

# Research Data Management iRODS and YoDa

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# iRODS

## Integrated Rule-Oriented Data System



- Data virtualization: data objects organized into collections, no references to physical storage paths, data objects can refer to multiple replicas
- Data discovery: metadata applied to zones, collections, data objects, users or resources
- Workflow automation: event triggered rules (Policy Enforcement Points)
- Secure collaboration: tickets, UNIX-like permissions, federation



# iRODS

- It's a framework, not an out-of-the-box solution
- Technical skills required when using provided toolsets

Example using iCommands, command to display a list of collections:

```
[vagrant@combined ~]$ sudo -u irods ils /tempZone
/tempZone:
C- /tempZone/home
C- /tempZone/trash
C- /tempZone/yoda
[vagrant@combined ~]$ _
```



# Yoda



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## “Your Data”

- Developed by Utrecht University
- Research management solution built on top of iRODS
- Enables collaboration
- Researchers can use it to deposit, publish and preserve data



# Yoda - Collection browser



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Yoda Portal **Research** Vault Datarequest Intake Statistics Group Manager

Search by filename ▾ Search term...

Home / research-initial / **testdata**

testdata

Metadata

Create Folder

Upload

Actions ▾

Name	↓	Size	Modified date	
lorem.txt		979.7 kiB	2020-10-28 03:05	...
SIPI_Jelly_Beans_4.1.07.tiff		192.1 kiB	2020-10-28 03:05	...

10 ▾

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Web interface showing collection and data objects



# Yoda - WebDAV (DAVrods)



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WebDAV interface showing the same collection and data objects:

research-initial	--	28-10-2020 3:01:42
testdata	--	28-10-2020 3:04:38
lorem.txt	979.7 KiB	28-10-2020 3:04:50
SIPI_Jelly_Beans_4.1.07.tiff	192.1 KiB	28-10-2020 3:04:51



# Yoda - metadata



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Yoda Portal Research Vault Datarequest Intake Statistics Group Manager

Metadata form - /research-initial/testdata Close

Save ✓✓✓

**Title** 🔒

**Description** 🔒

**Discipline**  ▾ +

**Version** 🔒

**Language of the data**  ▾

**Collection process** **Start date**  📅 **End date**  📅

**Location(s) covered**  +



# Yoda - publication



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- Utrecht University's repository at DataCite:  
<https://search.datacite.org/repositories/delft.uu>
- Sample publication through DataCite:  
<https://search.datacite.org/works/10.24416/uu01-xvllqi>
- DOI that links directly to page in Yoda displaying publication's metadata:  
<https://doi.org/10.24416/uu01-xvllqi>
- Published open access data set: [https://dgk.public.data.uu.nl/vault-fischer/MITAR\\_review\[1589438915\]](https://dgk.public.data.uu.nl/vault-fischer/MITAR_review[1589438915])





# Yoda - bonus



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For those of you that are curious and would like to play around with iRODS and Yoda:

- You can, for free, on your own laptop/PC/Mac!
- Instructions for setting things up: <https://utrechtuniversity.github.io/yoda/development/index.html>
- You'll need:
  - Virtualbox: <https://www.virtualbox.org>
  - Vagrant: <https://www.vagrantup.com>
  - Git: <https://git-scm.com>
  - [only on macOS/Linux] Ansible: [https://docs.ansible.com/ansible/installation\\_guide/intro\\_installation.html](https://docs.ansible.com/ansible/installation_guide/intro_installation.html)
  - [optional] A WebDAV client to connect to Davrods, e.g. CyberDuck: <https://cyberduck.io>
- Clone the main Yoda repository: <https://github.com/UtrechtUniversity/yoda.git>
- Checkout the development branch and run the Ansible playbook on the “allinone” inventory for the development environment
- Have fun!