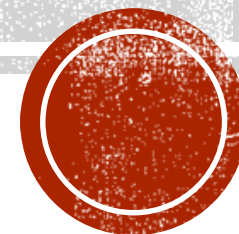


TOP BRAID COMPOSER 활용

온톨로지 스키마에 매핑하여 트리플 만들기

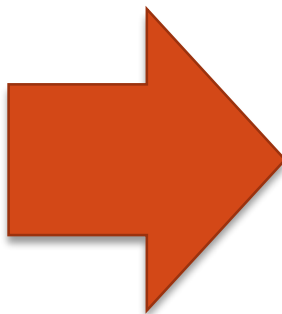


허 홍 수

EXCEL 데이터를 RDF로 변환

- 이 방법은 xls 형태의 엑셀 데이터를 TSV로 변환한 후 미리 준비된 온톨로지 스키마에 맞추어 RDF로 변환하는 방식
- 엑셀 컬럼을 온톨로지 스키마의 프로퍼티로 매핑할 수 있다.
- 첫번째 컬럼(A열)이 RDF의 주어(Subject)로 만들어 진다.
- 영문과 숫자로 이루어진 데이터에서 잘 동작한다.

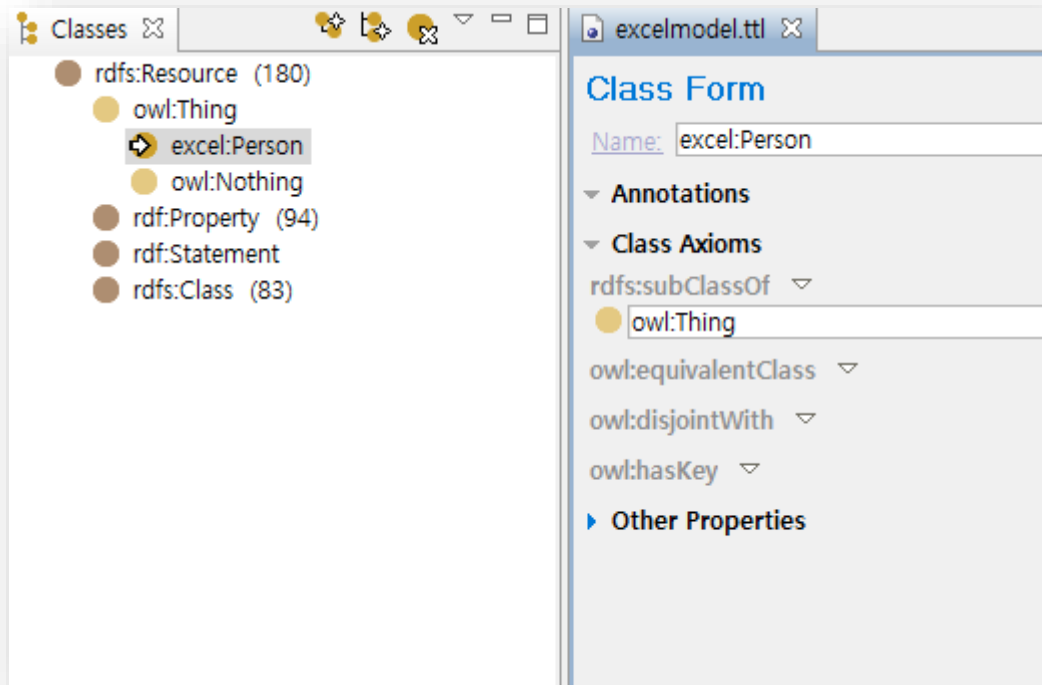
	1	2	3	4
1	subject	name	age	friend
2	jay	jay	23	richard
3	tom	tom	25	carol
4				



```
:jay      a      :사람;  
          :name   "jay";  
          :age    23;  
          :knows  :richard .  
  
:tom      a      :사람;  
          :name   "tom";  
          :age    25;  
          :knows  :carol .
```

01. 준비

- 온톨로지 스키마를 준비하여 TBC 로 열어 둔다.
- 엑셀데이터를 TSV 형식으로 변환하여 준비한다.



