ORCID Integration

Since DSpace 7.3 a bidirectional ORCID integration is available for DSpace. This feature allows for authentication via ORCID, as well as synchronizing data between ORCID and DSpace, via the usage of Researcher Profiles.

Acknowledgments

The ORCID integration was originally developed by 4Science in DSpace-CRIS, it is the result of years of collaboration with several institutions and the ORCID team that has helped to correct, improve and broaden the scope of the integration. We want to thank the University of Hong Kong that was the first institution to fund development activities on this regards back in 2015 and the TUHH Hamburg University of Technology that have funded the initial porting of the ORCID integration to the new Angular/REST architecture introduced in DSpace 7. Last but not least, funds have been received by the DSpace community to port this feature from DSpace-CRIS to DSpace.

Overview

DSpace provides a bidirectional integration with ORCID based on the ORCID API v3.0. Both the Public ORCID API than the Membership API are supported.

The table below summarize the supported features according to the type of ORCID API configured

<table>
<thead>
<tr>
<th>Feature</th>
<th>No credentials</th>
<th>Public API</th>
<th>Member API</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authentication</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Connect local profile to ORCID  (authenticated ID)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ORCID Registry Lookup - import Person records</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ORCID Registry Lookup - as authority</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Import publication from ORCID</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Push biographic data to ORCID</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Push publications to ORCID (works)</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Push projects to ORCID (fundings)</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

* No credentials: please note that ORCID strongly recommend to apply at least for public free API Key as this will help to trouble-shooting integration problem and get support from them. There is also a chance to get better performance/priority over "unknown" client

User features

Login via ORCID

Once enabled an option to login via ORCID is provided to the user among the other authentication method configured in the system. The ORCID authentication doesn't allow the user to reset his password from DSpace.
Connect/Disconnect the local profile to ORCID

The researcher can connect (or disconnect) their DSpace local Researcher Profile with ORCID from the Person item detail page.

Once a profile has been connected they can manage their synchronization preferences deciding what need to be pushed to ORCID, including:

- biographic data
- Publication (entities) linked with their Researcher Profile. (Publication entities are synced to Works in ORCID)
- Project (entities) linked with their Researcher Profile. (Project entities are synced to Fundings in ORCID)

NOTE: The ORCID synchronization feature is disabled by default, even when ORCID Authentication is enabled. See Configuration section below for how to enable it.
The synchronization can happen automatically over the night or manually. The list of information that need to be pushed or updated from DSpace to ORCID is presented in a queue and can be manually discarded or immediately pushed by the researcher.

**Import publications from ORCID**

It is possible to import publication from ORCID using the Import from external sources button in the home page. Once you select the Publication entity type you will be able to find ORCID as a Source and you can get the list of publications (ORCID works) that appear in an ORCID profile searching for its ORCID ID.
Configuration

Enable the integration

All the ORCID features require a minimal common set of properties to configure in the `local.cfg`

```ini
# These URLs are for testing against ORCID's Sandbox API
# These are only useful for testing, and you must first request a Sandbox API Key from ORCID
orcid.domain-url= https://sandbox.orcid.org
orcid.api-url = https://api.sandbox.orcid.org/v3.0
orcid.public-url = https://pub.sandbox.orcid.org/v3.0
# Keep in mind, these API keys MUST be for the Sandbox API if you use "sandbox.orcid.org" URLs above!
orcid.application-client-id = <YOUR-SANDBOX-ORCID-CLIENT-ID>
orcid.application-client-secret = <YOUR-SANDBOX-ORCID-CLIENT-SECRET>

# Once you are ready to switch to Production, you need to update these settings to use ORCID's production API
# See https://github.com/ORCID/ORCID-Source/tree/master/orcid-api-web#endpoints
# orcid.domain-url= https://orcid.org
# orcid.api-url = https://api.orcid.org/v3.0
# orcid.public-url = https://pub.orcid.org/v3.0
# DON'T FORGET TO UPDATE YOUR API KEY! It must be a valid Public or Member API Key
# orcid.application-client-id = <YOUR-PRODUCTION-ORCID-CLIENT-ID>
# orcid.application-client-secret = <YOUR-PRODUCTION-ORCID-CLIENT-SECRET>
```

To enable the main integration (i.e. connect local profile with ORCID and push data to the ORCID registry) you need to be an ORCID Member, get a Member API Key and proper enable and configure the feature in DSpace. To test ORCID integration, it's possible to use the ORCID Sandbox (without being an ORCID member). However, to do so, you must request a Sandbox Member API Key.

