

WissKI Work at CDI

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Who are we?

- ▶ We are the **WissKI Lab @ CDI**
 - ▷ Leadership: **Michael Kohlhase**, Marcus Walther
 - ▷ Project Managers: Laura Albers, **Sarah Wagner**
 - ▷ Technical Managers: **Kai Amann**, **Tom Wiesing**
 - ▷ Student Assistants: Sandra Eydam, **Elias Günther**

- ▶ We offer **WissKI services** to other researchers at FAU
 - ▷ project consulting
 - ▷ provide customers with WissKI (hosting & maintenance)
 - ▷ work with them to model their data (pathbuilder creation)

What do we do?

- ▶ CDI hosts a lot of WissKIs
 - ▷ **FAUWissKICloud** (29 WissKIs, <https://wisski.data.fau.de/>)
 - ▷ **Objekte im Netz** (19 WissKIs, multi-site Drupal installation, <https://objekte-im-netz.fau.de/projekt/>)
 - ▷ **WissKIs for testing** (5 WissKIs, only for internal testing)
- ▶ Want (and need) to improve WissKI
 - ▷ Help (mainly FAU-based) with setting up and using their WissKIs
 - ▷ Automate deployment and maintenance where possible (needs to scale)
 - ▷ Make datasets FAIR (**F**indable, **A**ccessible, **R**eusable, **I**nteroperable)
- ▶ What tools have we developed?
 - ▷ **WissKI Distillery** (also used in the **WissKI Cloud**)
 - ▷ **WissKI Data Viewer**
 - ▷ **WissKI API** for data imports
 - ▷ various WissKI modules (e.g. for cleanup, imprint generation, ...)
- ▶ Which projects have we worked on?
 - ▷ migration of all our WissKIs to **Drupal 10** (completed late October 23)
 - ▷ **NFDI4Objects**, **SODa**, **Objekte im Netz**
 - ▷ lots of support for existing WissKI systems

