



## Guidelines for Knowledge Patterns Introduction

Draft

### Knowledge Modelling



Knowledge Patterns Catalog



Ontologies

## Introduction

Additional control of a knowledge graph requires the use of patterns. If you think about a knowledge graph it is made up of a mass of entities and relations. ResearchSpace is a declarative system which means that you can use queries to pick out or add data, but this is complicated and error prone. Instead Knowledge patterns allow you to define particular robust and tested patterns in advance which can be used in the ResearchSpace tools and selected through simple labels. For example,

1. I want to create a form with field inputs. I can select knowledge patterns that already provide the INSERT patterns and embed them in my form.
2. I can select the knowledge patterns that I want to use in knowledge maps.
3. I can use knowledge patterns to configure the filters on the search system.

## Overview

Essentially a knowledge pattern is an entity with properties defining how data is INSERTed, SELECTed and DELETED. It carries other information like the domain and range between which the pattern operates. For example,

A pattern has a domain of E22\_Man-Made\_Object and a range of E57\_Material. The pattern will work for data (triple statements) that conform to these classes and below. So, for example, it will also be valid for E25\_Man-Made\_Feature as a domain. The precision of the domain and range parameters depend on the use of the pattern.

Examples, in this document use CIDOC CRM. Other ontologies can be uploaded and patterns generated if the ontology is correctly defined.

## Key aspects

1. Creating a New Knowledge Pattern

The system already has some auto generated patterns from the ontologies installed. These should not be touched and in future versions will be read only. However, they can be duplicated to create a new pattern with a new URI. You can create a meaningful URI which may use your project domain. For example,

[http://www.cidoc-crm.org/cidoc-crm/P12i\\_was\\_present\\_at](http://www.cidoc-crm.org/cidoc-crm/P12i_was_present_at) can be duplicated and given a project URI like

[http://www.myproject.org/object\\_event/P12i\\_was\\_present\\_at](http://www.myproject.org/object_event/P12i_was_present_at)

The auto generated ontology patterns will be updated from time to time - which is why they should not be altered.

2. Categorise

Choose a category for the Pattern. This provides more control over statements that can select patterns using this category. For example,

In knowledge maps - the main configuration template is **rsp:KnowledgeMapOntodiaConfig**

In the template there is a section

```
<rs-ontodia-metadata-from-fields
fields-query='PREFIX field: <http://www.researchspace.org/resource/system/fields/>
SELECT DISTINCT ?field WHERE {
?field a <http://www.researchspace.org/resource/system/fields/Field> .
?field <http://www.researchspace.org/resource/system/fields/category>
<http://documentation.researchspace.org/category/demo> .
}'>
</rs-ontodia-metadata-from-fields>
```

Note the triple...

```
?field <http://www.researchspace.org/resource/system/fields/category>
<http://documentation.researchspace.org/category/demo> .
```

Which states that knowledge maps will only use patterns that have the category “demo”.

In Semantic Search, the main configuration template is `rsp:SearchContent`

Each tabs starts by defining the default content of the search

```
<semantic-search config='[[searchConfigForFieldsFromQuery "SELECT DISTINCT ?field WHERE
{?field a <http://www.researchspace.org/resource/system/fields/Field> . ?field
<http://www.researchspace.org/resource/system/fields/domain>
<http://www.cidoc-crm.org/cidoc-crm/E22_Man-Made_Object> . ?field
<http://www.researchspace.org/resource/system/fields/range> ?range . ?field
<http://www.researchspace.org/resource/system/fields/category>
<http://documentation.researchspace.org/category/demo> . }"]]'>

<semantic-search-query-keyword
```

In the example the demo category is used again to search only patterns that have the domain E22 and have the category “demo”.

### 3. Domain

The domain of the pattern corresponds with the `$system` variable in the pattern. It is the class that the patterns starts with or a subclass of it.

### 4. Range

The range is the target or `$value` URI of the pattern (a class or sub class). A pattern that does not define a URI will not have a range because the value will be a primitive, like a string.

### 5. Data Type

anyURI - usually the data type is anyURI. This means that the pattern is between two entities which have a URI. In many cases, the author will want to add some value. In many cases the value will come from an existing authority. Therefore the pattern is still a URI but the system, for example, for an input form, will use a value to represent the URI. This is the case when using vocabulary terms or entity labels.