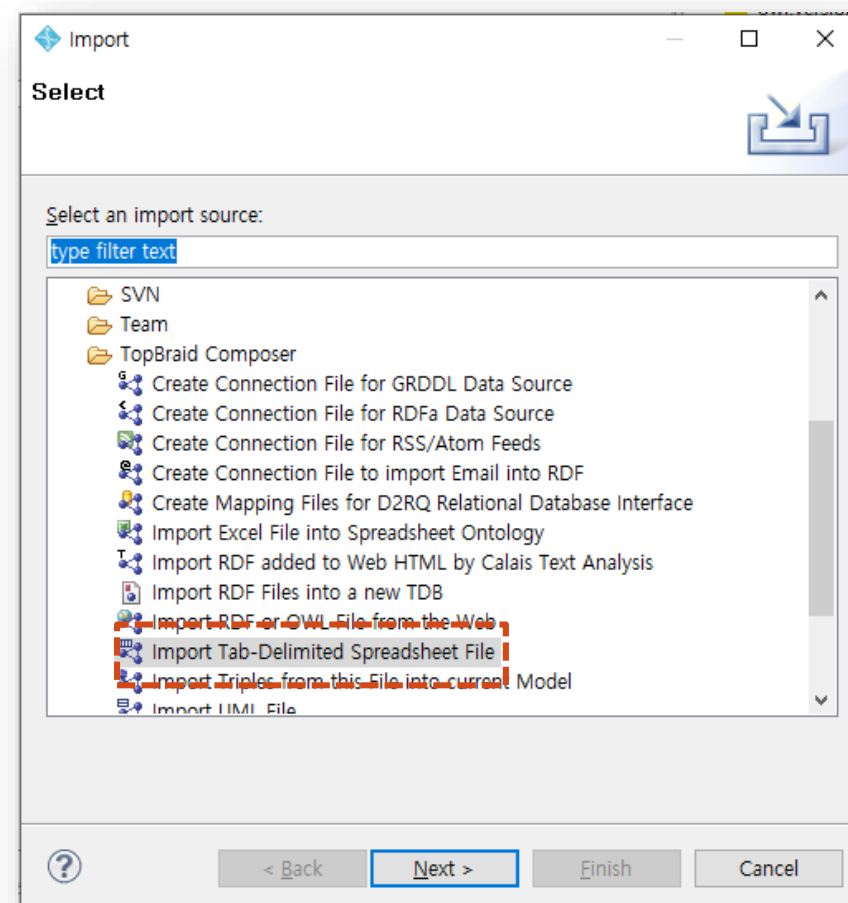
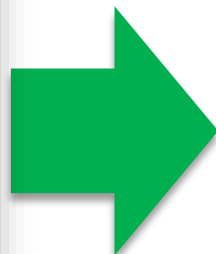
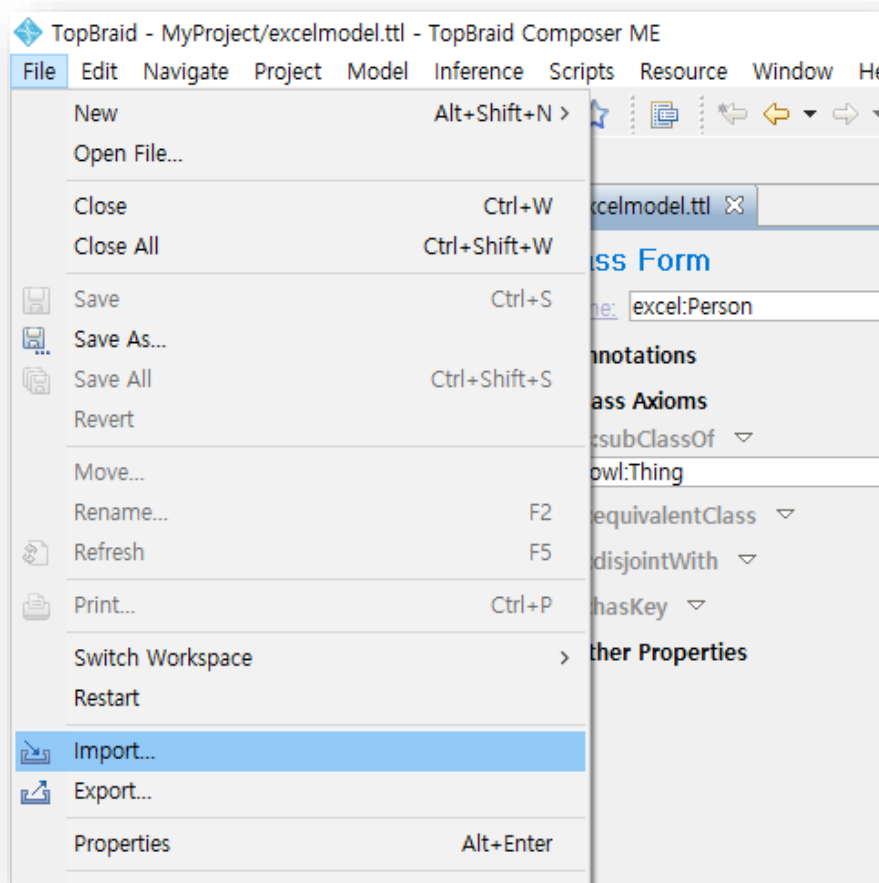
준비된 온톨로지 스키마