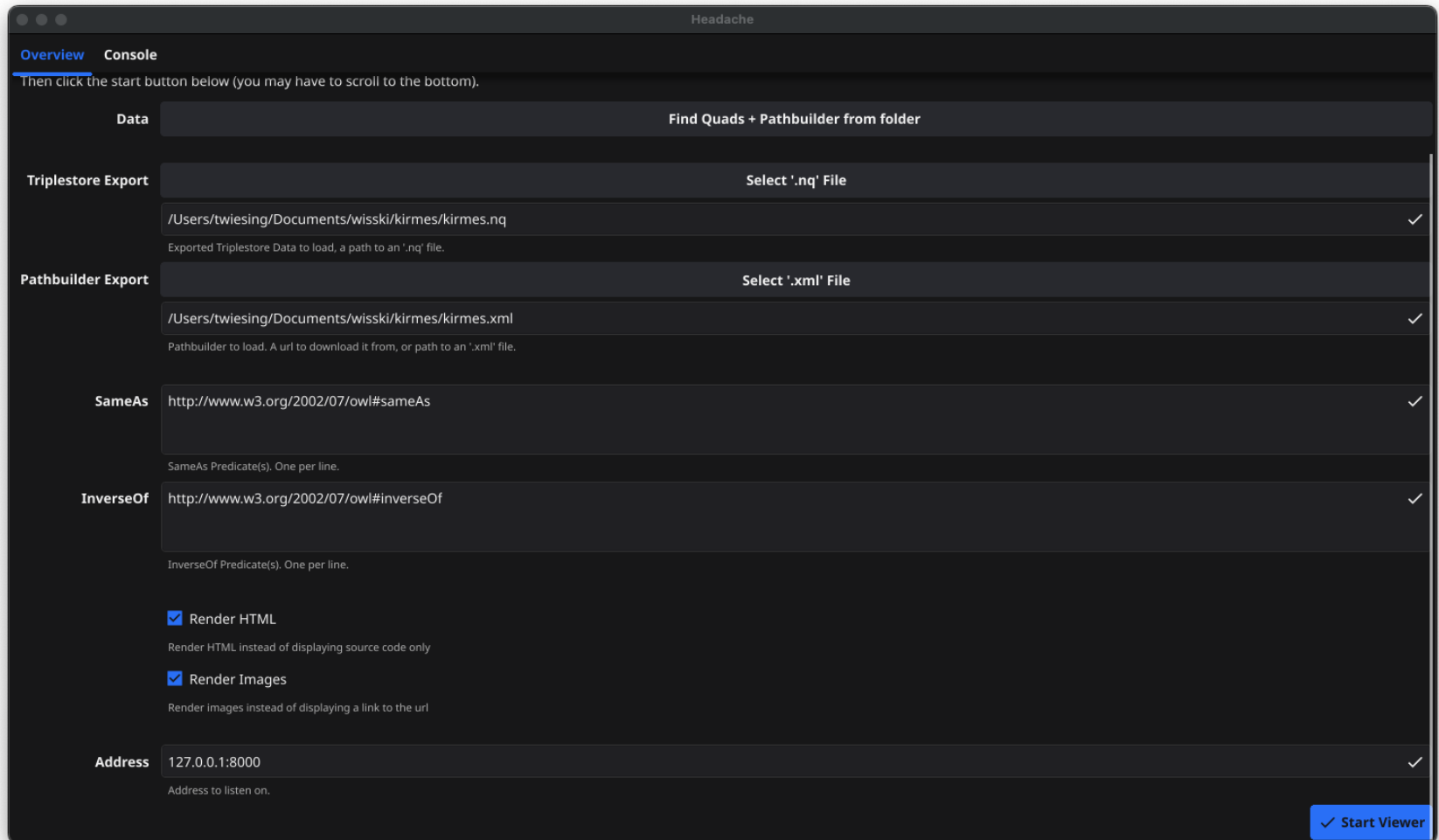
Overview

- ▶ What will we present?
 - ▷ What is CDI? (Michael Kohlhase)
 - ▷ Introduction (previous slide, Tom Wiesing)
 - ▷ WissKI Data Viewer (Tom Wiesing)
 - ▷ WissKI Distillery (Tom Wiesing)
 - ▷ Migration of the ISER system (Elias Günther)
 - ▷ WissKI API (Kai Amann)
 - ▷ NFDI4Objects (Sarah Wagner)
- ▶ We will pause for questions after each session.

