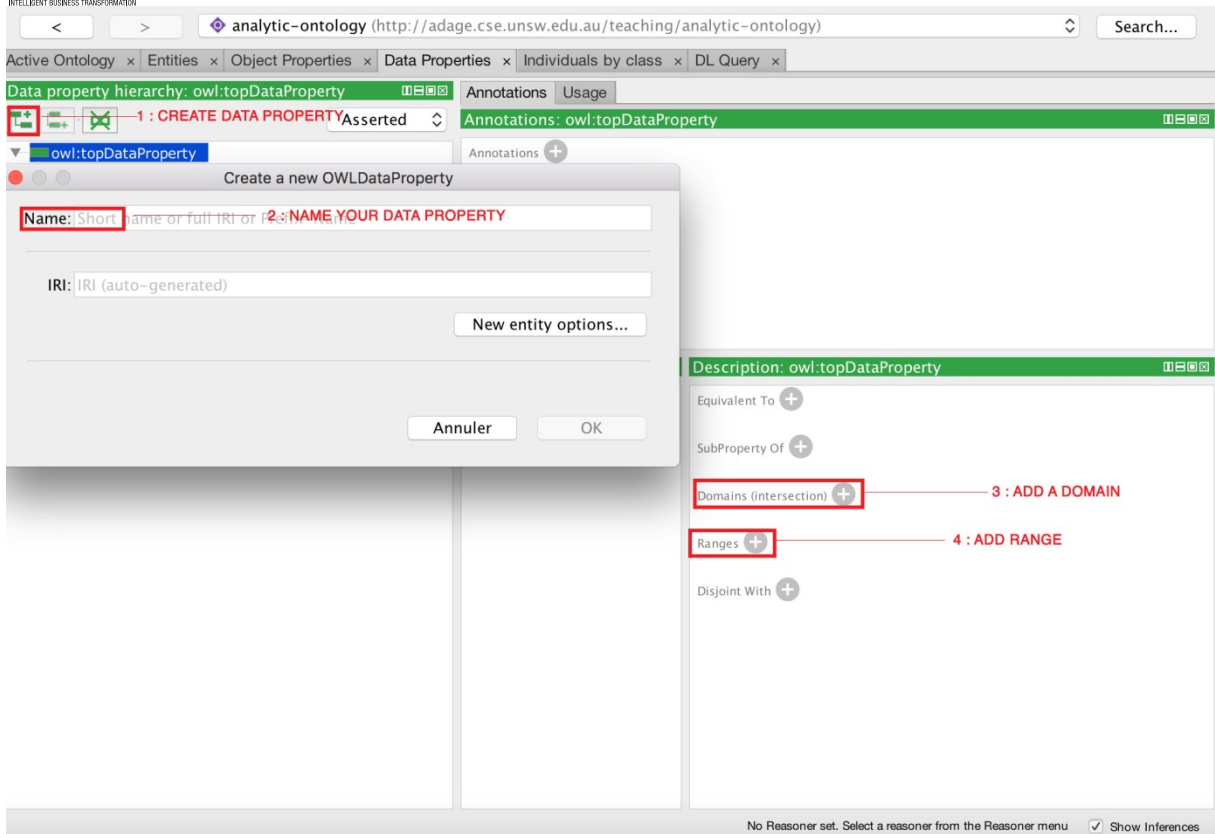
Now we can create a Data properties that define your instance data.

### Step 3 (optional): Creating a data property

Go to the “Data Properties” tab and click on “Add a property”, then name your data property.

You can define the domain and range of your data property.

In this example, you may create a property called hasFloatValue, because some variables will have Float values associated with them. The domain of this property should be Variable, and its range is a xsd:float (as we want our variables to have float values).



