FAIRsharing content: **databases overview**

Keeping research data safe: for today and for the future

Guides users to **discover** and choose databases with more **confidence**

FAIRsharing promotes the **value** of databases, which are a key part of the supporting infrastructure of the **FAIR Principles**

Assists developers to make their databases more **visible** and more widely used

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Databases...

Make data management simpler by enabling users to **collect, preserve**, **share** and **access** (in an open or controlled manner) data in a **structured** form

Provide a service for **humans**, and often also for **machines**, to make data and related descriptors **discoverable** and **searchable**

FAIRsharing categorises databases with three types:

1 Repositories

also known as primary sources, allow the submission, storage of and access to data*

2 Knowledgebases

also known as secondary databases, synthesise data from a number of other data sources including published literature, often via manual curation

3 Knowledgebases and Repositories

have features of both categories

*datasets, software, materials and other digital objects.

* In FAIRsharing the majority of databases in provide **open** access to their content, with various licences and terms of use; a subset offers some kind of **partially open** or **controlled** access, e.g., due to ethical consideration, or a paywall

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Find more at
fairsharing.org/educational

FAIRsharing.org
standards, databases, policies

FAIRsharing provides a snapshot of the **dynamic landscape** of databases

Tracks their **evolution**

Illustrates **relations** with other databases

Displays their **implementation** of standards

Monitors their **adoption** in data policies and guidelines

Benefits for all

Be familiar with databases at a level appropriate for your needs, e.g.

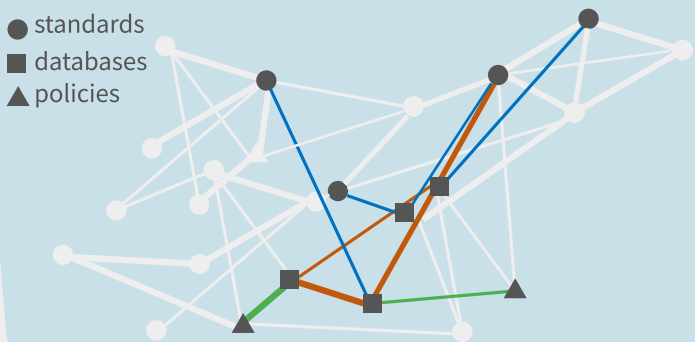
Researchers should have a robust understanding of how to find the right database for accessing relevant data, selecting databases for a Data Management Plan (DMP), and storing their own research data.

Trainers, guidance and policy makers will be experienced in finding and accessing databases in order to provide examples and appropriate recommendations.

Tools and service developers, and data professionals have a strong grasp of databases as they may need to retrieve data from them to support research projects.

FAIRsharing visualises dependencies relating to databases, e.g.,

- ***sharing data*** from a primary to a secondary **database** for analysis, data exchange
- ***sharing the same code base*** among **databases** built on the same software
- how **databases *implement* standards** and are ***recommended by*** **policies**



Navigating the database ecosystem is challenging, high volume of databases in some research areas reflects the dynamic nature of technologies, data types, and needs of the research communities
Discovering a database with the correct combination of attributes for your needs can be difficult, and bear in mind that databases can be:

- **Project-related**: specific for and dependent on project lifespan and funds.
- **Institutional**: limited to the work of a particular institute
- **National**: focused on the country's research outputs
- **Global**: available generally for worldwide data
- **Generalist**: for all types of digital objects, from all disciplines
- **Discipline-specific**: for one or more research areas
- **Data-specific**: for one or more types of digital objects

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FAIRsharing displays the intended use of each database

Scope/Research area: with high-level research **Subject** tags, e.g., *Neuroscience*, *Linguistics*, and *Subject Agnostic* (when applicable to all research areas). **Domains** define a complementary set of tags, e.g. those relevant to technologies or protocols, e.g., *magnetic resonance imaging*, *literature mining*.

Content Type: **Domain** tags indicating the type of data the database focuses on; **Taxonomy** is used to classify organisms, where relevant.

FAIRsharing uses indicators to show the life-cycle status of each database

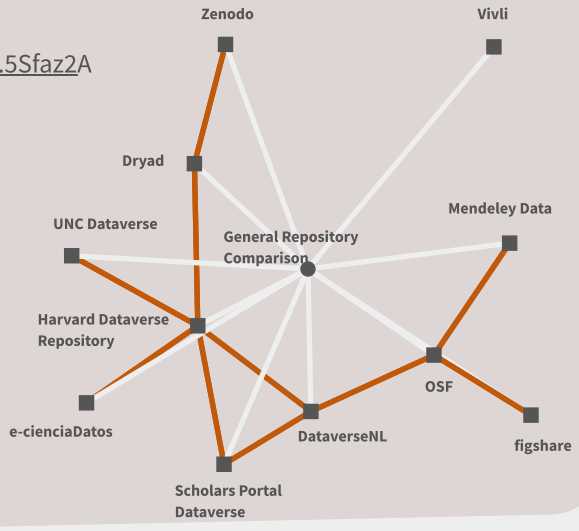
- **Ready** when a resource is considered suitable for use
- **In development** when a resource is being developed and may be used but may also be in a state of flux
- **Deprecated** when the community no longer mandates its use. This status is curated jointly with an explanation and, where available, a link to the database that has superseded it, or been merged with it
- **Uncertain** when curators cannot establish contact with the owners of a resource and believe a resource may have changed status

Examples

A knowledgebase for *Astrophysics and Astronomy*: 10.25504/FAIRsharing.5Sfaz2A
A repository that *shares its codebase*: 10.25504/FAIRsharing.t2e1ss
A knowledgebase for *linguistics*: 10.25504/FAIRsharing.429b28
A *subject agnostic* repository: 10.25504/FAIRsharing.132b10

Views of databases by type:
fairsharing.org/databases/repositories
fairsharing.org/databases/knowledgebases
fairsharing.org/databases/knowledgebases_and_repositories

Collection of generalist repositories by the
RDA Generalist Repository Comparison Chart Management Group
List: fairsharing.org/3541
Graph: fairsharing.org/graph/3541



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