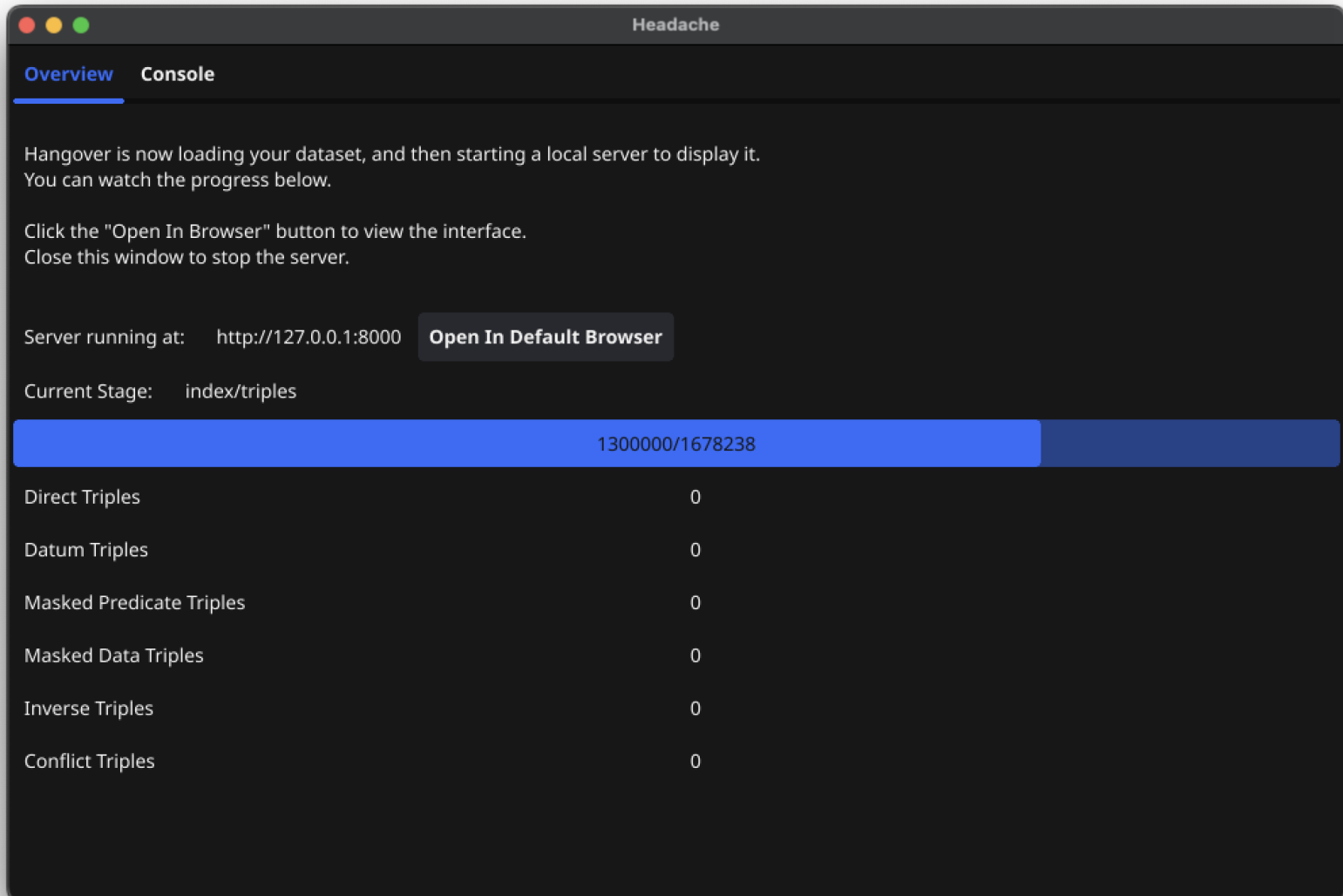
WissKI Data Viewer

- ▶ WissKIs contain large datasets
 - ▷ They exist within the triplestore (as a bunch of RDF triples)
 - ▷ They can exist even without a WissKI (e.g. as a backup)
 - ▷ Difficult to view an export of a triplestore without re-importing this into a WissKI instance
 - ▷ Often it is also desirable to export data in e.g. spreadsheet form
- ▶ We have developed the WissKI Data Viewer (called “hangover”)
 - ▷ Takes as input a triplestore export (“.nq” format) and a Pathbuilder (“.xml” file)
 - ▷ Loads everything into memory and re-constructs **WissKI Entities**
 - ▷ Displays viewable entities in the browser
 - ▷ Can also export entity / bundle data into a “.json” file or an sqlite database
- ▶ Software is open-source
 - ▷ Standalone executables (for Mac / Linux / Windows), written in Go
 - ▷ Freely available at <https://github.com/FAU-CDI/hangover>
- ▶ Next: Will give a live demo (screenshots in case it breaks)

WissKI Data Viewer | Options



WissKI Data Viewer | Loading



Headache

Overview Console

Hangover is now loading your dataset, and then starting a local server to display it. You can watch the progress below.

Click the "Open In Browser" button to view the interface.
Close this window to stop the server.