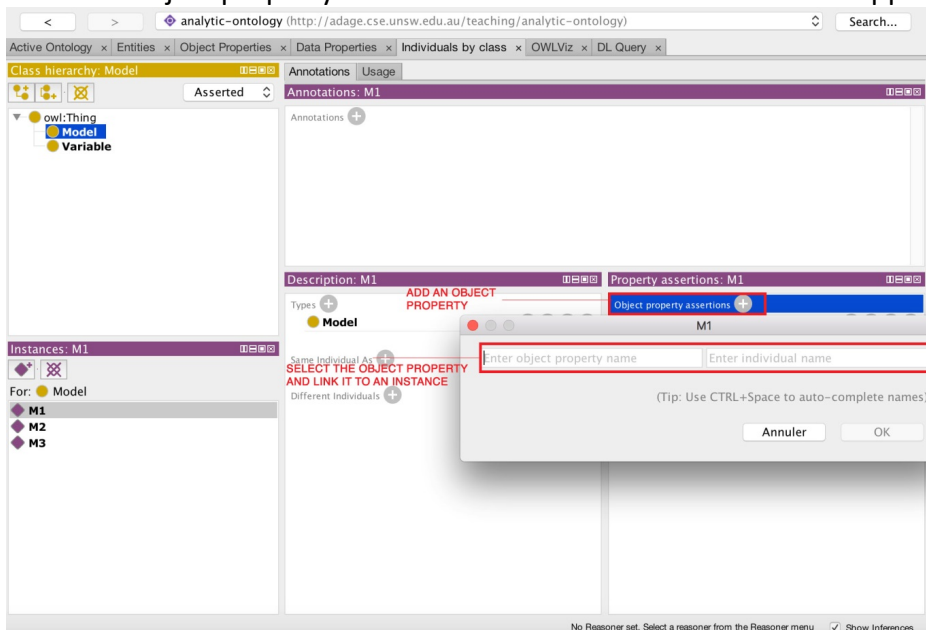
#### Step 4: Creating relations (object properties)

Now we need to create relations between the Model instance and its Variable instances.

Go to the “Individuals by class” tab and select model M1 in the Model instances.

As you have to link an object property to an instance, you should:

- Click on “Object property assertions”. A box with two entries will appear



- In the first box, you can type the property name or use “ctrl – space” and select the object property that you wish to use, from the drop-down list that appear. In this case, choose independentVar.
- In the second box, type the name of the variable instance (i.e. X).

Repeat the same process to add Y as dependentVar property.

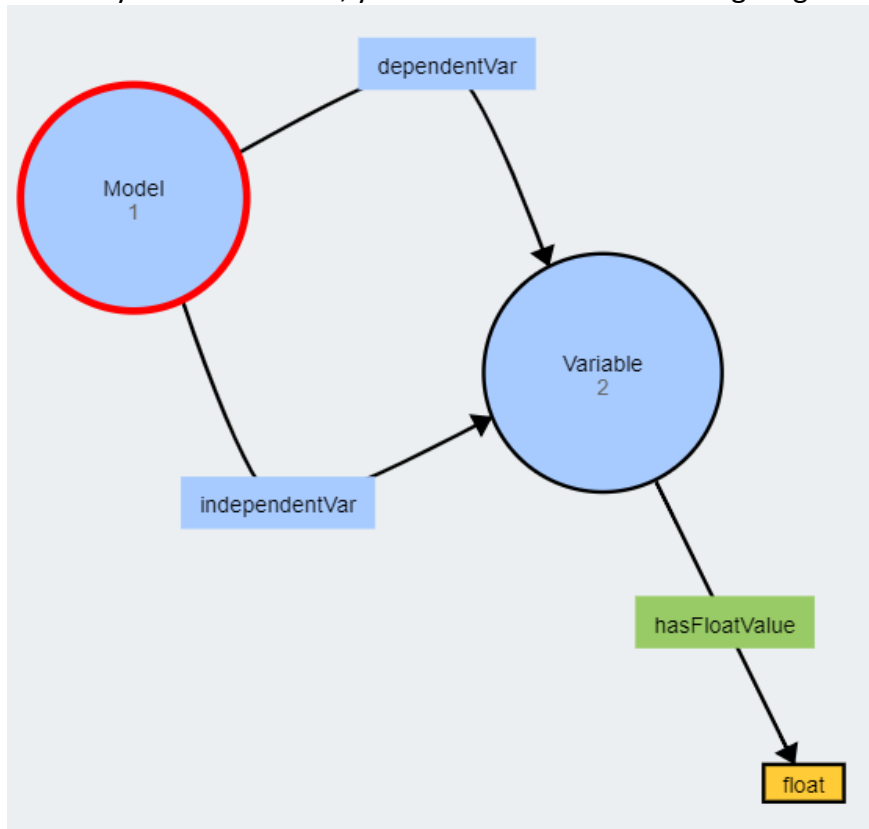
You now have created instances and linked them to a model.

### Step 5: Creating a diagram

After completing the step 4, you can visualize your ontology. You will need to save your Protégé file, in RDF/XML format and to go to this website :

<http://vowl.visualdataweb.org/webvowl/old/>

Go to the “Ontology” tab in the bottom of the page and upload the saved ontology file. If you followed correctly the instructions, you should have the following diagram :



### Exercise

- 1 ) Create two more instances of the class Model: One named M2 the other M3
- 2 ) Create an instance of the class Variable named Z.
- 3 ) Link these instances in order to have the relations defined in the diagrams below:



Once you complete the exercise, visualize the ontology again. When you click on a class you should be able to see the defined instances (Individuals) listed on the bottom left.