EU-FB Online Training Session 3
API Connection

23-05-2024

Agenda

❑ **Goal of today's session**

❑ **Terminology –** EU-FarmBook and terminology

❑ **Requirement** – Why are we building the EU-FarmBook API?

❑ **Technical Overview** – What is going on behind the scenes?!

❑ **How to use the API –** 4 steps to uploading content via the API.

❑ **Online API endpoint interface** – How to test API endpoints via an online interface without code

❑ **Case Studies** – Projects already using the EU-FarmBook API

❑ **Next steps** - What are we planning for the API, and how can you help shape it's future?

❑ **Q&A**

Goal

EU-FarmBook

❑ LARGELY INFORMATIVE, CLEAR SCOPE, FOCUS ON EXISTING NATIONAL PLATFORMS

❑ Introduce the EU-FarmBook public API and it's use cases

❑ Demonstrate what is already available, and our future plans

❑ Give an overview of projects who have already used the API to upload content

❑ Give a demonstration of how to use the main API endpoints for contributing to the EU-FarmBook

❑ Get your feedback and ideas for future developments

Terminology

EU-FarmBook

❑ **Application Programming Interface (API)** – APIs enable two software components to communicate with each other. In the context of the EU-FarmBook, the API enables the EU-FarmBook to receive content from other projects and platforms via a set of different web addresses or "endpoints".

❑ **Knowledge Object (KO)** - A generic term for practice-oriented material and other digital content which contributors upload to the EU-FarmBook. e.g. a PDF, video or podcast.

❑ **Metadata** – Often described as "data about data", a set of pre-defined properties which give context and further information to each Knowledge Object, e.g. information about the Project who created the content (Project Name, Project Acronym, Project DOI), information about the knowledge object (title, description, keywords, authors, topics) and other important information including license and language.

Requirement

Why are we building the EU-FarmBook API?

❑ Scalability
  ❑ Projects and platforms may have many knowledge objects to upload and using the upload form would be time consuming.

