### 23 Things for Data Stewards

An overview of practical resources and tools that you can begin using today to incorporate research data management into your data stewardship practices.

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… to help data stewards engage with policy, research and infrastructure oriented stakeholders in research data management.

### Policy Development

Data stewards develop, implement and monitor the research data management policy and strategy for the institute, department or project, including services.

1. Use the Learn RDM toolkit to check review the relevant elements of a successful research data management policy,[edu.nl/ydmuv](http://edu.nl/ydmuv)
2. Use the resources of DCC and RDNL to learn how to develop and deliver effective data management services; also review LCRDM Put into Practice to ensure that appropriate local infrastructures and services are in place to support researchers,  
   [edu.nl/br77j](https://edu.nl/br77j) & [edu.nl/aq6y4](https://edu.nl/aq6y4) & [edu.nl/43pqf](http://edu.nl/43pqf)
3. Health-RI facilitates the optimal use of knowledge, tools, facilities, health data and samples in personalised medicine and health; while the CESSDA Data Management Expert Guide might help data stewards working with social science data,  
   [edu.nl/ajy6k](http://edu.nl/ajy6k) & [edu.nl/ug3w9](https://edu.nl/ug3w9)

### Data Management Plans

Data stewards help researchers write and implement effective data management plans in the institute, department or project.

1. Understand the life of research data with examples of data life cycles at JISC and RDNL, [edu.nl/p4nke](http://edu.nl/p4nke) & [edu.nl/j8cr6](http://edu.nl/j8cr6)
2. Help researchers to write and implement effective data management plans via DMPonline, the DCC and the LIBER catalogue of public DMPs, and outreach materials like the LCRDM Ten Tips for Writing a DMP; the RDMOrganiser might also be of help for institutions and researchers,  
   [edu.nl/qxtbt](http://edu.nl/qxtbt) & [edu.nl/7abtb](http://edu.nl/7abtb) & [edu.nl/hh8yk](http://edu.nl/hh8yk) & [edu.nl/w7r8k](http://edu.nl/w7r8k) & [edu.nl/hbpbh](https://edu.nl/hbpbh)
3. The following resources might help you to review and/or assess the data management plans written by your researchers,  
   [edu.nl/hhxf8](http://edu.nl/hhxf8) & [edu.nl/fq8vr](http://edu.nl/fq8vr) & [edu.nl/uyunh](http://edu.nl/uyunh) & [edu.nl/3xd6b](https://edu.nl/3xd6b)

### Compliance

Data stewards facilitate the compliance of research at their institute, department or project with relevant legal and ethical standards.

1. Check out the Netherlands Code of Conduct for Research Integrity and the Data Ethics Decision Aid; for social and behavioural sciences, Nethics might be of use,

[edu.nl/djguy](http://edu.nl/djguy) & [edu.nl/f3bbm](http://edu.nl/f3bbm) & [edu.nl/rrvjq](https://edu.nl/rrvjq)

1. Read the guidelines for privacy, the General Data Protection Regulation, for data protection and security, and check out the Erasmus University’s Privacy and Security app,  
   [edu.nl/qaj6j](http://edu.nl/qaj6j) & [edu.nl/6qqby](http://edu.nl/6qqby) & [edu.nl/ewxpe](http://edu.nl/ewxpe)
2. Read the guidelines for data and software reuse and licencing,  
   [edu.nl/3ujnt](http://edu.nl/3ujnt) & [edu.nl/gdyy9](http://edu.nl/gdyy9) & [edu.nl/6bn3d](http://edu.nl/6bn3d)& [edu.nl/uwwcg](http://edu.nl/uwwcg)& [edu.nl/hyvtv](https://edu.nl/hyvtv)

### Data Reference & Outreach

Data stewards answer questions about data from researchers and students in the institute, department or project, and conduct outreach to assess their data needs.

1. To create awareness and engage the researchers at your organisation, get inspired by the Engaging Researchers Cookbook,  
   [edu.nl/d7f98](http://edu.nl/d7f98)
2. Facilitate a community of researchers who are interested in communicating to the larger community, like the Data Champion Initiative, or join the Open Science Communities,  
   [edu.nl/mgxe3](https://edu.nl/mgxe3) & [edu.nl/xrt9m](http://edu.nl/xrt9m)
3. Develop engagement materials, such as the Best Practices of Data Management by DataOne or the RDM Starter Kit by GOFAIR, and contribute to the Turing Way,  
   [edu.nl/4tgtk](http://edu.nl/4tgtk) & [edu.nl/bffv4](http://edu.nl/bffv4) & [edu.nl/feukf](https://edu.nl/feukf)

### Learning Resources

Data stewards help people in the institute, department or project to increase their knowledge and skills on research data management.

