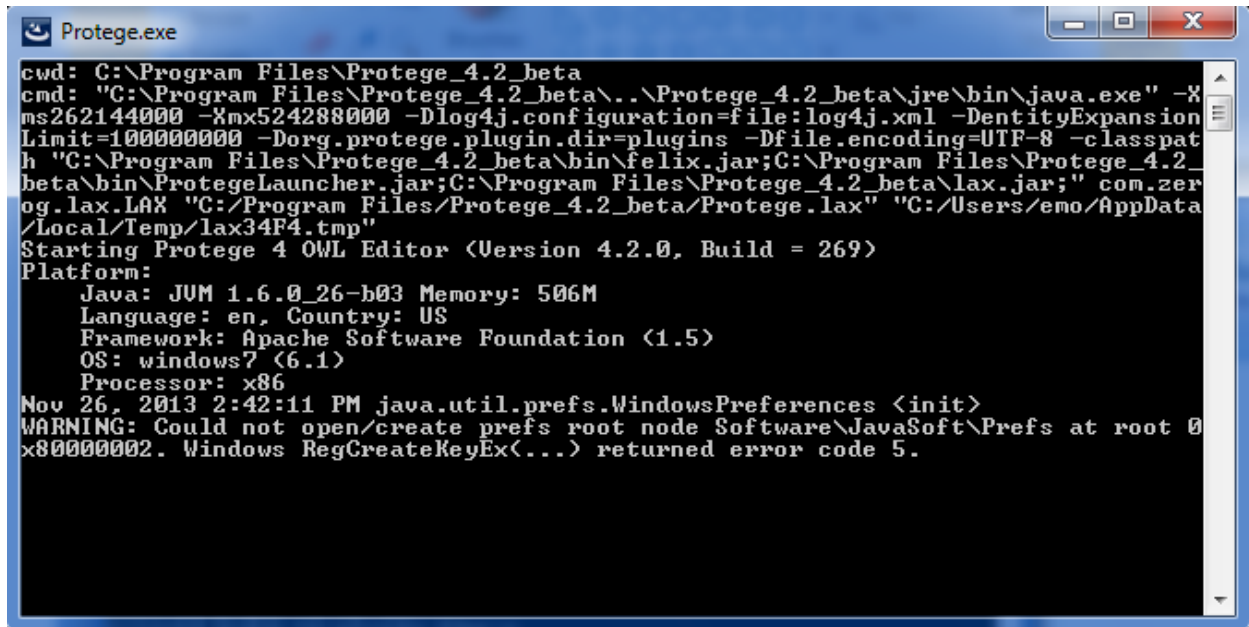


## Appendix (A)

### APPENDIX A: Protégé OWL in snapshots



```
Protege.exe
cwd: C:\Program Files\Protege_4.2_beta
cmd: "C:\Program Files\Protege_4.2_beta\..\Protege_4.2_beta\jre\bin\java.exe" -X
ms262144000 -Xmx524288000 -Dlog4j.configuration=file:log4j.xml -DentityExpansion
Limit=1000000000 -Dorg.protege.plugin.dir=plugins -Dfile.encoding=UTF-8 -classpat
h "C:\Program Files\Protege_4.2_beta\bin\felix.jar;C:\Program Files\Protege_4.2_
beta\bin\ProtegeLauncher.jar;C:\Program Files\Protege_4.2_beta\lax.jar;" com.zer
og.lax.LAX "C:/Program Files/Protege_4.2_beta/Protege.lax" "C:/Users/emo/AppData
/Local/Temp/lax34F4.tmp"
Starting Protege 4 OWL Editor (Version 4.2.0, Build = 269)
Platform:
  Java: JUM 1.6.0_26-b03 Memory: 506M
  Language: en, Country: US
  Framework: Apache Software Foundation (1.5)
  OS: windows7 (6.1)
  Processor: x86
Nov 26, 2013 2:42:11 PM java.util.prefs.WindowsPreferences <init>
WARNING: Could not open/create prefs root node Software\JavaSoft\Prefs at root 0
x80000002. Windows RegCreateKeyEx(...) returned error code 5.
```