❑ Integration
  ❑ Projects want to use the EU-FarmBook platform as their own database, and integrate this into their own platform e.g. ResAlliance.
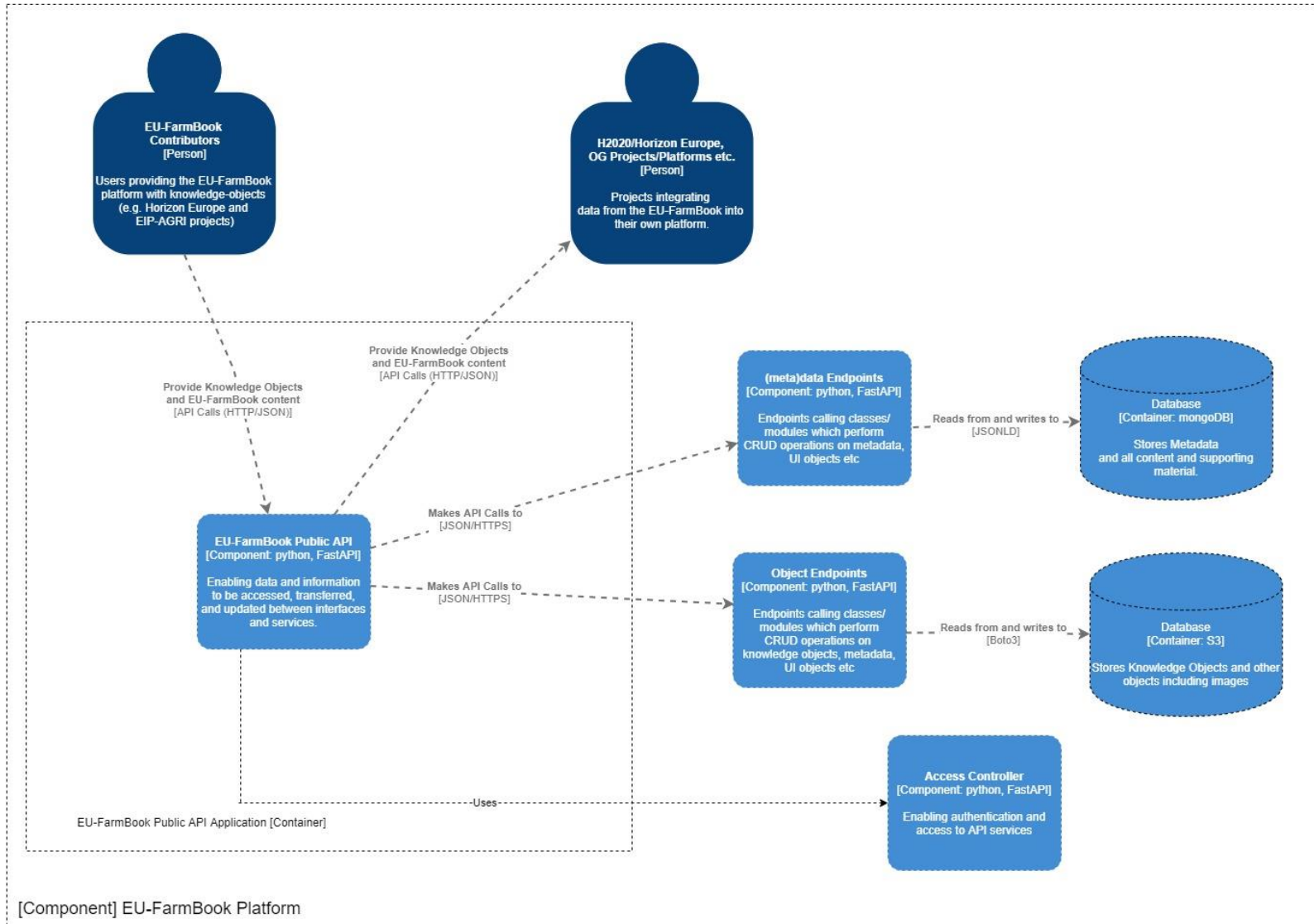
❑ Interoperability
  ❑ Platforms and projects are choosing to collect metadata using the EU-FarmBook metadata standard directly. In doing so, this data can be directly updated via the API without manual intervention required e.g. Grazing4AgroEcology

❑ Enhancing the EU-FarmBook
  ❑ The API enables projects to provide custom metadata (in JSON format) for properties which are outside of the EU-FarmBook metadata standard. This enables the EU-FarmBook to use additional data to enhance our search, chatbot and future features.
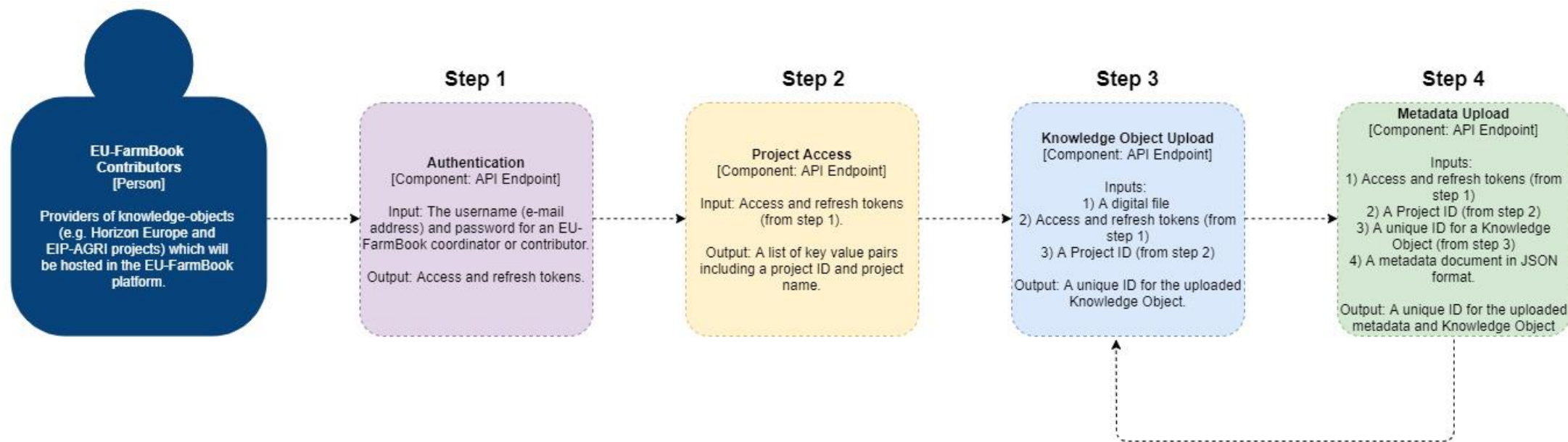
Technical Overview