Server running at: `http://127.0.0.1:8000` [Open In Default Browser](#)

Current Stage: `index/triples`

1300000/1678238

Direct Triples	0
Datum Triples	0
Masked Predicate Triples	0
Masked Data Triples	0
Inverse Triples	0
Conflict Triples	0

WissKI Data Viewer | Overview Page

The screenshot shows a browser window with the address bar displaying '127.0.0.1'. The main content area is titled 'Bundles' and contains a list of four bundles: 'Abbildung', 'Künstler', 'Kuscheltiere', and 'Werke'. Below the list is a 'Resolve URI' button and a list of metadata including 'HTML Render: true', 'Image Render: true', 'Public URL:', 'SameAs Predicates', 'InverseOf Predicates', and links for 'Pathbuilder', 'Viewer Performance', and 'About & License Notices'.

Bundles

[Bundles]

4 Bundles

- [Abbildung](#)
- [Künstler](#)
- [Kuscheltiere](#)
- [Werke](#)

HTML Render: true
Image Render: true
Public URL:
SameAs Predicates: [http://www.w3.org/2002/07/owl#sameAs]
InverseOf Predicates: [http://www.w3.org/2002/07/owl#inverseOf]
[Pathbuilder](#)
[Viewer Performance](#)
[About & License Notices](#)

WissKI Data Viewer | Bundle View

127.0.0.1

Werke

[Bundles] > [Bundle Werke]

Showing Items 1 - 7 of 7

First Prev Next Last

- <http://kirmes.wisski.agfd.fau.de/#5f06c0904cb0a>
- <http://kirmes.wisski.agfd.fau.de/#5f15b12cd5fb1>
- <http://kirmes.wisski.agfd.fau.de/#5f15b1a0adfb1>
- <http://kirmes.wisski.agfd.fau.de/#5f2821bbcee04>
- <http://kirmes.wisski.agfd.fau.de/#5f28223471da4>
- <http://kirmes.wisski.agfd.fau.de/#5f28226e42324>
- <http://kirmes.wisski.agfd.fau.de/#5f6d8cccb0eed>

Showing Items 1 - 7 of 7

First Prev Next Last

Resolve URI


HTML Render: true
Image Render: true
Public URL:
SameAs Predicates: [http://www.w3.org/2002/07/owl#sameAs]
InverseOf Predicates: [http://www.w3.org/2002/07/owl#inverseOf]
Datatype:

WissKI Data Viewer | Entity View

http://kirmes.wisski.agfd.fau.de/#5f06c0904cb0a

[Bundles] > [Bundle Werke] > [Entity http://kirmes.wisski.agfd.fau.de/#5f06c0904cb0a]

