EOSC-hub

Plan to create a Training Catalogue

(EOSC-hub WP11 / T11.1)

Date	Version	Author(s)
24-01-2018	Concept	René van Horik (DANS)
26-01-2018	Second version concept	Input from several people
12-01-2018	Updated version	Mainly input from D7.2 EOSCpilot
21-03-2018	Short description for TRUST-IT	
28-03-2018	Detailed description for TRUST-IT implementation	Riccardo Bruno (INFN)

Training Catalogue

T11.1 of the EOSC-hub project will coordinate the development of a training catalogue that will be based on materials, deployable training environments and datasets produced by tasks T11.2, T11.3, T11.4 and T11.5.

The EOSC-hub Training Catalogue (ETC) is an information system that contains information on:

- Training events,
- Training materials,
- Deployable training environments, and
- Datasets that are relevant for the EOSC.

The training catalogue consists of <u>four</u> main parts:
1. A catalogue of training events (where the knowledge transfer occurs).
2. A catalogue of training materials to transfer knowledge and skills.
   a. Documentations and user manuals,
   b. User self-contained presentations,
   c. Multimedia contents,
   d. Deployable training environments (containers, virtual appliances). These deployable training environment can be accessible through the EGI Application database: https://appdb.egi.eu/,
   e. etc.
3. A catalogue of training related datasets (used by CCs and TSs involved in the project).
   a. Each community deposits scientific datasets in their local repositories
   b. B2FIND will harvest the reference to these datasets and make them available
   c. Datasets used by training events will be referenced in the ETC
4. A catalogue of training environments (used by CCs and TSs involved in the procjed).
   a. Each community uses its own receipt to allocate training environments: GitHub, Wiki, Ansible, Docker hub, etc.
   b. The reference to the training environment will be stored in the ETC.
5. Miscellaneous (this section will contain different heterogeneous information that may be useful to trainers and researchers)
   a. A page to provide an overview about the current status of the training infrastructure that will be adopted by WP11 to support training events
   b. A reference to the PROC07 - Allocating financial support for trainers to attend f2f events, that trainers of the WP5 and WP6 can use to support the organization of training on common/federation services for TSs, CCs and for external research communities.
   c. Links to feedback forms that can be used to collect feedback from trainees (documents, Google form and SurveyMonkey).
   d. Links to templates and guidelines to prepare and deliver the training.
   e. Conference systems available to prepare and deliver the training.

      f.   Training resources available for supporting training events.

      g. etc.

The contents of the training catalogue will be produced by other tasks:
- Task 11.2 provides training content on Data Management Planning (in collaboration with OpenAIRE-Advance project
- Task 11.3 provides training content on Federated Service Management Training and Certification (FitSM)
- Task 11.4 provides training content on Common and Federated services
- Task 11.5 provides domain specific training content to target data providers and data scientists (in collaboration with WP7 and WP8)

The properties of each part of the ETC are covered below. If applicable these properties are based on work done by the EOSCpilot and eInfraCentral H2020 projects.

The catalogue will be made available via the homepage of the EOSC-hub project: http://www.eosc-hub.eu/.

Training events

This is a calendar of training events organized by the WP11 work package during the course of the EOSC-hub project. Accessing the training calendar, the researchers can discover the latest training events in preparation, those already running and the events already delivered.

The table below describes the structure of the training events:

Property	Remark
Title of the training event	Main title of the training event as it is published in the agenda or in the home page **Single entry, mandatory** **Viewable by all** **Search key (use of regular expressions)**
URL	Link to the training event home page or agenda. **Single entry, mandatory** **Viewable by all**
Start date of the training event	Start date of the training event **Single entry, mandatory** **Viewable by all** **Search key (foresees time intervals)**

End date of the training event	End date of the training event **Single entry, not mandatory** **Viewable by all**
Description	Short introduction about the training event **Single entry, mandatory** **Viewable by all**
Contact	Key contact responsible of the local organization This include Name, Surname and eventually the email contact or its social link account **Reference, multiple entry, mandatory** **Viewable by all, except email unless logged** **Search key (many OR condition) - <mark>CAN'T EXPOSE THIS FILTER</mark>**
Venue (place of the training event)	When specified describes where the physical event takes place. It also includes a field able to display the training location inside a Google map **Single entry, not mandatory** **Viewable by all**
Target group	To whom is the training event addressed EOSCpilot competence framework group (CFG) - DSA data science/analytics - DM data management - DE data science engineering - DR domain research - Others EOSC-hub TSes - CLARIN - DODAS - ECAS - GEOSS - OPENCoastS - WeNMR - EO Pillar - DARIAH - LifeWatch