	A	B	C	D	E
1	subject	name	age	friend	etc
2	jay	jay	23	richard	xx
3	tom	tom	25	carol	yy
4					
5					

Import 할 TSV 데이터

02. IMPORT 하기

- 온톨로지 스키마를 열어둔 상태에서
File > Import > TopBraid Composer > Import Tab-Delimited Spreadsheet File 선택



03. TSV 파일 선택

- Browse File System... 을 선택하여 대상 파일을 선택
- Import to the current ontology 체크박스 선택 후 Next

Import Tab-Delimited Spreadsheet File

File must be specified

Spreadsheet File (text file with tab-separated columns from the file system, workspace or a URL):

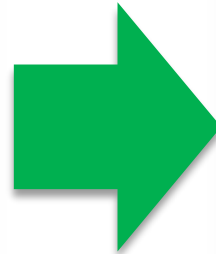
Spreadsheet file text encoding:

Base namespace as sections:

General section	Local section	File section
<input type="text" value="http://www.mycompany.com/"/>	<input type="text" value="/MyProject"/>	<input type="text"/>

Base namespace:

☐ Import to the current ontology (uses the current namespace)



Import Tab-Delimited Spreadsheet File

Specify the name of a tab-delimited text file exported from a spreadsheet program to import into an RDF/OWL file.

Spreadsheet File (text file with tab-separated columns from the file system, workspace or a URL):

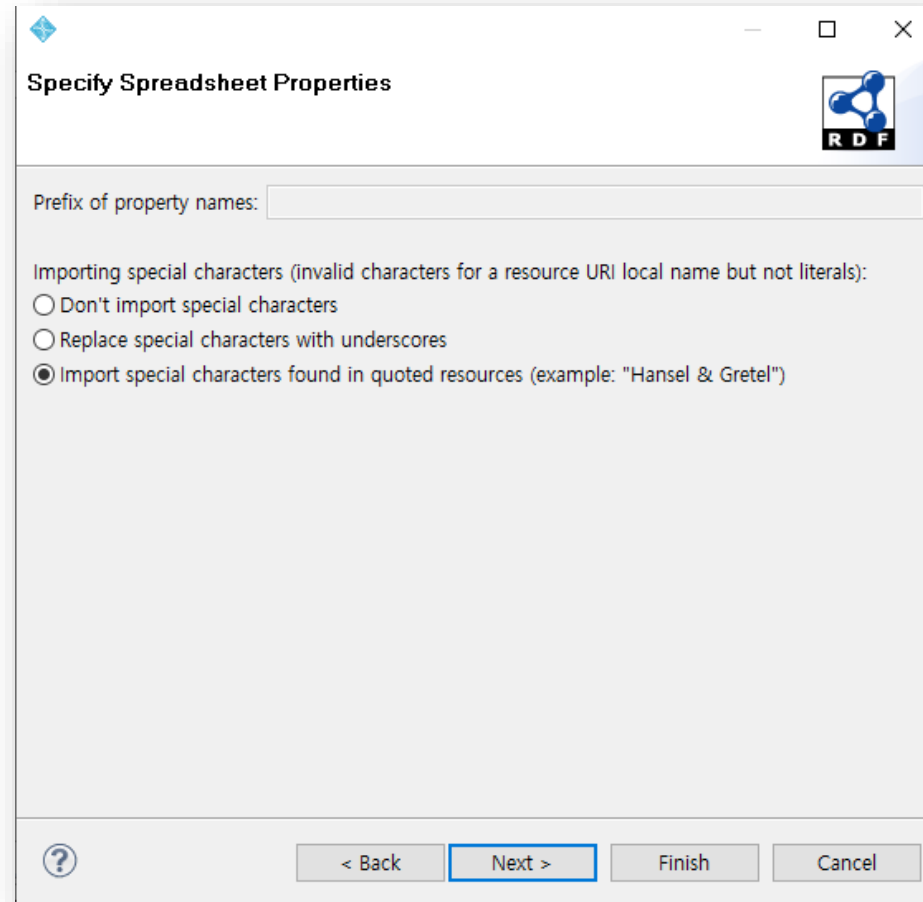
Spreadsheet file text encoding:

