ESS-DIVE Package Service

An overview of the BETA version

Deep Insight for Earth Science Data
What is it?

The **ESS-DIVE Package Service** is a more general interface than the ESS-DIVE repository. Via this service, organizations can **write code to store data packages** and then **reuse** the code to upload other data packages in the same or different repositories.
JSON for Linked Data (JSON-LD)

JSON-LD (JavaScript Object Notation for Linked Data), is a method of encoding Linked Data using JSON (see https://json-ld.org/)

- The ESS-DIVE metadata schema is a restricted subset of https://schema.org/Dataset specification
- This covers all of the fields that ESS-DIVE collects from users (see ESS-DIVE JSON-LD Schema Proposal)
- JSON-LD is recommended by DataCite for package submission.
- JSON-LD has broad tool support and can be embedded in landing pages for harvesting by DataCite and indexing by Google.
REST API

The ESS-DIVE package service is a REST API

- **REST** (Representational State Transfer) is an architecture style of designing internet-scale systems (scalable, fault tolerant, extensible)
- **REST** takes advantage of the standard web protocols
  - Uses well-defined status codes for error handling
  - Makes use of web protocol verbs for managing data
- **Some aspects of a REST API are:**
  - Data is received in a convenient format (e.g. JSON)
  - There are operations for manipulating data (create, update, delete)
What’s coming?

This is a **BETA** version for **validating data package metadata to ESS-DIVE only**. You will not be able to submit new data packages to ESS-DIVE yet.

However, you will be able to:

- Authenticate with a token
- Validate JSON-LD with detailed error messages provided for invalid content
- Retrieve data packages submitted by you via the ESS-DIVE website
- Learn how to use the API from detailed documentation

*The API presented here is preliminary and may change based on user feedback and testing before the final release.*
The ESS-DIVE API is described using the **OpenAPI Specification** description format.

We use **Swagger UI** to transform the OpenAPI description into rich interactive documentation of the API.

- Each **operation** is defined in detail with examples.
- **Structure of JSON** expected and produced is defined.
- Commands are **auto-generated** for and can be **executed**
Validate JSON-LD

- You will be able to validate JSON-LD against the interface.
- If the JSON-LD is invalid, details about the errors will be given.
- The validation logic is still being refined and may change up to the final release.
- This purpose of this preliminary release is for soliciting feedback and to help users get started creating scripts for submitting data package metadata.

Validation Error Response

```
{
  "error": "One or more fields raised validation errors."
}
```

Validation Success Response

```
{
  "error": "The submitted request was valid for OrCID: http://orcid.org/0000-0001-9061-8952"
}
```
Retrieve data package metadata

- You will be able to **retrieve a list** of data packages **submitted by you**.
- You may retrieve a **single data package** submitted by you.
- Metadata returned is a small subset of available metadata.
- For all actions, you must **authenticate** with a token.

https://api.ess-dive.lbl.gov/packages
Live Demonstration