String - If the value is a string input then there is only a domain and no range. A range is only used if there is a URI. You should remove the range field after selecting string and this also applies to other

non-URI primitives like date.

## 6. Cardinality

A constraint on the number of instances that can be created in a given template. 0 to unbound means any. 1 to unbound means at least one and 1 to 1 mean only one. 1 to 3 means at least one and a maximum of 3, and so on.

## 7. Order

Allows a number order which determines the order in which fields are rendered on a template if they are created through a query. The system allows fields values to be visualised by a query of knowledge patterns, rather than hardcoding of individual fields.

## 8. Default Values

In form inputs, a \$value is populated with this default which is applied if not changed by the user.

## 9. Test Subject

A test URI can be provided that is evaluated and shown at the bottom of the screen

## 10. Inset Pattern

```
1 INSERT {
2   $subject <http://www.cidoc-crm.org/cidoc-crm/P14_carried_out_by> $value .
3   $value <http://www.cidoc-crm.org/cidoc-crm/P14i_performed> $subject .
4 } WHERE {}
```

```
INSERT {
  $subject <http://www.cidoc-crm.org/cidoc-crm/P14_carried_out_by> $value .
  $value <http://www.cidoc-crm.org/cidoc-crm/P14i_performed> $subject .
} WHERE {}
```

This defines the insert of data into the system. A \$subject or source class and a \$value must be defined. In an input form a subject class will be defined which generates the precise class being used in a particular instance. Usually a \$value will be a URI lookup which also has a class which must be within the range.

Complex pattern is one that has an intermediate, so,

```
1 INSERT {
2   ?production a crm:E12_Production .
3   $subject <http://www.cidoc-crm.org/cidoc-crm/P108i_was_produced_by> ?production .
4   ?production <http://www.cidoc-crm.org/cidoc-crm/P14_was_carried_out_by> $value .
5 } WHERE
6 {
7   BIND(IRI(CONCAT(str($subject),"/E12_Production/",STRUUID())) as ?production)
8 }
```

```
INSERT {
  ?production a crm:E12_Production .
  $subject <http://www.cidoc-crm.org/cidoc-crm/P108i_was_produced_by> ?production .
  ?production <http://www.cidoc-crm.org/cidoc-crm/P14_was_carried_out_by> $value .
} WHERE
{
  BIND(IRI(CONCAT(str($subject),"/E12_Production/",STRUUID())) as ?production)
}
```

Here the \$subject and \$value are separated by an intermediate node for which a URI must be

provided. Any number of intermediate nodes can be defined.

### 11. Select Pattern

```
1 SELECT ?value WHERE {
2   $subject <http://www.cidoc-crm.org/cidoc-crm/P14_carried_out_by> ?value .
3 }
```

The pattern that retrieves the data and displays it in a field input or other visualisation template. These are often qualified by other properties to avoid retrieving the wrong data.

### 12. Delete Pattern

```
1 DELETE {
2   $subject <http://www.cidoc-crm.org/cidoc-crm/P14_carried_out_by> $value .
3   $value <http://www.cidoc-crm.org/cidoc-crm/P14i_performed> $subject .
4 } WHERE {
5   $subject <http://www.cidoc-crm.org/cidoc-crm/P14_carried_out_by> $value .
6   $value <http://www.cidoc-crm.org/cidoc-crm/P14i_performed> $subject .
7 }
```

The delete pattern cleans up the data after the user uses the delete button

Note that buttons for delete, save, reset and export are standard and can be used across the system.

### 13. Ask Validation

This determined whether the data on which the pattern operates actually exists, testing before applying the pattern.

### 14. Value Set

Allows the pattern to provide a pull down list of declared values.

```
1 SELECT ?value ?label WHERE {
2   ?value a ?anyType ;
3   rdfs:label ?label .
4 }
```

Typically it is used to pull data from a particular authority or vocabulary. For example

```
1 SELECT ?value ?label WHERE {
2   ?value skos:inScheme scheme:materials;
3   skos:preflabel ?label .
4 }
5 LIMIT 10
```

### 15. Autocomplete

```
1 SELECT ?value ?label WHERE {
2   ?value skos:inScheme scheme:materials;
3   skos:preflabel ?label .
4   FILTER REGEX(STR(?label), "?token")
5 } LIMIT 10
```

Autocomplete is similar to setvalue but allows a search by the user using the text typed as a token for the search.