In the ORCID API Credentials request form you will be asked to enter one or more redirect URLs for your application (DSpace), you will need to enter here the root URL of your REST and Angular interfaces that could eventually be different, otherwise it will be sufficient to put the URL of your angular UI. For example, for the DSpace 7 official demo these are

- Angular: https://demo7.dspace.org (please note the absence of a /home or any subrouting)
- REST: https://api7.dspace.org (please note the absence of a /server or any subrouting)

Once ORCID has reviewed and approved your request, you will get from them the Client ID and Client Secret that need to be set in the `local.cfg` among other properties (see above configuration examples)

Please note that by default DSpace will request permissions to READ and WRITE all the information from the ORCID profile as this will enable support for all the features. You can eventually fine-tuning that overriding the following properties. Please note that if you are going to configure Public API Credential you MUST update this configuration keeping only the `/authenticate` scope as all the other scopes require Member API.
To enable the **ORCID Authentication** you need to uncomment the following line in the `config/modules/authentication.cfg` file or adding it to your `local.cfg`:

```python
plugin.sequence.org.dspace.authenticate.AuthenticationMethod = org.dspace.authenticate.OrcidAuthentication
```

Please note that you are NOT required to enable the ORCID Authentication to use the other ORCID features, including the synchronisation ones. It is also possible to use just the ORCID Authentication without enabling all the other features.

When an user logged-in via ORCID the system will attempt to reuse an existing account looking up by email, if none is found a new account is created in DSpace. It is even possible to disable the creation of new accounts settings the following property:

```python
authentication-orcid.can-self-register = false
```

To enable **ORCID Synchronization**, you need to uncomment the following or add it to your `local.cfg`:

```python
# the properties below are required only for the sync / linking part (not for authentication or import)
orcid.synchronization-enabled = true
#
you need to enable the orcidqueue consumer to keep track of what need to be sync between DSpace and ORCID
event.dispatcher.default.consumers = versioning, discovery, eperson, orcidqueue
```

The push of DSpace data (Person, Publication, Project) to ORCID is based on mappings defined in the `config/modules/orcid.cfg` file, more details below in the dedicated paragraphs.

The ORCID Synchronization features depend on other features that must be enabled: **DSpace User Profile, Configurable Entities** at least Person, Publication, Project & OrgUnit.

The synchronization features are classified as **experimental** at the time of 7.3 and it **MUST** be enabled manually. Due to the strict validation rules applied on the ORCID side and the absence of friendly edit UI for the archived items in DSpace (see [issues#2876](https://issues.dspace.org/issue/2876)), it is hard at this time to achieve an optimal UX.

### Configure the push of information from DSpace to ORCID

Please note that many fields on the ORCID side are subject to validation, i.e. only values from controlled-list can be used and some fields are mandatory. The table below summarize the validation that are defined at the time of DSpace 7.3, ORCID update such rules periodically usually modifying (enlarging) the controlled-list, change to the mandatory fields can also happen.

<table>
<thead>
<tr>
<th>ORCID Entity</th>
<th>Corresponding DSpace Entity</th>
<th>Mandatory fields</th>
<th>Controlled fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person</td>
<td>Person</td>
<td></td>
<td>Country (iso-3166 2 code letter)</td>
</tr>
<tr>
<td>Work</td>
<td>Publication</td>
<td>Title, Type, Publication Date (&gt;= 1900), External Identifier (at least one)</td>
<td>Identifier.Type (<a href="https://pub.orcid.org/v3.0/identifiers">https://pub.orcid.org/v3.0/identifiers</a>), Type (<a href="https://info.orcid.org/documentation/integration-and-api-faq#easy-faq-2682">https://info.orcid.org/documentation/integration-and-api-faq#easy-faq-2682</a>)</td>
</tr>
</tbody>
</table>
To provide more meaningful message to the user DSpace implements a local validation before to try to push the record to ORCID. This validation verify the rules above so that a specific message is displayed to the user. If for any reason another errors is returned by ORCID a generic message is show to the user and the exact technical message received by ORCID is logged in the dspace.log file and stored in the orcidhistory table.