Figure A.1: Protégé\_4.2\_beta Initialization

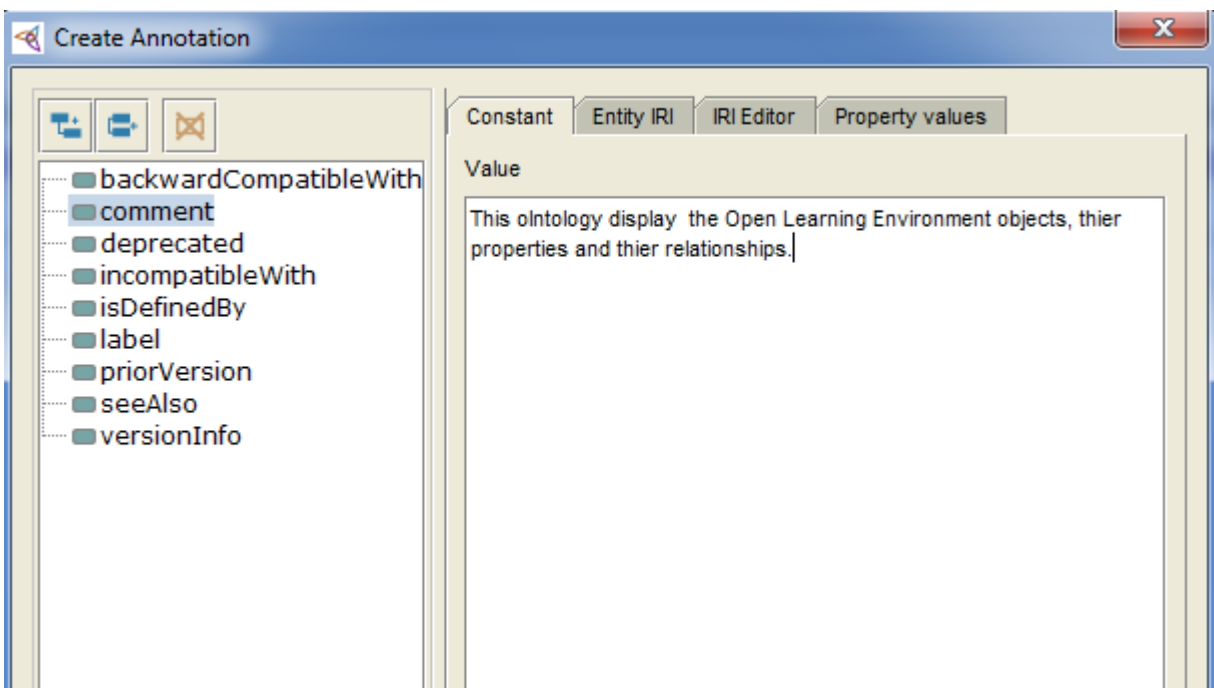


Figure A.2: Create Annotation Window

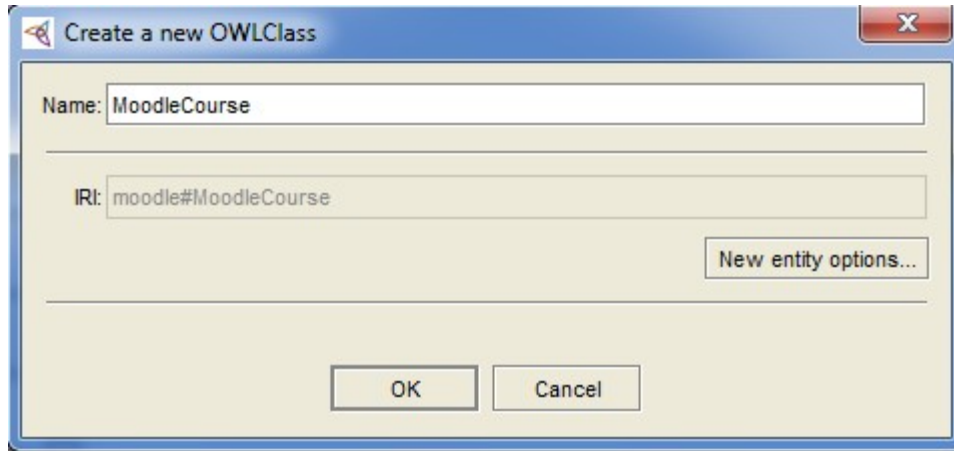


Figure A.3: Create New Class

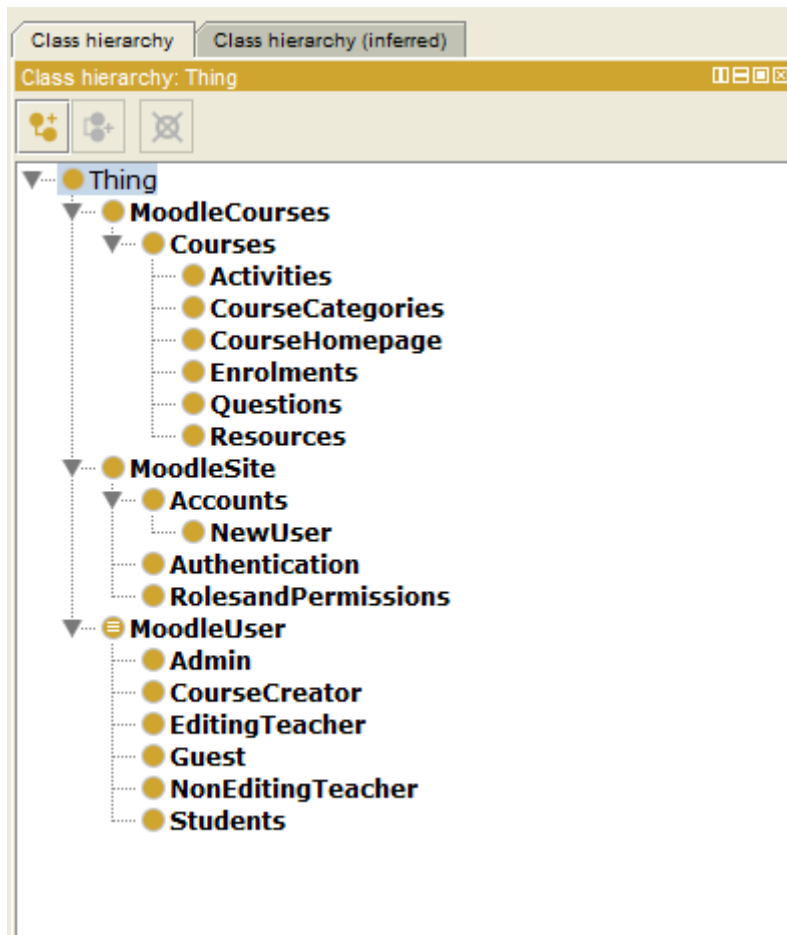


Figure A.4: Moodle Class Hierarchy

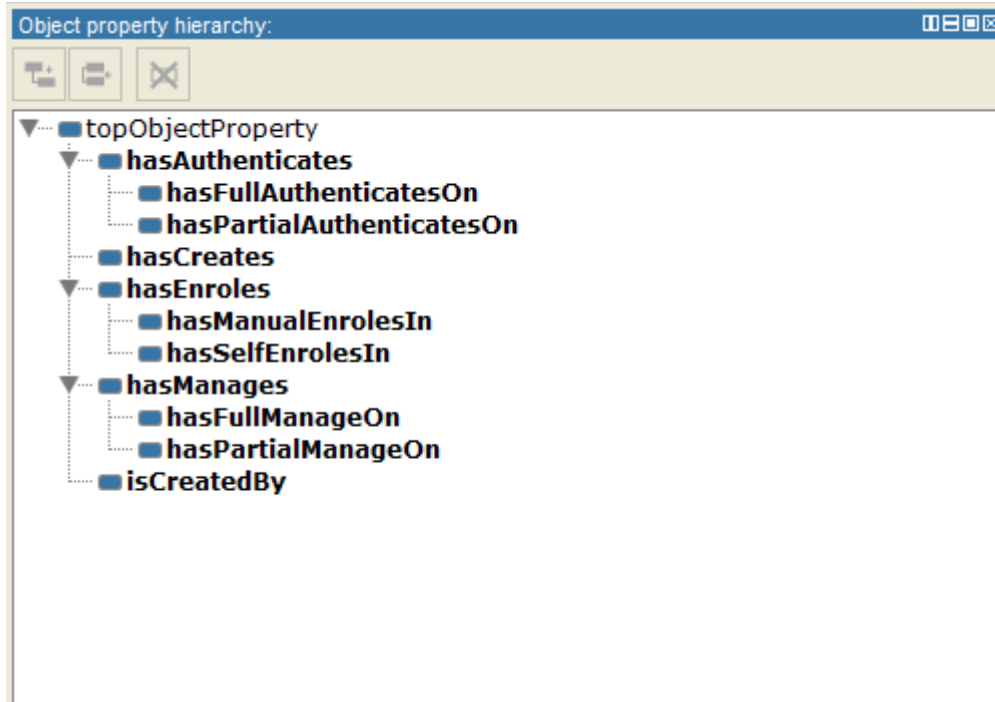


Figure A.5: Moodle Object Properties

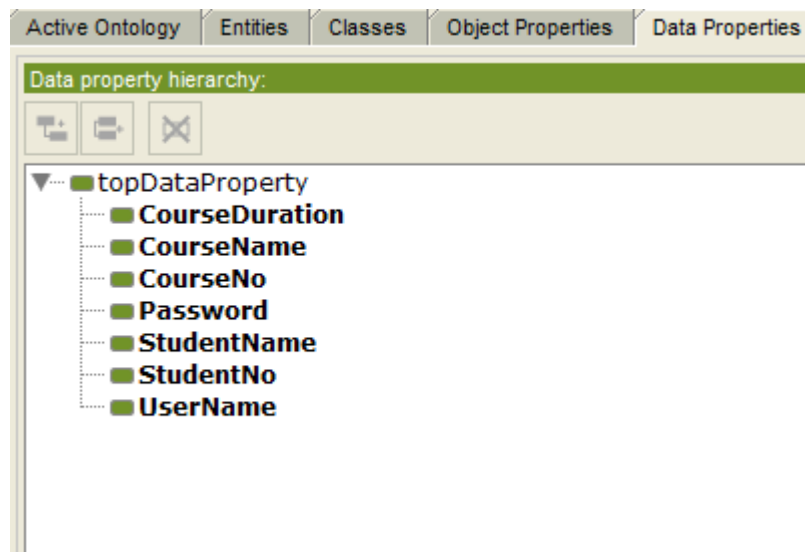


Figure A.6: Moodle Data Properties

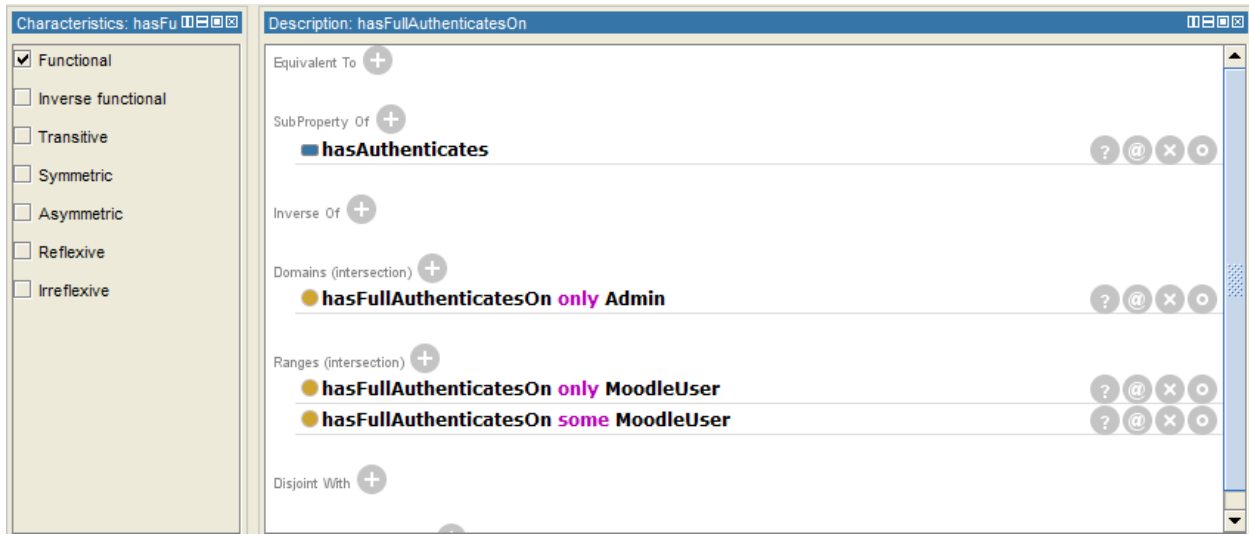


Figure A.7 hasFullAuthentication Property

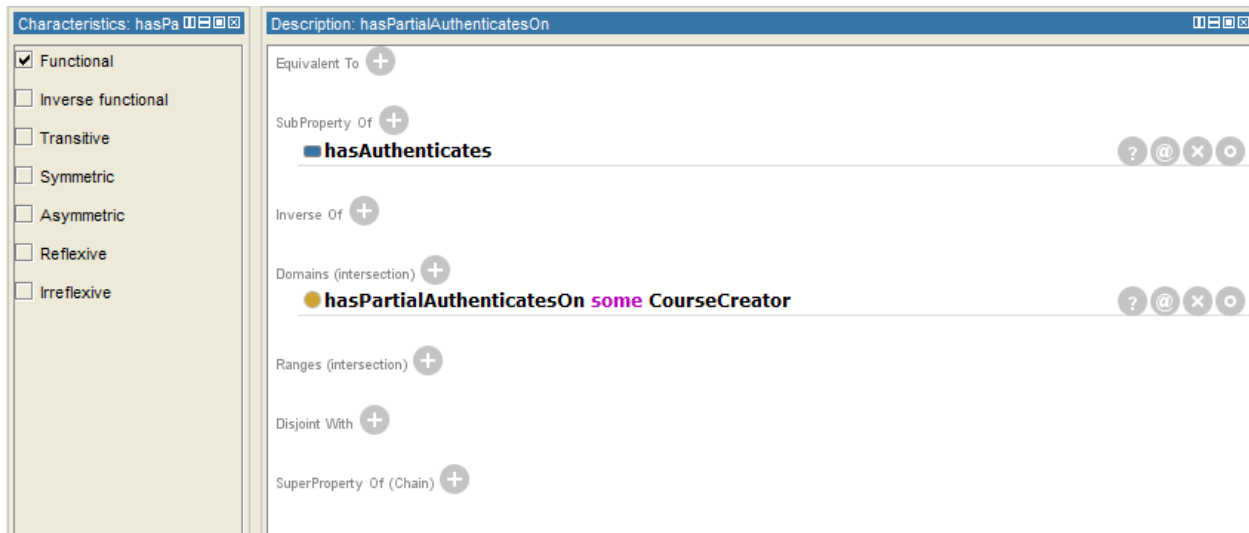


Figure A.8: hasPartialAuthentication property