	EOSC-hub CCs
	- Elixir - Fusion - Marine - EISCAT_3D - EPOS-ORFEUS - Radio Astronomy Competence Center (RACC) - ICOS - Disaster Mitigation Competence Centre Plus (DMCC+) Other - Other **Taxonomy (fixed), multiple entry, mandatory** **Viewable by all** **Search key (many OR condition)**
Learning goal	A brief and explanatory text expressing the goal of the training event **Single entry, mandatory** **Viewable by all**
Format	e.g. Workshop/webinar/instruction To be confirmed: - F2F Meeting - Workshop - Webinar - Hackaton - Other **Taxonomy (fixed), Single entry, mandatory** **Viewable by all** **Search key (many OR condition)**
Trainers	In case the name of a trainer is available, other trainers that are new in the field, can contact them for advice. This information might not be publicly available. This include Name, Surname and eventually the email contact or its social link account **Reference, multiple entry, not mandatory** **Viewable by all, except email unless logged**

	Search key (many OR condition) <mark>CAN'T EXPOSE THIS FILTER</mark>
Training materials	References to the catalogue' training materials associated to the training event **Multiple entries, not mandatory** **Viewable by all**
External training materials	URL of any external referenced training materials (B2DROP, Zenodo, etc.) **Multiple entries, not mandatory** **Viewable by all**
Training feedback	Link to surveys / feedback forms. For internal purposes. **Single entry, not mandatory** **Viewable only by logged users**
Record owner	This field is automatically handled by the selected CMS solution **Single entry, mandatory** **Viewable only by logged users** **Search key (many OR condition)** <mark>CAN'T EXPOSE THIS FILTER</mark>

The insertion of training events can be made only by portal' registered users having a specific role for this. Inserted records will be immediately published under the responsibility of the user that filled the insertion form.

Training Materials

Deliverable 7.2 of the EOSCpilot project contains the requirements and basic architecture of a dedicated EOSC training service to apply, reuse and share training resources[1]. This report forms an important source for the EOSC-hub training catalogue. The first two tables below are taken from D7.2. The third column in the third table contains a proposal for description fields of the ETC. The forth table provides details about the implementation.

Minimal set of properties for training materials (page 25 D7.2)

Proposed property	Type	Multiplicity	Description

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[1] *D7.2 Interim report and catalogue of EOSC skills training and educational materials*. This deliverable is not published yet on the EOSC-pilot website. (Link to copy in Google drive).

Target professional group	Audience	many	(EOSCpilot competence framework group) - DSA data science/analytics - DM data management - DE data science engineering - DR domain research - Others
Author	Person, Organisation	many	The author of the training material
Data modified	Datetime, Date	one	Date/time of most recent change of training material excluding metadata
Topic	Text, URL	many	A general subject/category covered by the training material
Title	Text	one	The title of the training material

Recommended set of properties for training material (Page 25 D7.2)

Proposed property	Type	Multiplicity	Description
Keywords	Text	many	Keywords describing the training material
License	CreativeWork, URL	one	The license of the training material
PID	Text, URL, PropertyValue	one	Persistent identifier of training material, e.g. DOI
Competence level	Text	one	The competence level: comprehend, apply, analyse, and synthesize
Skills group	Text	many	One of the skills groups specified by the EOSCpilot Competence Framework
Domain	Text	many	A field of science or expertise

The table below contains the following information.
Column 1 contains description fields from the EOSCpilot WP7 Training Resource Catalogue
Column 2 indicates whether this description field is mentioned in D7.2 (see two tables above)
Column 3 contains a suggestion of description fields for training material to be applied in the ETC.

Description fields for training material

Discriminator	Mentioned in D7.2	Fields in the EOSC-hub Training Catalogue
Title	X	X
Description		X
Author	X	X
Domain	X	X
Topic	X	X
Keywords	X	X
Time required		
Target role	X (Target professional group)	
Language		X
Date created		X
Date modified	X	X
Type		X
License	X	X
Version		X
PID	X	X
Competence level	X	
Skills group	X	
URL		X
Reference		
Provider		
Author of this record		X

The table below describes the structure of the training materials:

Property	Remark
Title	Title of the training material **Single entry, mandatory** **Viewable by all** **Search key (use of regular expressions)**
URL	Link to the training material **Single entry, mandatory**