The local validation can be eventually turned-off, this is mainly intended as a development/debug option and should be not enabled in production

```
orcid.validation.work.enabled = true
orcid.validation.funding.enabled = true
```

### Mapping of the DSpace Person Items to ORCID Works

Metadata in a DSpace "Person" item, once that the item has been linked to ORCID by the researcher owning the ORCID profile, can be pushed to ORCID to fill specific Profile Section of the ORCID Person using the org.dspace.orcid.service.OrcidProfileSectionFactoryService configured via this mapping bean
<!-- Configuration of ORCID profile sections factory. 
Each entry of sectionFactories must be an implementation of OrcidProfileSectionFactory.-->
<bean class="org.dspace.orcid.service.impl.OrcidProfileSectionFactoryServiceImpl">
  <constructor-arg name="sectionFactories">
    <list>
      <bean class="org.dspace.orcid.model.factory.impl.OrcidSimpleValueObjectFactory">
        <constructor-arg name="sectionType" value="OTHER_NAMES" />
        <constructor-arg name="preference" value="BIOGRAPHICAL" />
        <property name="metadataFields" value="${orcid.mapping.other-names}" />
      </bean>
      <bean class="org.dspace.orcid.model.factory.impl.OrcidSimpleValueObjectFactory">
        <constructor-arg name="sectionType" value="KEYWORDS" />
        <constructor-arg name="preference" value="BIOGRAPHICAL" />
        <property name="metadataFields" value="${orcid.mapping.keywords}" />
      </bean>
      <bean class="org.dspace.orcid.model.factory.impl.OrcidSimpleValueObjectFactory">
        <constructor-arg name="sectionType" value="COUNTRY" />
        <constructor-arg name="preference" value="BIOGRAPHICAL" />
        <property name="metadataFields" value="${orcid.mapping.country}" />
      </bean>
      <bean class="org.dspace.orcid.model.factory.impl.OrcidPersonExternalIdentifierFactory">
        <constructor-arg name="sectionType" value="EXTERNAL_IDS" />
        <constructor-arg name="preference" value="IDENTIFIERS" />
        <property name="externalIds" value="${orcid.mapping.person-external-ids}" />
      </bean>
      <bean class="org.dspace.orcid.model.factory.impl.OrcidSimpleValueObjectFactory">
        <constructor-arg name="sectionType" value="RESEARCHER_URLS" />
        <constructor-arg name="preference" value="IDENTIFIERS" />
        <property name="metadataFields" value="${orcid.mapping.researcher-urls}" />
      </bean>
    </list>
  </constructor-arg>
</bean>

the above configuration link each piece of information that can be synchronized from DSpace to ORCID to a preference that the user can manage on the DSpace side (i.e. sync of the keywords is linked to the BIOGRAPHICAL preference) and define which DSpace metadata will be used to fill the ORCID field. The bean reads the metadata mapping from the config/modules/orcid.cfg

### Other names mapping ###
orcid.mapping.other-names = person.name.variant
orcid.mapping.other-names = person.name.translated

### Keywords mapping ###
orcid.mapping.keywords = dc.subject

### Country mapping ###
orcid.mapping.country = person.country
orcid.mapping.country.converter =

### Person External ids mapping ###
#orcid.mapping.person-external-ids syntax is <metadatafield>::<type>
orcid.mapping.person-external-ids = person.identifier.scopus-author-id::SCOPUS
orcid.mapping.person-external-ids = person.identifier.rid::RID

### Researcher urls mapping ###
orcid.mapping.researcher-urls = dc.identifier.uri

Mapping of DSpace Publication items to ORCID Works
A DSpace "Publication" item is pushed to ORCID as a "Work" using the org.dspace.orcid.model.factory.impl.OrcidWorkFactory configured via this mapping bean

```xml
<bean id="orcidWorkFactoryFieldMapping" class="org.dspace.app.orcid.model.OrcidWorkFieldMapping">
    <property name="contributorFields" value="${orcid.mapping.work.contributors}" />
    <property name="externalIdentifierFields" value="${orcid.mapping.work.external-ids}" />
    <property name="publicationDateField" value="${orcid.mapping.work.publication-date}" />
    <property name="titleField" value="${orcid.mapping.work.title}" />
    <property name="journalTitleField" value="${orcid.mapping.work.journal-title}" />
    <property name="shortDescriptionField" value="${orcid.mapping.work.short-description}" />
    <property name="subTitleField" value="${orcid.mapping.work.sub-title}" />
    <property name="languageField" value="${orcid.mapping.work.language}" />
    <property name="languageConverter" ref="${orcid.mapping.work.language.converter}" />
    <property name="typeField" value="${orcid.mapping.work.type}" />
    <property name="typeConverter" ref="${orcid.mapping.work.type.converter}" />
    <property name="citationType" value="${orcid.mapping.work.citation.type}" />
</bean>
```