Characteristics: hasPa	Description: hasPartialManageOn
<input type="checkbox"/> Functional <input type="checkbox"/> Inverse functional <input type="checkbox"/> Transitive <input type="checkbox"/> Symmetric <input type="checkbox"/> Asymmetric <input type="checkbox"/> Reflexive <input type="checkbox"/> Irreflexive	Equivalent To + SubProperty Of + <b>hasManages</b> <hr/> Inverse Of + Domains (intersection) + <ul style="list-style-type: none"> <li>● <b>hasPartialManageOn some EditingTeacher</b></li> <li>● <b>hasPartialManageOn some Students</b></li> <li>● <b>hasPartialManageOn some CourseCreator</b></li> <li>● <b>hasPartialManageOn some NonEditingTeacher</b></li> </ul>

Figure A.9: hasPartialManage Property

Characteristics: hasFu	Description: hasFullManageOn
<input checked="" type="checkbox"/> Functional <input type="checkbox"/> Inverse functional <input type="checkbox"/> Transitive <input type="checkbox"/> Symmetric <input type="checkbox"/> Asymmetric <input type="checkbox"/> Reflexive <input type="checkbox"/> Irreflexive	Equivalent To + SubProperty Of + <b>hasManages</b> <hr/> Inverse Of + Domains (intersection) + <ul style="list-style-type: none"> <li>● <b>hasFullManageOn only Admin</b></li> </ul> Ranges (intersection) + Disjoint With +

