

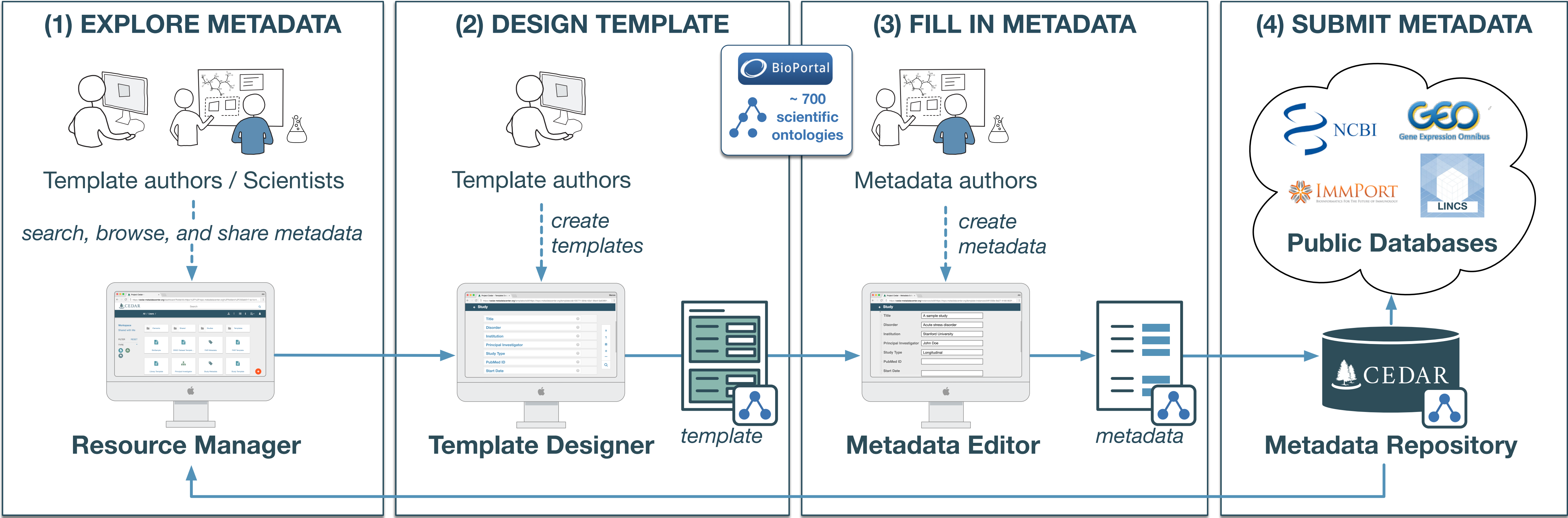


# CEDAR: Web-Based Tools for Accelerating the Creation of Standardized Metadata

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[cedar.metadatacenter.org](https://cedar.metadatacenter.org)

*CEDAR lets users create complete and comprehensive metadata for any scientific domain using standard ontologies and data structures.*



## WORKSPACE      TEMPLATES      METADATA      VALIDATE and PUBLISH

### Folders

CEDAR provides you a workspace to store your templates, elements and metadata. Organize your project into folders and manage your metadata over time..

BioSample Templates

### Share

Collaborate with your team using groups. Share documents and folders in CEDAR with your team members. Publish your templates to the community by making them public.

Create a group

### BioPortal

CEDAR is powered by BioPortal, the world's most comprehensive repository of biomedical and earth science ontologies, to provide controlled terms for metadata.

Ontology: NCBITAXON

- Entity
  - Conceptual Entity
  - Physical Object
    - Substance
    - Anatomical Structure
    - Manufactured Object
    - Organism

### Templates

Building templates involves composing forms of fields, each with a name and description.

Enter Field Title  
Sample Name

Enter Field Description  
Enter the name of your sample.

Basic field types include short and long text, numbers, email, and more.

Date	-- Break
Email	Video
Number	Image
Phone	Element

### Elements

Elements are reusable groups of fields and other elements. Elements can be shared on CEDAR and nested to any level. Using elements enables templates to be composed of community-defined building blocks to meet common specifications or needs.

**Study**

- Principal Investigator
  - First Name
  - Last Name
  - Address
- Publication
  - Title
  - Journal
  - Date

### Metadata

CEDAR supports features that allow easy and rapid entry of metadata. Computer-assisted intelligent authoring provides suggestions for both fields and values.

BioSample Human

Tissue: brain

Sex

Isolate\*

Age\*

Biomaterial Provider\*

Optional Attribute

disease

- astrocytoma (DOID; 19%)
- Parkinson's disease (DOID; 19%)
- central nervous system lymphoma (DOID; 10%)
- oligodendroglioma (DOID; 9%)
- bipolar disorder (DOID; 9%)
- schizophrenia (DOID; 9%)
- neuroblastoma (DOID; 6%)

### JSON-LD

Templates and metadata are represented as JSON-LD, a machine-readable and widely accepted interchange format on the Web.

```
"organism": {
  "@type": "http://data.bioontology.org/ontologies/NCBITAXON/classes/http%3A%2F%2Fpurl.bioontology.org%2Fontology2FSTY%2FT001",
  "@id": "http://purl.obolibrary.org/NCBITAXON/9606" }
```

### Validation

Automatic validation is done on the fly to give immediate feedback of errors. The validator framework wraps other existing validation services, e.g., the BioSample Validator.

**BioSample validation errors:**

- Empty attribute value for attribute 'tissue'.
- Sample has missing mandatory attribute(s). If you do not have information for the required field(s), please provide value as either 'not collected', 'not applicable' or 'missing'.

### REST APIs

Create, read, update and delete with CEDAR REST API microservices. Send metadata to your repository or app, or publish to CEDAR!

DELETE	/folders/{id}
GET	/folders/{id}
GET	/folders/{id}/details
POST	/folders

### Adoption and Evaluation