	Viewable by all
Description	Description of the training material **Single entry, mandatory** **Viewable by all**
Author(s)	Who created the training material **Reference, multiple entry, mandatory** **Viewable by all, except email unless logged** **Search key (many OR condition)** <mark>CAN'T EXPOSE THIS FILTER</mark>
Domain	One of the following values: Environmental and Earth Sciences Biological and Medical Energy Material Sciences Physical Sciences Social Sciences and Humanities Mathematics and ICT Generic/Cross-domain More domain entries may be added in the above list. **Taxonomy (fixed), multiple entries, mandatory** **Viewable by all** **Search key (many OR condition)**
Topic	One of the following values: Data discovery & Data reuse Data processing & Data analysis Data management, data curation and data preservation Data access, data deposition and data sharing Federation services More entries may be added in the above list. **Taxonomy (fixed), multiple entries, mandatory** **Viewable by all** **Search key (many OR condition)**
Keywords	A growable set of keywords that can be

	associated to the training material **Taxonomy (growable), mutiple entry, mandatory** **Viewable by all** **Search key (many OR condition)**
Language	**Taxonomy (growable), single entry, not mandatory** **Viewable by all** **Search key (many OR condition)**
Date created	Creation date of the training material **Single entry, mandatory** **Viewable by all** **Search key (foresees time intervals)**
Date modified	Date related to the last change made on the referred training material **Single entry, not mandatory** **Viewable by all**
Type	Kind of training resource: PDF, PPT, Video, … **Taxonomy (growable), multiple entries, mandatory** **Viewable by all** **Search key (many OR condition)**
License	Licence name associated to the training material **Taxonomy (growable), single entry, mandatory** **Viewable by all** **Search key (many OR condition)**
Version	Version of the training material **Single entry, not mandatory** **Viewable by all**
PID	Any persistent identifier related to the training material: OrcID, DOI, B2XXX, … **Single entry, not mandatory** **Viewable by all** **Search key (many OR condition)**
Record owner	This field is automatically handled by the selected CMS solution **Single entry, mandatory** **Viewable only by logged users**

	Search key (many OR condition)

The insertion of training materials can be made only by portal' registered users having a specific role for this. Inserted records will not be immediately published, but assessed by a moderator which assumes the responsibility of the published material. The moderator is a portal user having this special role.

Contacts

Training events and Training materials foresee the following fields referring to contact persons:
● Contact, Training Event
● Trainers, Training Event
● Author(s), Training Material

All these fields are referred to another table made having the following structure:

Property	Remark
Title of the contact	This will be the reference text used by the training event/material insertion form. Title should contain normally just name and surname, but in case of omonimies the title could include the acronym of the contact' institution or any other helpful text that uniquely identifies the contact. **Single entry, mandatory** **Viewable only by logged users**
Name	Name of the contact **Single entry, mandatory** **Viewable by all** **Search key (many OR condition)**
Surname	Surname of the contact **Single entry, mandatory** **Viewable by all** **Search key (many OR condition)**
User title	Professional role of the contact person (i.e. 'Training coordinator', 'Senior Strategy and Policy Officer', ...) **Single entry, not mandatory** **Viewable by all**

Email	Contact' email address **Single entry, mandatory** **Viewable only by logged users** **Search key (many OR condition)**
URL	List of URLs that points to contact' social account links (ORCID, ResearchGate, Facebook, …) **Multiple entry, mandatory (one at least)** **Viewable by all**

Contacts are inserted during the creation of new training events (fields: Contact, Trainers), or during the insertion of new training materials (field: Author(s)) by registered portal users. These contacts can be inserted also before inserting a training event/material. In the case the contact is inserted during the training/event material insertion, the form just stores the contact' Title, while further contact information (fields: Name, Surname, Email, URLs) will be inserted later in a second stage. Since Training events do not pass a moderator' assessment before being published, the user who filled the form must complete the contact information before to publish the event.

Training datasets

Each training event may refer to one or more datasets used by trainers or attendants.

The table below describes the structure of the training datasets:

Property	Remark
Title of the training dataset	Main title of the training dataset **Single entry, mandatory** **Viewable by all** **Search key (use of regular expressions)**
Training event reference	Internal link to the training event **Single entry, mandatory** **Viewable by all**
Type	A list of possible dataset sources: B2FIND Openaccess … **Single entry, mandatory** **Viewable by all**

URL	URL that references the training dataset
	Singe entry, mandatory **Viewable by all**
Record owner	This field is automatically handled by the selected CMS solution **Single entry, mandatory** **Viewable only by logged users** **Search key (many OR condition)**

Training environments

Each training event may require specific environments ...