Figure A.10: hasFullManage Property

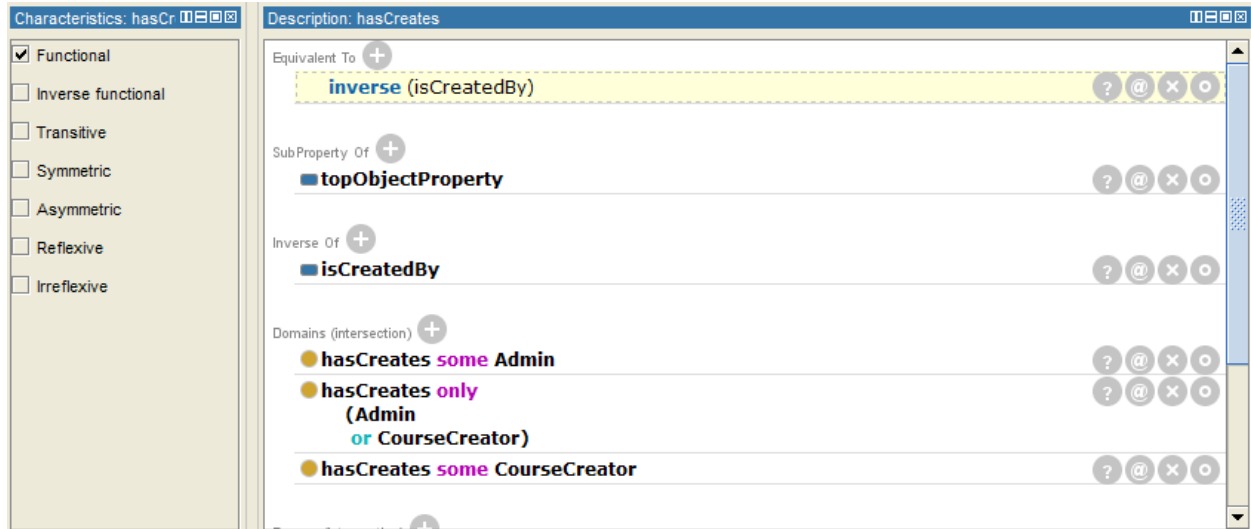


Figure A.11: hasCreate Property

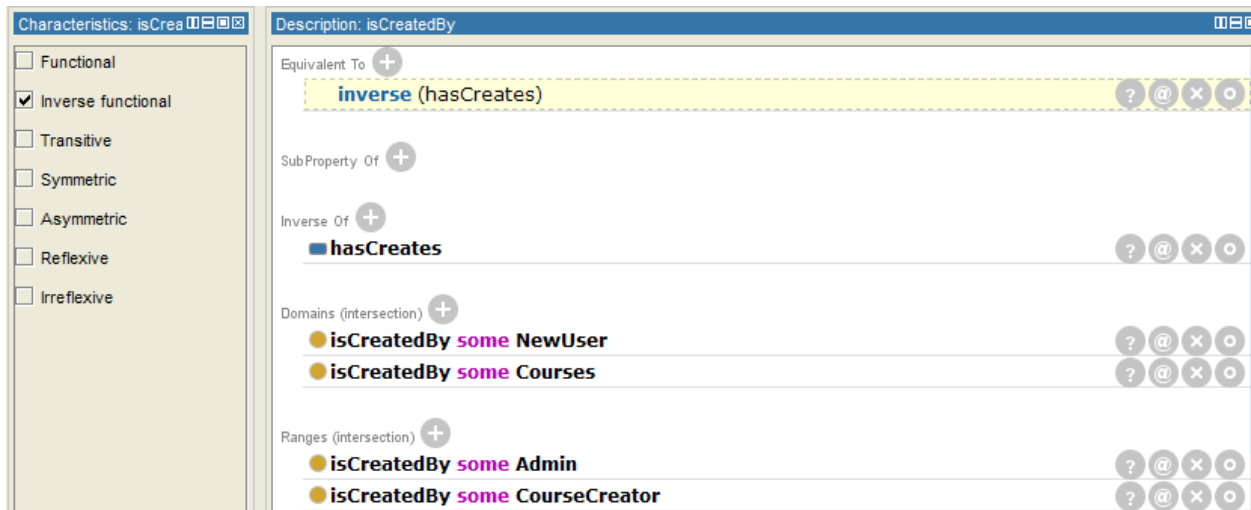


Figure A.12: isCreatedBy Property (inverse of hasCreate)

