Karma:
A semantic modeling tool to visualize data with ontologies

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Data Modelling

• Using Karma Data Integration Tool
Karma: a data integration tool

- A semantic modeling tool to visualize data with ontologies

More sources: Duraspace VIVO wiki,
https://wiki.duraspace.org/display/VIVO/Using+the+Karma+data+integration+tool
Karma: a data integration tool

- Import ontologies
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- Select ontology and click “Open”
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- Confirm file format and click “Next”
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- Check encoding and click “Import”
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- Ontology imported!
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- Import data
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• Select file and click “Open”
• Confirm file format and click “Next”
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- Click “Import”
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- Data imported!
- Simplified article data
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- Click arrow next to ID
- Click “Set Semantic Type” to model semantic relationship between article and its author(s)
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- Click “uri of Class” (ID: Primary key for the article)
- Then click “Edit”
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- Select ontology class
  - bibo:AcademicArticle1 (add)
- Click “Save”
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- Now you set ID as URI of Academic Article class
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- Make relationship between Title and Academic Article class
  - Click “Set Semantic Type”
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- Click “property of Class” and then “Edit”
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- Select class and property
  - Class: bibo:AcademicArticle1
  - Property: rdfs:label
- Click “Save”
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- You have relationship between title and Academic Article class
- Make relationship between year and Academic Article class
  - Class: bibo:AcademicArticle1
  - Property: vivo:dateTime
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- Make relationship between year and Academic Article class
  - Class: bibo:AcademicArticle1
  - Property: vivo:dateTime
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- Make relationship on Faculty Member
  - UID is a uri of Faculty Member class
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• You have uri for Faculty Member class

• Karma automatically gives you a relationship between Faculty Member and Academic Article, but this is a wrong relationship

• You need to fix the relationship (translatorOf) later
To make a relationship between Faculty and Article classes, you need Authorship class

- Click arrow at right side of the Article class
- Click Manage Links

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- You need an incoming link to Article class
- Click “Add Incoming Link”
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- Click “Edit”
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- Select class and property
  - Class: vivo:Authorship1 (add)
  - Property: vivo:relates
- Click “Save”
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- Have a relationship between Authorship and Article classes
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- You need to also make a relationship between Faculty and Authorship classes
  - Click “Manage Links”
  - Click “Add Incoming Link”
  - Click “Edit”
  - Select class and property
    - Class: vivo:Authorship1
    - Property: vivo:relates
  - Click “Delete” for the wrong relationship
  - Click “Save”
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- To look better, you can re-organize the columns
  - Click arrow at next file name
  - Then click “Organize Columns”
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- The last step
  - Need to have a uri for Authorship class
- Click arrow next to UID and then click “Py Transform”
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- Make a new column of “Authorship_uri”
  - Type the name of new column
  - Create a URI with article id (ID) and faculty id (UID)
    - return "http://vivo.library.tamu/authors\nhip/n"+getValue("ID")+"_"+getValue("UID").replace(" ", "_")
  - Check the URI by clicking “Preview results for top 5 rows”
  - Then “Save”
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- Need to make relationship between Authorship class and its URI
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- Click “Set Semantic Type”
- Select “uri of Class” and Click “Edit”
- Select Class
  - Class: `vivo:Authorship1`
- Then “Save”
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• Done modeling!
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