that respectively read the mapping from the config/modules/orcid.cfg file

```text
### Work (Publication) mapping ###
orcid.mapping.work.title = dc.title
orcid.mapping.work.sub-title =
orcid.mapping.work.short-description = dc.description.abstract
orcid.mapping.work.publication-date = dc.date.issued
orcid.mapping.work.language = dc.language.iso
orcid.mapping.work.language.converter = mapConverterDSpaceToOrcidLanguageCode
orcid.mapping.work.journal-title = dc.relation.ispartof
orcid.mapping.work.type = dc.type
orcid.mapping.work.type.converter = mapConverterDSpaceToOrcidPublicationType

##orcid.mapping.work.contributors syntax is <metadatafield>::<role>
orcid.mapping.work.contributors = dc.contributor.author::author
orcid.mapping.work.contributors = dc.contributor.editor::editor

##orcid.mapping.work.external-ids syntax is <metadatafield>::<type> or $simple-handle::<type>
The full list of available external identifiers is available here https://pub.orcid.org/v3.0/identifiers
orcid.mapping.work.external-ids = dc.identifier.doi::doi
orcid.mapping.work.external-ids = dc.identifier.scopus::eid
orcid.mapping.work.external-ids = dc.identifier.pmid::pmid
orcid.mapping.work.external-ids = $simple-handle::handle
orcid.mapping.work.external-ids = dc.identifier.isi::wosuid
orcid.mapping.work.external-ids = dc.identifier.issn::issn
```

in the above configuration the "simple" properties are mapped matching the ORCID field name on the left (i.e. short-description) with the DSpace metadata that holds such information (i.e dc.description.abstract). For the ORCID Type field a special "converter" is configured so that the value of the DSpace metadata (i.e. dc.type) is mapped to the controlled-list of types accepted by ORCID (https://info.orcid.org/faq/what-work-types-does-orcid-support/). The value of the orcid.mapping.work.type.converter matches the name of a bean defined in the config/spring/api/orcid-services.xml

```xml
<bean name="mapConverterDSpaceToOrcidPublicationType" class="org.dspace.util.SimpleMapConverter" init-method="init">
    <property name="converterNameFile" value="orcid/mapConverter-dspace-to-orcid-publication-type.properties" />
    <property name="configurationService" ref="org.dspace.services.ConfigurationService" />
    <property name="defaultValue" value="other"/>
</bean>
```

Finally a special treatment is needed for the external ids as this is a complex field on the ORCID side composed by two value, the identifier type (from a controlled-list) and the identifier value. In this case the configuration allow to map a DSpace metadata (i.e. dc.identifier.doi) to a specific identifier type (i.e. the part after :: , doi).

**Mapping of DSpace Project items to ORCID Funding**

A DSpace "Project" item is pushed to ORCID as a "Funding" using the org.dspace.orcid.model.factory.impl.OrcidFundingFactory configured via this mapping bean

```xml
<bean id="orcidFundingFactoryFieldMapping" class="org.dspace.app.orcid.model.OrcidFundingFieldMapping">
    <property name="fundingTypeField" value="${orcid.mapping.funding.type}" />
    <property name="fundingTypeConverter" ref="${orcid.mapping.funding.type.converter}" />
    <property name="externalIdentifierFields" value="${orcid.mapping.funding.external-ids}" />
    <property name="descriptionField" value="${orcid.mapping.funding.description}" />
    <property name="fundingStatusField" value="${orcid.mapping.funding.status}" />
    <property name="fundingStatusConverter" ref="${orcid.mapping.funding.status.converter}" />
</bean>
```