## 16. Tree Pattern

type

☒ Simple
 ☐ Full

scheme pattern

1

?item <http://www.w3.org/2004/02/skos/core#inScheme> ? \_\_scheme\_\_

✕ ✕

relation pattern

Click to add an optional relation pattern.

Update Field

Update Field and Close

This provides a treeview for values that the user can pick from - a scheme or authority can be used and an appropriate tree relation specified.

Vocabularies use inScheme whereas authorities (using Authority Manager) use P71i\_is\_listed\_in (Authority Document).

### Summary

Create new pattern or find existing prototype and duplicate it.

1. Copy the URI
2. Press duplicate
3. Paste the URI
4. Change <http://www.cidoc-crm.org/cidoc-crm> to <http://www.researchspace.org/pattern/>
5. Add a postfix e.g. [http://www.researchspace.org/pattern/P1\\_is\\_identified\\_by\\_first\\_name](http://www.researchspace.org/pattern/P1_is_identified_by_first_name)
6. Change the Label - e.g. First Name
7. Use the URI in the form

### Examples in Forms

Here is the start of an example input form

```
<semantic-form id="form"
persistence="{ 'type': 'sparql', 'targetInsertGraphIri': 'http://www.researchspace.org/ns/transfer-proposition-graph/{ {uuid} }' }"
new-subject-template="/E10_Transfer/{ { {raw} } } { { {uuid} } } { { {raw} } }"
subject="{ {node} }"
post-action="event"
fields="[
fieldDefinitions
  classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"
  rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
  PC29="http://www.researchspace.org/reconnecting/object/revieved/PC29_custody_received_by"
  date="http://www.researchspace.org/reconnecting/custody/P82_at_some_time_within"
  start="http://www.researchspace.org/pattern/reconnecting/P82a_begin_of_the_begin"
  end="http://www.researchspace.org/pattern/reconnecting/P82b_end_of_the_end"
  proposition="http://www.researchspace.org/researchspace/Event_Proposition"
  PC28="http://www.researchspace.org/reconnecting/object/surrendered/PC28_custody_surrendered_by"
  appellation="http://www.researchspace.org/pattern/vocabulary_manager/crm:P1_is_identified_by"
  rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
  PC11_Participant="http://www.researchspace.org/proposition/P11_had_participant"
]]">

<div class="form-scroll-area">

  <semantic-form-hidden-input form="classtype" default-value="http://www.cidoc-crm.org/cidoc-crm/E10_Transfer_of_Custody"> </semantic-form-hidden-input>

  <semantic-form-composite-input form="appellation" label="Known as" new-subject-template="/E41_Appellation/{ { {raw} } } { { {uuid} } } { { {raw} } }" fields="[
    fieldDefinitions
      classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"
      rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
    ]">

    <semantic-form-hidden-input form="classtype" default-value="http://www.cidoc-crm.org/cidoc-crm/E41_Appellation"> </semantic-form-hidden-input>

    <semantic-form-text-input render-header=false form="rdfsLabel"> </semantic-form-text-input>
  </semantic-form-composite-input>

  <semantic-form-datetime-input form='date' placeholder="Enter Date"></semantic-form-datetime-input>
  <3>Date Ranges/h3>
  <semantic-form-datetime-input form='start' placeholder="Enter Date"></semantic-form-datetime-input>
  <semantic-form-datetime-input form='end' placeholder="Enter Date"></semantic-form-datetime-input>
</div>
```

## Start of form

```
<semantic-form id='form'
persistence='{ "type": "sparql", "targetInsertGraphIri": "http://www.researchspace.org/ns/transfer-proposition-graph/{{uuid}}"}'
new-subject-template='/E10_Transfer/{{{raw}}}}{{UUID}}{{{/raw}}}'
subject='{{node}}'
post-action="event"
fields='[[
```

The opening tag of a semantic form.