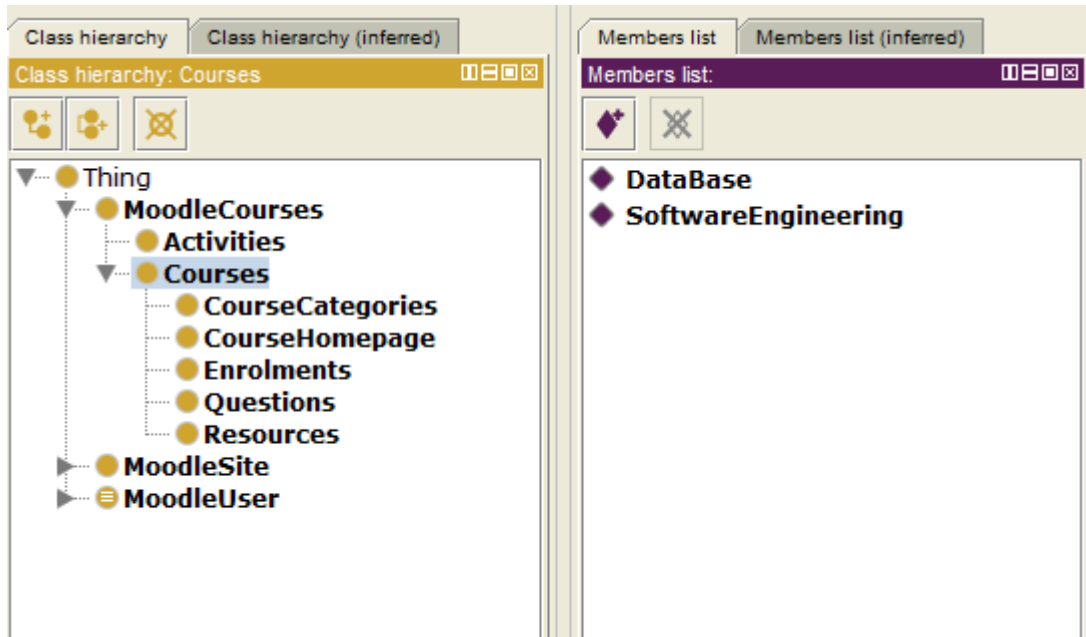


Figure A.13: Class Courses Instances

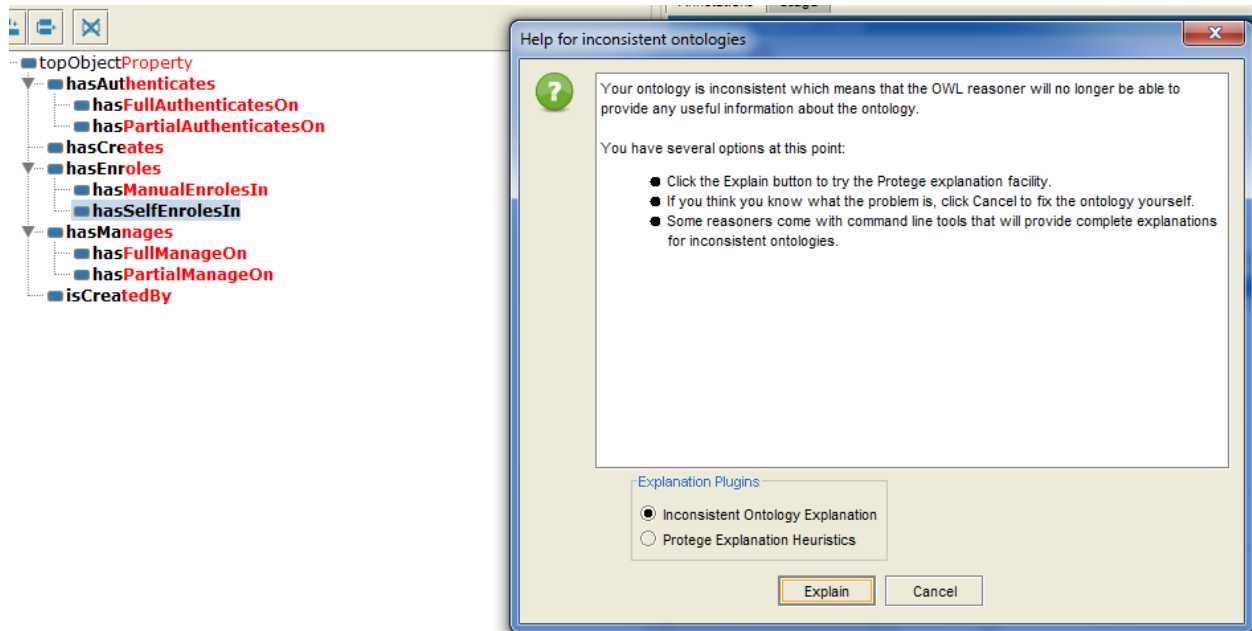