that分别 read the mapping from the config/modules/orcid.cfg file

```text
### Funding (Project) mapping ###
orcid.mapping.funding.type = dc.title
orcid.mapping.funding.description = dc.description.abstract
orcid.mapping.funding.status = dc.date.issued
orcid.mapping.funding.language = dc.language.iso
orcid.mapping.funding.language.converter = mapConverterDSpaceToOrcidLanguageCode
orcid.mapping.funding.external-ids = dc.identifier.doi::doi
orcid.mapping.funding.external-ids = dc.identifier.scopus::eid
orcid.mapping.funding.external-ids = dc.identifier.pmid::pmid
orcid.mapping.funding.external-ids = $simple-handle::handle
orcid.mapping.funding.external-ids = dc.identifier.isi::wosuid
orcid.mapping.funding.external-ids = dc.identifier.issn::issn
```

in the above configuration the "simple" properties are mapped matching the ORCID field name on the left (i.e. short-description) with the DSpace metadata that holds such information (i.e dc.description.abstract). For the ORCID Type field a special "converter" is configured so that the value of the DSpace metadata (i.e. dc.type) is mapped to the controlled-list of types accepted by ORCID (https://info.orcid.org/faq/what-work-types-does-orcid-support/). The value of the orcid.mapping.funding.type.converter matches the name of a bean defined in the config/spring/api/orcid-services.xml

```xml
<bean name="mapConverterDSpaceToOrcidFundingType" class="org.dspace.util.SimpleMapConverter" init-method="init">
    <property name="converterNameFile" value="orcid/mapConverter-dspace-to-orcid-funding-type.properties" />
    <property name="configurationService" ref="org.dspace.services.ConfigurationService" />
    <property name="defaultValue" value="other"/>
</bean>
```
that respectively read the mapping from the config/modules/orcid.cfg file

```java
### Funding mapping ###
orcid.mapping.funding.title = dc.title
orcid.mapping.funding.type = dc.type
orcid.mapping.funding.type.converter = mapConverterDSpaceToOrcidFundingType
#orcid.mapping.funding.external-ids syntax is <metadatafield>::<type>
orcid.mapping.funding.external-ids = dc.identifier::grant_number
orcid.mapping.funding.external-ids = dc.identifier::other::other-id
orcid.mapping.funding.description = dc.description
orcid.mapping.funding.start-date = project.startDate
orcid.mapping.funding.end-date = project.endDate
#orcid.mapping.fundingcontributors syntax is <metadatafield>::<type>
orcid.mapping.funding.contributors = project.investigator::lead
orcid.mapping.funding.organization-relationship-type = isOrgUnitOfProject
orcid.mapping.funding.amount = project.amount
orcid.mapping.funding.amount.currency = project.amount.currency
orcid.mapping.funding.amount.currency.converter = mapConverterDSpaceToOrcidAmountCurrency
```

in the above configuration the "simple" properties are mapped matching the ORCID field name on the left (i.e. description) with the DSpace metadata that holds such information (i.e dc.description). For the ORCID Type field a special "converter" is configured so that the value of the DSpace metadata (i.e. dc.type) is mapped to the controlled-list of types accepted by ORCID ([https://support.orcid.org/hc/en-us/articles/360006894674-Metadata-in-the-Funding-section](https://support.orcid.org/hc/en-us/articles/360006894674-Metadata-in-the-Funding-section)). The value of the orcid.mapping.funding.type.converter matches the name of a bean defined in the config/spring/api/orcid-services.xml the same apply for the currency orcid.mapping.funding.amount.currency.converter = mapConverterDSpaceToOrcidAmountCurrency

```java
<!-- bean definitions -->
<bean name="mapConverterDSpaceToOrcidFundingType" class="org.dspace.util.SimpleMapConverter" init-method="init">
  <property name="converterNameFile" value="orcid/mapConverter-dspace-to-orcid-funding-type.properties" />  
  <property name="configurationService" ref="org.dspace.services.ConfigurationService" />  
  <property name="defaultValue" value=""/>
</bean>

<bean name="mapConverterDSpaceToOrcidAmountCurrency" class="org.dspace.util.SimpleMapConverter" init-method="init">
  <property name="converterNameFile" value="orcid/mapConverter-dspace-to-orcid-amount-currency.properties" />  
  <property name="configurationService" ref="org.dspace.services.ConfigurationService" />  
  <property name="defaultValue" value=""/>
</bean>
```

Finally a special treatment is needed for Funder that is a mandatory field on the ORCID side, in this case the mapping allow to define which relation is used to link the Project with the Funder (OrgUnit)

```java
orcid.mapping.funding.organization-relationship-type = isOrgUnitOfProject
```

Configure the import features
The Import features from ORCID have been implemented using the Live Import Framework.