**Persistence** - In this case a named graph persistence is specified by the keyword “sparql” and the target graph for the data saved.

**New-subject-template** - The URI assigned to the new subject instance. This can be relative or absolute.

**Subject** - If the subject already exist it can be passed through a parameter.

**Post-action** - the behavior of the form after submission (e.g. reset, trigger and event, no-reset)

```
fields='[[
fieldDefinitions
  classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"
  rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
  PC29="http://www.researchspace.org/reconnecting/object/received/PC29_custody_received_by"
  date="http://www.researchspace.org/reconnecting/custody/P82_at_some_time_within"
  start="http://www.researchspace.org/pattern/reconnecting/P82a_begin_of_the_begin"
  end="http://www.researchspace.org/pattern/reconnecting/P82b_end_of_the_end"
  proposition="http://www.researchspace.org/researchspace/Event_Proposition"
  PC28="http://www.researchspace.org/reconnecting/object/surrendered/PC28_custody_surrendered_by"
  appellation="http://www.researchspace.org/pattern/vocabulary_manager/crm:P1_is_identified_by"
  rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
  PC11_Participant="http://www.researchspace.org/proposition/P11_had_participant"
]]>
```

This specifies the knowledge patterns that the form uses. You can assign variables to them for convenience

```
<semantic-form-tree-picker-input for="range" label="individual" nested-form-template='{< forms:crm:E21_Person nested=true
editable=true}>' tree-patterns='{ "scheme": "<https://reconnecting-australian-collections.researchspace.org/resource/vocab
/reconnecting_people>", "schemePattern": "?item <http://www.cidoc-crm.org/cidoc-crm/P71i_is_listed_in> <https://reconnecting-australian-
collections.researchspace.org/resource/vocab/reconnecting_people>" }'></semantic-form-tree-picker-input>
```

These patterns can be used in a variety of input controls and some elements of the knowledge pattern can be overriding. Additionally nest forms can be specified.

## Example form

```
<semantic-form id='{#{if nested}}{{uuid}}{{else}}vocab-form{{/if}}'
  persistence='{ "type": "sparql", "targetInsertGraphIri":
"http://www.researchspace.org/ns/move-proposition-graph/{{uuid}}"}'

  new-subject-template='/E9_Move/{{{raw}}}}{{UUID}}{{{/raw}}}'
  subject='{{node}}'
```

```

        post-action="event"
        fields='[[
            fieldDefinitions
            classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

moved_from="http://www.researchspace.org/circulating_artefacts/artefact/P27_moved_from"

moved_to="http://www.researchspace.org/circulating_artefacts/artefact/P26_moved_to"
        move_type="http://www.researchspace.org/move/P2_has_type"

move_person="http://www.researchspace.org/circulating_artefacts/artefact/move/P14_carried_out_by"

custody_to="http://www.researchspace.org/circulating_artefacts/artefact/P29_custody_received_by"

P4_has_time-span="http://www.researchspace.org/circulating_artefacts/event/P4_has_time-span"

appellation="http://www.researchspace.org/pattern/vocabulary_manager/crm:P1_is_identified_by"
        rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
        range="http://www.researchspace.org/reconnecting/object/person/PC02_has_range"
        role="http://www.researchspace.org/reconnecting/object/Role/P2_has_type"
        generic_has_type="http://www.researchspace.org/generic/P2_has_type"

PC11_Participant_Person="http://www.researchspace.org/proposition/P11_had_participant_Person"

PC11_Participant_Organisation="http://www.researchspace.org/proposition/P11_had_participant_Organisation"

PC14_Carried_Out_Person="http://www.researchspace.org/activityPC/P01_has_domain"

PC14_Carried_Out_Organisation="http://www.researchspace.org/activityPC/P01_has_domain"

        ]]'>

        <div class="form-scroll-area">

                <semantic-form-hidden-input for="classtype"
                default-values='["http://www.cidoc-crm.org/cidoc-crm/E9_Move"]'> </semantic-form-hidden-input>

                <semantic-form-composite-input for="appellation" label="Known as"
                new-subject-template="/E41_Appellation/{{{{raw}}}}{{{{UUID}}}}{{{{raw}}}}'" fields='[[
                        fieldDefinitions

                classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

                rdfsLabel="http://www.researchspace.org/pattern/general/rdfs:label"
                ]]'>

                        <semantic-form-hidden-input for="classtype"
                        default-value='http://www.cidoc-crm.org/cidoc-crm/E41_Appellation'>
                        </semantic-form-hidden-input>

                        <semantic-form-text-input render-header=false for="rdfsLabel">
                        </semantic-form-text-input>
                        </semantic-form-composite-input>

                        <semantic-form-tree-picker-input for="generic_has_type" placeholder="choose move
                        type" label="Move Type" tree-patterns='{ "scheme":
                        "<https://reconnecting-australian-collections.researchspace.org/resource/vocab/move_type>",
                        "schemePattern": "?item <http://www.w3.org/2004/02/skos/core#inScheme>
                        <https://reconnecting-australian-collections.researchspace.org/resource/vocab/move_type>" }'>
                        </semantic-form-tree-picker-input>

                        <semantic-form-tree-picker-input for="moved_from" placeholder="select place"
                        nested-form-template='{{> forms:Place nested=true editable=true}}'>
                        </semantic-form-tree-picker-input>

                        <semantic-form-tree-picker-input for="moved_to" placeholder="select place"
                        nested-form-template='{{> forms:Place nested=true editable=true}}'>
                        </semantic-form-tree-picker-input>