Base namespace:

☒ Import to the current ontology (uses the current namespace)

04. 프로퍼티 프리픽스 및 특수문자 설정

- 프로퍼티 프리픽스 설정은 기존 온톨로지 스키마를 사용하기 때문에 disable
- 특수문자에 대한 처리는 원하는 항목으로 체크 후 Next



05. 스키마에 따라 데이터 매핑

- TSV에서 읽은 데이터를 온톨로지 스키마에 맞추어 매핑
- Property in ontology 항목을 스키마의 내용으로 변경하면 Property data type이 변경되며, DatatypeProperty인 경우 원하는 datatype으로 변경할 수 있다.
- Class Name은 Subject가 속할 클래스명을 기입한다.

Preview Spreadsheet

❌ Class subject doesn't exist in the selected ontology.

Column #	Column in spreadsheet	Property in ontology	Property data type
<input checked="" type="checkbox"/> 1	name	name	xsd:string
<input checked="" type="checkbox"/> 2	age	age	xsd:integer
<input checked="" type="checkbox"/> 3	friend	friend	xsd:string
<input checked="" type="checkbox"/> 4	etc	etc	xsd:string

Pattern for instance names:

Class Name:

< Back Next > Finish Cancel

Preview Spreadsheet

Column #	Column in spreadsheet	Property in ontology	Property data type
<input checked="" type="checkbox"/> 1	name	rdfs:label	rdfs:Literal
<input checked="" type="checkbox"/> 2	age	age	xsd:integer
<input checked="" type="checkbox"/> 3	friend	knows	excel:Person
<input checked="" type="checkbox"/> 4	etc	nick	xsd:string

Pattern for instance names:

Class Name:

< Back Next > **Finish** Cancel

Preview Spreadsheet

Column #	Column in spreadsheet	Property in ontology	Property data type
<input checked="" type="checkbox"/> 1	name	rdfs:label	rdfs:Literal
<input checked="" type="checkbox"/> 2	age	age	xsd:integer
<input checked="" type="checkbox"/> 3	friend	knows	excel:Person
<input checked="" type="checkbox"/> 4	etc	nick	xsd:string

Spreadsheet import successful

The classes in the selected ontology have been updated with new instances.

확인

< Back Next > Finish Cancel

06. 결과 확인

- 기존의 온톨로지 스키마에 인스턴스가 생성되어 있는 것을 확인한다.

The screenshot displays a web ontology editor interface. The 'Classes' panel on the left shows a hierarchy where 'excel:Person' is highlighted. The 'Class Form' for 'excel:Person' shows its annotations and axioms. The 'Resource Form' for 'excel:jay' shows its annotations and properties. A table at the bottom lists instances of 'excel:Person'.

Classes Panel:

- rdfs:Resource (184)
- owl:Thing (4)
- excel:Person (4)**
- owl:Nothing
- rdf:Property (94)
- rdf:Statement
- rdfs:Class (83)

Class Form (Name: excel:Person):

- Annotations
- Class Axioms
 - rdfs:subClassOf: owl:Thing
 - owl:equivalentClass
 - owl:disjointWith
 - owl:hasKey
- Other Properties

Resource Form (Name: excel:jay):

- Annotations
 - rdfs:label: jay
- Other Properties
 - excel:age: 23
 - excel:knows: excel:richard
 - excel:nick: xx
 - rdfs:type: excel:Person
- Incoming References

Instances Table:

[Resource]	rdf:type	rdfs:label
excel:carol	excel:Person	
excel:jay	excel:Person	jay
excel:richard	excel:Person	
excel:tom	excel:Person	tom