The following bean is used to configure the import of person records from ORCID. It is activated as an external source in config/spring/api/external-services.xml:

```xml
<bean class="org.dspace.external.provider.impl.OrcidV3AuthorDataProvider" init-method="init">
  <property name="sourceIdentifier" value="orcid"/>
  <property name="orcidUrl" value="${orcid.domain-url}"/>
  <property name="clientId" value="${orcid.application-client-id}"/>
  <property name="clientSecret" value="${orcid.application-client-secret}"/>
  <property name="OAUTHUrl" value="${orcid.token-url}"/>
  <property name="orcidRestConnector" ref="orcidRestConnector"/>
  <property name="supportedEntityTypes">
    <list>
      <value>Person</value>
    </list>
  </property>
</bean>
```

The mapping between ORCID Person and the DSpace Person Item is the following, currently hard-coded:

<table>
<thead>
<tr>
<th>ORCID</th>
<th>DSpace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name/FamilyName</td>
<td>person.firstName</td>
</tr>
<tr>
<td>Name/GivenName</td>
<td>person.givenName</td>
</tr>
<tr>
<td>Name/Path</td>
<td>person.identifier.orcid</td>
</tr>
<tr>
<td>ORCID Profile URL</td>
<td>dc.identifier.uri</td>
</tr>
</tbody>
</table>

The following bean is instead used to configure the import of publication records from ORCID (Work):

```xml
<bean id="orcidPublicationDataProvider" class="org.dspace.external.provider.impl.OrcidPublicationDataProvider">
  <property name="sourceIdentifier" value="orcidWorks"/>
  <property name="fieldMapping" ref="orcidPublicationDataProviderFieldMapping"/>
  <property name="supportedEntityTypes">
    <list>
      <value>Publication</value>
    </list>
  </property>
</bean>
```

The mapping of the ORCID Work metadata to the DSpace metadata is performed by the following beans in config/spring/api/orcid-services.xml:
<bean id="orcidPublicationDataProviderFieldMapping" class="org.dspace.orcid.model.OrcidWorkFieldMapping">
    <property name="contributorFields" value="${orcid.external-data.mapping.publication.contributors}" />
    <property name="externalIdentifierFields" value="${orcid.external-data.mapping.publication.external-ids}" />
    <property name="publicationDateField" value="${orcid.external-data.mapping.publication.issued-date}" />
    <property name="titleField" value="${orcid.external-data.mapping.publication.title}" />
    <property name="journalTitleField" value="${orcid.external-data.mapping.publication.is-part-of}" />
    <property name="shortDescriptionField" value="${orcid.external-data.mapping.publication.description}" />
    <property name="languageField" value="${orcid.external-data.mapping.publication.language}" />
    <property name="languageConverter" ref="${orcid.external-data.mapping.publication.language.converter}" />
    <property name="typeField" value="${orcid.external-data.mapping.publication.type}" />
    <property name="typeConverter" ref="${orcid.external-data.mapping.publication.type.converter}" />
</bean>

that respectively read the mapping from the config/modules/orcid.cfg file

Please note that such mapping is separated from the mapping used to push information from DSpace to ORCID but usually, as provided in the default configuration, the mapping should be the same

### Work (Publication) external-data.mapping ###
orcid.external-data.mapping.publication.title = dc.title

orcid.external-data.mapping.publication.description = dc.description.abstract
orcid.external-data.mapping.publication.issued-date = dc.date.issued
orcid.external-data.mapping.publication.language = dc.language.iso
orcid.external-data.mapping.publication.language.converter = mapConverterOrcidToDSpaceLanguageCode
orcid.external-data.mapping.publication.is-part-of = dc.relation.ispartof
orcid.external-data.mapping.publication.type = dc.type
orcid.external-data.mapping.publication.type.converter = mapConverterOrcidToDSpacePublicationType

orcid.external-data.mapping.publication.contributors syntax is <metadatafield>::<role>
orcid.external-data.mapping.publication.contributors = dc.contributor.author::author
orcid.external-data.mapping.publication.contributors = dc.contributor.editor::editor

orcid.external-data.mapping.publication.external-ids syntax is <metadatafield>::<type> or $simple-handle::<type>