```



```

        <semantic-form-composite-input for="PC14_Carried_Out_Person"
label="Individual Finders"
new-subject-template="/PC14_carried_out_by/{{{{raw}}}}{{{UUID}}}{{{{/raw}}}}" fields='[[
        fieldDefinitions

classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

range="http://www.researchspace.org/reconnecting/object/person/PC02_has_range"

role="http://www.researchspace.org/reconnecting/object/Role/P2_has_type"

]]'>

        <semantic-form-tree-picker-input for="range" nested-form-template='{<
forms:crm:E21_Person nested=true editable=true}}' tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_pe
ople>", "schemePattern": "?item <http://www.cidoc-crm.org/cidoc-crm/P71i_is_listed_in>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_peo
ple>" }'></semantic-form-tree-picker-input>

        <semantic-form-tree-picker-input for="role" nested-form-template='{<
forms:skos:Concept
scheme="https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnect
ing_roles" nested=true editable=true}}{<{{{raw}}}>' tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_ro
les>", "schemePattern": "?item <http://www.w3.org/2004/02/skos/core#inScheme>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_rol
es>" }'></semantic-form-tree-picker-input>

        <semantic-form-hidden-input for="classtype"
default-value='http://www.cidoc-crm.org/cidoc-crm/PC14_carried_out_by'>
</semantic-form-hidden-input>

</semantic-form-composite-input>

        <semantic-form-composite-input for="PC14_Carried_Out_Organisation"
label="Organisational Finders"
new-subject-template="/PC14_carried_out_by/{{{{raw}}}}{{{UUID}}}{{{{/raw}}}}" fields='[[
        fieldDefinitions

classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

range="http://www.researchspace.org/reconnecting/object/person/PC02_has_range"

role="http://www.researchspace.org/reconnecting/object/Role/P2_has_type"

]]'>

        <semantic-form-tree-picker-input for="range" label="organisation"
nested-form-template='{< forms:organisation nested=true editable=true}}'
tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/organisations>"
, "schemePattern": "?item <http://www.cidoc-crm.org/cidoc-crm/P71i_is_listed_in>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/organisations>" }'
'></semantic-form-tree-picker-input>

        <semantic-form-tree-picker-input for="role" nested-form-template='{<
forms:skos:Concept
scheme="https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnect
ing_roles" nested=true editable=true}}{<{{{raw}}}>' tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_ro
les>", "schemePattern": "?item <http://www.w3.org/2004/02/skos/core#inScheme>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_rol
es>" }'></semantic-form-tree-picker-input>

        <semantic-form-hidden-input for="classtype"
default-value='http://www.cidoc-crm.org/cidoc-crm/PC14_carried_out_by'>
</semantic-form-hidden-input>