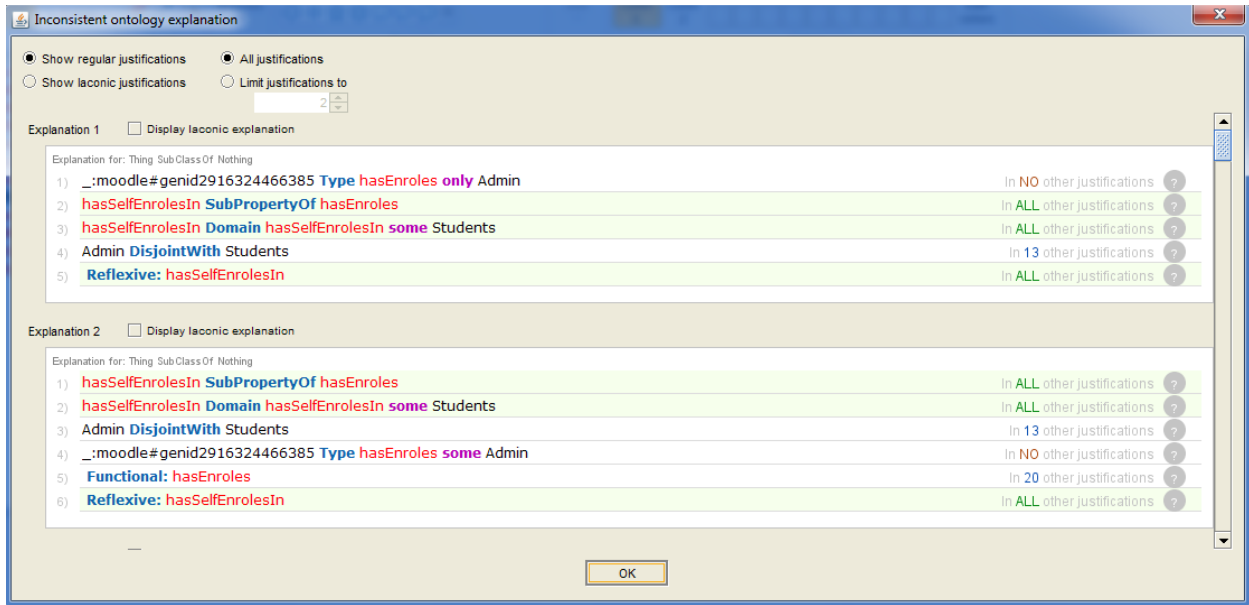
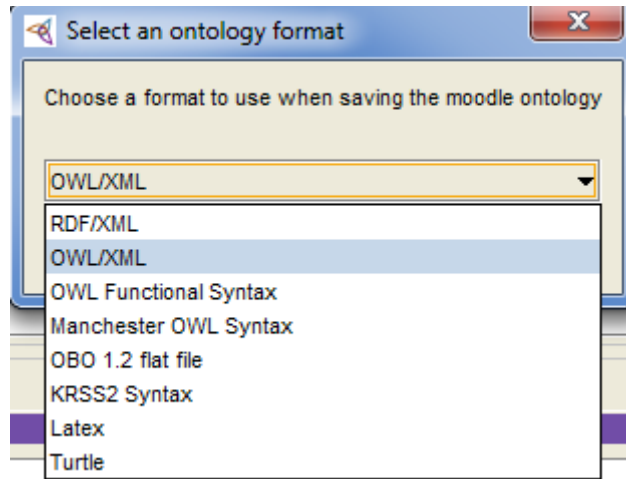