EU-FarmBook

- ❑ The EU-FarmBook public API is a FastAPI implementation.

- ❑ FastAPI is a modern, fast (high-performance), web framework for building APIs with Python based on standard Python type hints.

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How to use the API
4 simple steps

EU-FarmBook

EU-FarmBook Contributors
[Person]

Providers of knowledge-objects (e.g. Horizon Europe and EIP-AGRI projects) which will be hosted in the EU-FarmBook platform.

Step 1

Authentication
[Component: API Endpoint]

Input: The username (e-mail address) and password for an EU-FarmBook coordinator or contributor.

Output: Access and refresh tokens.

Step 2

Project Access
[Component: API Endpoint]

Input: Access and refresh tokens (from step 1).

Output: A list of key value pairs including a project ID and project name.

Step 3

Knowledge Object Upload
[Component: API Endpoint]

Inputs:
1) A digital file
2) Access and refresh tokens (from step 1)
3) A Project ID (from step 2)

Output: A unique ID for the uploaded Knowledge Object.

Step 4

Metadata Upload
[Component: API Endpoint]

Inputs:
1) Access and refresh tokens (from step 1)
2) A Project ID (from step 2)
3) A unique ID for a Knowledge Object (from step 3)
4) A metadata document in JSON format.

Output: A unique ID for the uploaded metadata and Knowledge Object

Endpoint testing

EU-FarmBook

❑ Demo of endpoint tester already available (https://api-public.eufarmbook.eu/docs)

Case Studies

ResAlliance

EU-FarmBook

Example: ResAlliance

❑ A number of projects are already using the EU-FarmBook API

❑ ResAlliance have uploaded a number of Knowledge Objects via an excel template which they use to collect their metadata.

❑ The excel template is transformed into the EU-FarmBook metadata standard (JSON) and uploaded via the API

❑ ResAlliance Project Page in the EU-FarmBook platform link

❑ ResAlliance then use the EU-FarmBook API to automatically pull their Knowledge Objects and metadata and make them available them in their own platform - https://www.resalliance.eu/collection-of-knowledge/

❑ ResAlliance make use of the custom metadata feature to upload project specific information to the EU-FarmBook which they want to make available in their own platform e.g. "Sector" and "Good Practice"

Next steps

EU-FarmBook

❑ Getting feedback and requirements for projects and platforms who have ideas for features and enhancements the EU-FarmBook can make to its API.

❑ Online API Documentation and endpoint tester already available (https://api-public.eufarmbook.eu/docs)

❑ Detailed API Guide and case studies (with code snippets) will be published in the EU-FarmBook platform (or might already be!!??)

❑ New endpoints being made available to enable editing

❑ Integrating NLP/LLM endpoints to help projects automatically generate metadata for their Knowledge Objects which they can review and edit before submitting.

❑ Making analytics available for projects and platforms to view KPIs including Knowledge Object visits, search results, interactions etc.

Questions