```

```

</semantic-form-composite-input>

<semantic-form-composite-input for="PC11_Participant_Person" label="Person
Participated" new-subject-template="/PC11_had_participant/{{{{raw}}}}{{{UUID}}}{{{{/raw}}}}}"
fields='[[
                                fieldDefinitions

classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

range="http://www.researchspace.org/reconnecting/object/person/PC02_has_range"

role="http://www.researchspace.org/reconnecting/object/Role/P2_has_type"

]]'>

    <semantic-form-tree-picker-input for="range" label="individual"
nested-form-template='{> forms:crm:E21_Person nested=true editable=true}}'
tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_pe
ople>', "schemePattern": "?item <http://www.cidoc-crm.org/cidoc-crm/P71i_is_listed_in>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_peo
ple>"}'></semantic-form-tree-picker-input>

    <semantic-form-tree-picker-input for="role" nested-form-template='{>
forms:skos:Concept
scheme="https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnect
ing_roles" nested=true editable=true}}{> {{{/raw}}}}' tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_ro
les>', "schemePattern": "?item <http://www.w3.org/2004/02/skos/core#inScheme>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_rol
es>"}'></semantic-form-tree-picker-input>

    <semantic-form-hidden-input for="classtype"
default-value='http://www.cidoc-crm.org/cidoc-crm/PC11_had_participant'>
</semantic-form-hidden-input>
</semantic-form-composite-input>

    <semantic-form-composite-input for="PC11_Participant_Organisation" label="Organisation
Participated" new-subject-template="/PC11_had_participant/{{{{raw}}}}{{{UUID}}}{{{{/raw}}}}}"
fields='[[
                                fieldDefinitions

classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

range="http://www.researchspace.org/reconnecting/object/person/PC02_has_range"

role="http://www.researchspace.org/reconnecting/object/Role/P2_has_type"

]]'>

    <semantic-form-tree-picker-input for="range" label="organisation"
nested-form-template='{> forms:organisation nested=true editable=true}}'
tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/organisations>"
, "schemePattern": "?item <http://www.cidoc-crm.org/cidoc-crm/P71i_is_listed_in>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/organisations>"}'
'></semantic-form-tree-picker-input>

    <semantic-form-tree-picker-input for="role" nested-form-template='{>
forms:skos:Concept
scheme="https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnect
ing_roles" nested=true editable=true}}{> {{{/raw}}}}' tree-patterns='{ "scheme":
"<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_ro
les>', "schemePattern": "?item <http://www.w3.org/2004/02/skos/core#inScheme>
<https://reconnecting-australian-collections.researchspace.org/resource/vocab/reconnecting_rol
es>"}'></semantic-form-tree-picker-input>

    <semantic-form-hidden-input for="classtype"
default-value='http://www.cidoc-crm.org/cidoc-crm/PC11_had_participant'>
</semantic-form-hidden-input>
</semantic-form-composite-input>

    <semantic-form-composite-input for="P4_has_time-span"
new-subject-template="/E52_Time-Span/{{{{raw}}}}{{{UUID}}}{{{{/raw}}}}}"

```

```
fieldDefinitions
classtype="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"

P82a_begin_of_the_begin="http://www.researchspace.org/circulating_artefacts/event/P82a_begin_o
f_the_begin"

P82b_end_of_the_end="http://www.researchspace.org/circulating_artefacts/event/P82b_end_of_the
end"
]]>
<semantic-form-hidden-input form="classtype"
default-values='["http://www.cidoc-crm.org/cidoc-crm/E52_Time-Span"]'>
</semantic-form-hidden-input>
<semantic-form-datetime-input form="P82a_begin_of_the_begin" mode="date">
placeholder="YYYY-MM-DD"> </semantic-form-datetime-input>
<semantic-form-datetime-input form="P82b_end_of_the_end" made="date">
placeholder="YYYY-MM-DD"> </semantic-form-datetime-input>
</semantic-form-composite-input>

<semantic-form-errors></semantic-form-errors>

</div>
<div class="entity-editor__content-btn-group">
<button name="reset"
class="btn btn-default">Reset</button>
<button name="delete" class="btn btn-default">delete</button>
<button name="submit" class="btn
btn-default">Save</button>

</div>

</semantic-form>
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