Figure A.14: Inconsistent Ontology



**Figure A.15: Inconsistent Ontology Exeplanation**



**Figure A.16: Ontology Format**



## Appendix (B)

### APPENDIX B: Part of XML code

```
<?xml version="1.0"?>

<!DOCTYPE Ontology [
  <!ENTITY xsd "http://www.w3.org/2001/XMLSchema#" >
  <!ENTITY xml "http://www.w3.org/XML/1998/namespace"
>
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-
schema#" >
  <!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-
syntax-ns#" >
]>

<Ontology xmlns="http://www.w3.org/2002/07/owl#"
  xml:base="moodle"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-
syntax-ns#"
  xmlns:xml="http://www.w3.org/XML/1998/namespace"
  ontologyIRI="moodle">
  <Prefix name=""
IRI="http://www.w3.org/2002/07/owl#" />
  <Prefix name="owl"
IRI="http://www.w3.org/2000/01/rdf-schema#" />
  <Annotation>
    <AnnotationProperty
abbreviatedIRI="rdfs:comment" />
    <Literal datatypeIRI="&rdf;PlainLiteral">This
ontology display the Open Learning Environment
objects, thier properties and thier relationships.
</Literal>
  </Annotation>
```

```

<Declaration>
  <Class IRI="#Admin"/>
</Declaration>
<Declaration>
  <Class IRI="#Authentication"/>
</Declaration>
<Declaration>
  <Class IRI="#CourseCategories"/>
</Declaration>
<EquivalentClasses>
  <Class IRI="#MoodleUser"/>
  <ObjectUnionOf>
    <Class IRI="#Admin"/>
    <Class IRI="#CourseCreator"/>
    <Class IRI="#EditingTeacher"/>
    <Class IRI="#Guest"/>
    <Class IRI="#NonEditingTeacher"/>
    <Class IRI="#Students"/>
  </ObjectUnionOf>
</EquivalentClasses>
<SubClassOf>
  <Class IRI="#Accounts"/>
  <Class IRI="#MoodleSite"/>
</SubClassOf>
<SubClassOf>
  <Class IRI="#Activities"/>
  <Class IRI="#Courses"/>
</SubClassOf>
<SubClassOf>
  <Class IRI="#Admin"/>
  <Class IRI="#MoodleUser"/>
</SubClassOf>
<DisjointClasses>
  <Class IRI="#Admin"/>
  <Class IRI="#Guest"/>
</DisjointClasses>
<ClassAssertion>
  <ObjectAllValuesFrom>
    <ObjectProperty IRI="#hasCreates"/>
    <Class IRI="#Admin"/>
  </ObjectAllValuesFrom>

```

```

    <AnonymousIndividual
nodeID="_:moodle#genid13443364724350"/>
    </ClassAssertion>
<SubObjectPropertyOf>
    <ObjectProperty IRI="#hasEnroles"/>
    <ObjectProperty
abbreviatedIRI="owl:topObjectProperty"/>
    </SubObjectPropertyOf>
<InverseObjectProperties>
    <ObjectProperty IRI="#hasCreates"/>
    <ObjectProperty IRI="#isCreatedBy"/>
    </InverseObjectProperties>
<ObjectPropertyDomain>
    <ObjectProperty IRI="#hasCreates"/>
    <ObjectSomeValuesFrom>
        <ObjectProperty IRI="#hasCreates"/>
        <Class IRI="#Admin"/>
    </ObjectSomeValuesFrom>
    </ObjectPropertyDomain>
<ObjectPropertyRange>
    <ObjectProperty IRI="#hasManualEnrolesIn"/>
    <ObjectAllValuesFrom>
        <ObjectProperty IRI="#hasManualEnrolesIn"/>
        <Class IRI="#Students"/>
    </ObjectAllValuesFrom>
    </ObjectPropertyRange>
<DataPropertyDomain>
    <DataProperty IRI="#StudentNo"/>
    <DataSomeValuesFrom>
        <DataProperty IRI="#StudentNo"/>
        <Datatype abbreviatedIRI="xsd:integer"/>
    </DataSomeValuesFrom>
    </DataPropertyDomain>
</Ontology>

```