#The full list of available external identifiers is available here https://pub.orcid.org/v3.0/identifiers
orcid.external-data.mapping.publication.external-ids = dc.identifier.doi::doi
orcid.external-data.mapping.publication.external-ids = dc.identifier.scopus::scopus
orcid.external-data.mapping.publication.external-ids = dc.identifier.pmid::pmid
orcid.external-data.mapping.publication.external-ids = dc.identifier.isi::wosuid
orcid.external-data.mapping.publication.external-ids = dc.identifier.issn::issn

Configure the author lookup in submission

Please note that there are two different possibilities:

- via an ORCID lookup authority available for DSpace repository that are not using Configurable Entities
- via a relation among the research output item (Publication, etc.) and a Person Item bind to the ORCID Person External Source defined in the previous paragraph

Troubleshooting & common issues

The troubleshooting guide from ORCID can help as well https://info.orcid.org/documentation/integration-guide/troubleshooting/

I'm having trouble testing the ORCID integration, what should I check?
Please double check the documentation and the other FAQ to be sure to have followed all the instructions to enable the integration correctly. If you still have trouble reach the DSpace tech community via email or slack trying to provide as much details as possible. If the issue is related to the synchronization of DSpace local data with ORCID it would be useful to share information about the content of your orcidhistory table and any relevant message that you could have in the dspace.log file.

I cannot find the ORCID features described in this page in my installation

The ORCID features must be enabled by changing some configuration file, please refer to the Enable the integration section above

I'm unable to authenticate via ORCID

If you have enabled correctly the ORCID authentication feature and you are able to start the OAuth flow with ORCID but get a failure when you are redirected back to DSpace it could be due to privacy settings on your ORCID record. The DSpace ORCID authentication requires that you release an email address to match your ORCID account with a DSpace account or to create a new one at your first login. Make your your ORCID account email address public or visible to trusted party. This is often not the case for freshly created account on ORCID.

If you are encountering this issue, you'll see a message like this in your "dspace.log" file on the backend:

```
2022-08-04 11:43:42,124 ERROR unknown unknown org.dspace.authenticate.OrcidAuthenticationBean @ An error occurs registering a new EPerson from ORCID
java.lang.IllegalStateException: The email is configured private on orcid
```

I'm having trouble to create test accounts on ORCID to experiment with the features

Please refer to the ORCID trouble-shooting guide https://info.orcid.org/documentation/integration-guide/troubleshooting/ a frequent mistake working with the ORCID sandbox environment is to forget that only email address @mailinator.com are allowed for account created on the sandbox. Remember to validate your email address once the account has been created visiting the online inbox at mailinator.com

I have configured my Public ORCID API credentials in DSpace but I get an error attempting to login via ORCID

When you use public ORCID API credentials you can only use a subset of the integration features (check ) moreover you need to limit the scopes (permissions) requested to the user via the ORCID authentication to the /authenticate scope. Please check the Enable the integration section above.

I don't find my publications looking up for my ORCID iD

Please check "config/modules/orcid.cfg" (or your local.cfg) to see if the system has been properly configured to use the production ORCID API, there is a chance that your installation is still configured to use the ORCID Sandbox that is appropriate for the testing and development phase of the integration. The ORCID sandbox doesn't contain the same data than the publication environment.

I cannot push all my publications, only few or none of them are listed in the queue

Please double check that the orcidqueueConsumer has been enabled (in dspace.cfg or local.cfg) and that the orcid settings of your profile has the "All publications" checkbox flagged. ORCID features require the use of the new Configurable Entities. Only Publication item are synchronized with ORCID, simple "untyped" Items will not be synchronized. Please consider to convert your legacy collection to "Publication" collection and set a dspace.entity.type = Publication metadata on your legacy items

Push of publications to ORCID fails

This is usually due to validation errors. ORCID could complain about missing mandatory fields or invalid values for field that are linked to controlled-list. Please check the table in the Configure the push of information from DSpace to ORCID and the Mapping of DSpace Publication items to ORCID Works paragraph to solve this. Your dspace.log file may also provide useful error messages.

Push of projects to ORCID fails

This is usually due to validation errors. Make sure that all required metadata fields exist on the Project Entity and any linked OrgUnit Entities. ORCID could complain about missing mandatory fields or invalid values for field that are linked to controlled-list. Please check the table in the Configure the push of information from DSpace to ORCID and the Mapping of DSpace Project items to ORCID Funding paragraph to solve this. Your dspace.log file may also provide useful error messages.