The table below describes the structure of the training environments:

Property	Remark
Title of the training environment	Main title of the training dataset **Single entry, mandatory** **Viewable by all** **Search key (use of regular expressions)**
Training event reference	Internal link to the training event **Single entry, mandatory** **Viewable by all**
URL	URL that references the training environment. Link to the EGI AppDB Wiki instructions GitHub page etc. **Singe entry, mandatory** **Viewable by all**
Record owner	This field is automatically handled by the selected CMS solution **Single entry, mandatory** **Viewable only by logged users** **Search key (many OR condition)**

Quality of the training catalogue

Several important features have been identified during the ETC design to ensure the quality of the catalogue content during the data insertion and the whole catalogue lifetime. Those features are briefly described below:

- **Accounts and roles**
  Only a restricted number of registered users will have the capabilities to insert/modify/delete training events, materials, contacts, records, datasets and environments. The ETC will use special defined user roles in order better track EOSC-hub training activities. These roles will be:
  - T11.2 Training Manager
  - T11.3 Training Manager
  - T11.4 Training Manager
  - T11.5 Training Manager
  - Generic Training Manager
  - Training Moderator

  More in general all '* Training Managers' will have the rights to insert/modify training events, materials, contacts, datasets and environments.
  The Training Moderator has the rights above, plus the possibility to delete records and the rights to publish inserted Training materials, datasets and environments.
  Users having roles above can also access information that is not publicly available by guest or generic ETC users.
 T11.1 will maintain the list of users allowed to manage the ETC content and will ask to EOSC-hub WP leaders to obtain a list of people to grant one or more of the roles listed above, as soon as the ETC will be ready for production.
- **Moderation**
  The moderation feature separates the data insertion of training materials in two phases. In the first phase the content is inserted by an allowed user. In the second phase a ETC administrator accepts or deny the inserted contents. The rejection does not imply that the inserted record is deleted immediately. The moderator may require to the submitter to modify the record before to accept it in a second stage.
- Reuse flow for training materials
- …

Workflow to monitor the quality and status of a training component
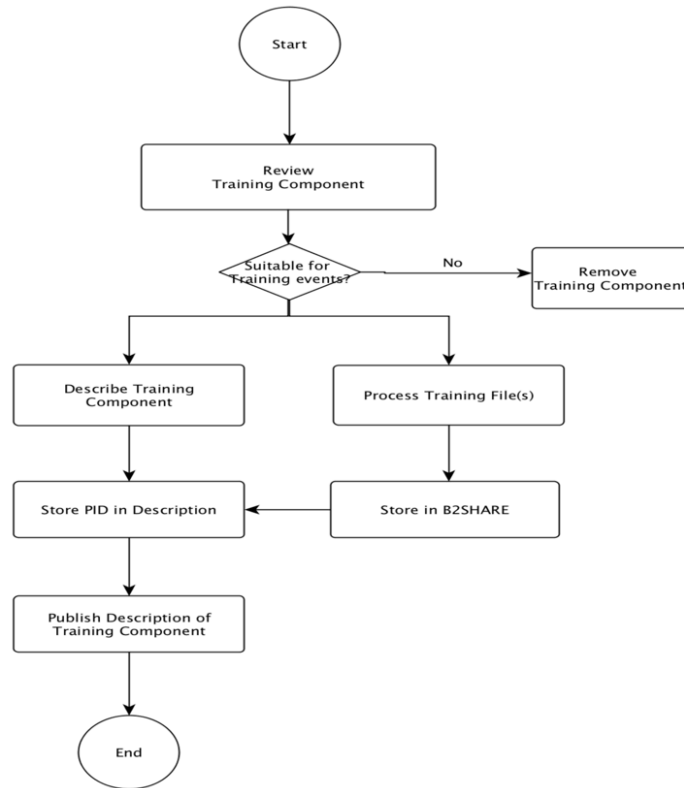
Glossary

- **Training catalogue:** Training service which provides curated metadata of training resources, but not their content.
- **Training portal**: Training service which provides actual training resources in conjunction with their metadata.
- **Training registry**: Training service which provides the metadata of training resources, but not their content, by retrieving the metadata from external providers.
- **Training resources**: Training resources include all entities related to training including training materials, training events and also trainers as well as training venues
- **Training event**: Event where knowledge transfer occurs. Could have different appearances and using different training resources.
- **Learning level**: Competencies a learner can achieve (e.g. beginner / expert)
- **Target group**: Group of people at which a training event is aimed. (e.g. researchers / research communities / research infrastructures / data centres).

- **Training**: Organized activity aimed at imparting information and/or instructions to improve the recipient's performance or to help him or her attain a required level of knowledge or skill.

Other Issues

- Define and adjust target groups for training events in EOSC-HUB. Who are they?
- Creation and management of register of training events (database / calendar / link with project website). Also alignment with other projects (e.g. OpenAIR Advance).
- Creation and management of register of training components. For this a cloud storage service can be used (e.g. B2DROP / B2SHARE where all components get a PID). The B2DROP folder with all training components per EUDAT service can be found at: https://b2drop.eudat.eu/s/xeNmEvWLGQ1F1tH . (An overview of all training components, including their target group, etc. can be found at: https://b2drop.eudat.eu/s/XQ6N1qXtyu1XyPb). Also quality control of the training components is important (based on a workflow to keep them uptodate). For this consultation activities with experts / trainers is required.