1. Check out the training resources for data stewards, including train-the-trainer packages,  
   [edu.nl/6j4nd](https://edu.nl/6j4nd) & [edu.nl/u6fqg](https://edu.nl/u6fqg) & [edu.nl/rjxqq](http://edu.nl/rjxqq) & [edu.nl/x3jb6](http://edu.nl/x3jb6)
2. There is a comprehensive introduction for research data supporters in general available,  
   [edu.nl/d38n7](http://edu.nl/d38n7)
3. Check out these foundational coding and data science skills to refer researchers to,  
   [edu.nl/tg7tt](http://edu.nl/tg7tt) & [edu.nl/3hcxv](http://edu.nl/3hcxv) & [edu.nl/feukf](https://edu.nl/feukf) & [edu.nl/tqrhc](https://edu.nl/tqrhc)

### Community of Practice

To develop solutions and share best practices, data stewards are connected with a larger network of aligned expertise areas and organisations inside and outside the institute, department or project.

1. Examples of support communities are the LCRDM Pool of Experts, the DTL Data Stewards Interest Group and the UKB Working Group on Research Data,  
   [edu.nl/dd8hj](http://edu.nl/dd8hj) & [edu.nl/jgccq](http://edu.nl/jgccq) & [edu.nl/34rdb](http://edu.nl/34rdb)
2. Subscribe to a mailing list to keep in touch with colleagues and receive updates about developments, for instance via the LCRDM national or the JISC international mailing list,  
   [edu.nl/7yhf6](https://edu.nl/7yhf6) & [edu.nl/trrh4](https://edu.nl/trrh4)
3. Join the Research Data Alliance! Belong to an international community and help build social and technical bridges to enable data sharing; join the RDA activities in the Netherlands!  
   [edu.nl/gxgm4](https://edu.nl/gxgm4) & [edu.nl/74myw](https://edu.nl/74myw)

### Metadata

Data stewards facilitate the alignment of research in the institute, department or project to the FAIR data principles and the principles of Open Science.

1. Learn about the FAIR data principles to understand the importance of metadata, and create awareness in the institute, department or project,  
   [edu.nl/knb87](http://edu.nl/knb87)
2. Determine what metadata standard and data formats are appropriate to recommend or apply,  
   [edu.nl/ct8en](http://edu.nl/ct8en) & [edu.nl/xdubh](http://edu.nl/xdubh) & [edu.nl/nbq8d](http://edu.nl/nbq8d)

### Digital Preservation & Repositories

Data stewards identify the requirements and availability of infrastructure and support for long term archiving of data of the institute, department or project, including sustainable and legitimate access to data.

1. Find tools that are available to help with digital preservation using the Digital Preservation Handbook, and take a look at best practices in software archiving,  
   [edu.nl/vaxwg](http://edu.nl/vaxwg) & [edu.nl/u4yvj](https://edu.nl/u4yvj)
2. Understand vocabularies and standards for digital archives, and take a look at trustworthy digital repository certifications,  
   [edu.nl/nn9vx](http://edu.nl/nn9vx)
3. Find an appropriate repository by searching the re3data.org registry, the FAIRsharing registry,   
   the Springer Nature list of repositories, the DataCite Repository Finder, or follow the archiving tips by RDNL; don’t forget the Dutch data repositories DANS EASY and 4TU.ResearchData; Zenodo might come in handy where integration with GitHub and code sharing is necessary,  
   [edu.nl/uq3qj](https://edu.nl/uq3qj) & [edu.nl/xdubh](http://edu.nl/xdubh) & [edu.nl/jcqru](https://edu.nl/jcqru) & [edu.nl/ftk48](https://edu.nl/ftk48) & [edu.nl/9ttbm](https://edu.nl/9ttbm) & [edu.nl/gdgtw](http://edu.nl/gdgtw) & [edu.nl/m9r6p](https://edu.nl/m9r6p) & [edu.nl/fpnvf](https://edu.nl/fpnvf) & [edu.nl/qja33](https://edu.nl/qja33)

### Contact Information

This document is an audience-specific version (for data stewards) of the 23 Things for the Dutch community, created by the LCRDM task group RDA 23 Things ([lcrdm.nl](http://lcrdm.nl)). The original 23 Things can be found at [edu.nl/w7e34](http://edu.nl/w7e34), the LCRDM adaption for the Dutch community can be found at [doi.org/10.5281/zenodo.3465895](http://doi.org/10.5281/zenodo.3465895). If you have any relevant resources for the 23 Things, please contact the LCRDM coordinator.

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