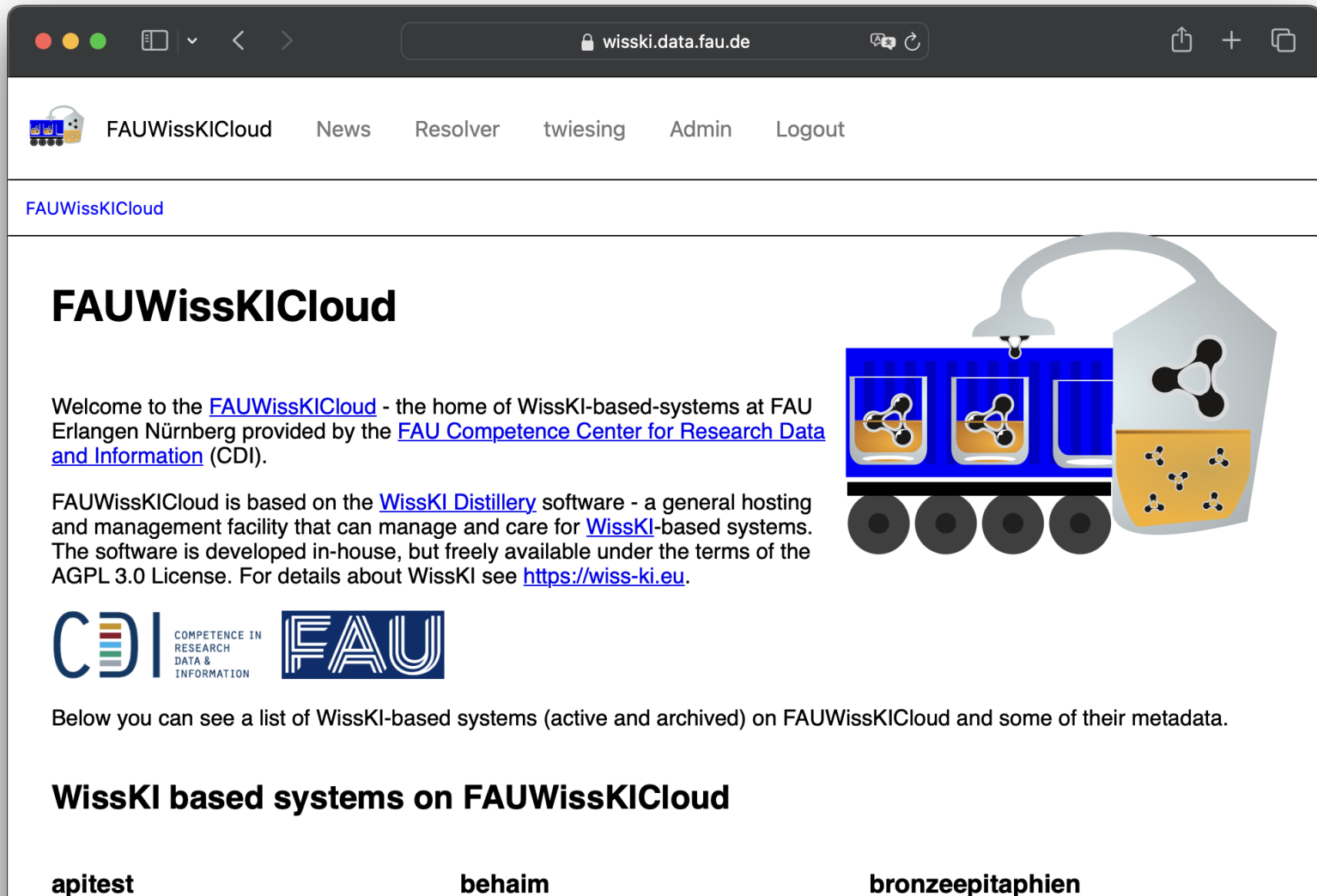
Fields

Name	Type	Count	Value(s)
Show Entity Triples			
Download as: NTriples Turtle			
Werktitel/Title	string	1 (Cardinality 1)	Dorpskermis op het feest van de H. Joris
Abbildungs-ID/Image-ID	string	1 (Cardinality -1)	c29e7d34-1c7b-675e-4c3b-0b7f1fc72c5f
Abbildung/Image	image	1 (Cardinality -1)	

WissKI Distillery

- ▶ Motivation and requirements
 - ▷ Need to **host** several WissKIs (want to easily be able to add more)
 - ▷ Be able to **update** them consistently (do not want to click in 20 web interfaces every week)
 - ▷ Want to be able to **backup** data (in case something goes wrong)
 - ▷ Make the WissKIs work together well (**FAIR**)
- ▶ We developed the WissKI Distillery
 - ▷ Manages a set of **WissKI Instances**
 - ▷ Instances are **containerized** and receive a fresh Drupal installation, a **GraphDB repository** and **SQL database** (creation is automated and does not require manual intervention)
 - ▷ Supports making **backups** which contain all important components
 - ▷ Powering the **FAUWissKICloud** with few changes from the default settings
- ▶ Software is open-source
 - ▷ Version 1.0 (summer 2020) was a set of bash scripts
 - ▷ Version 2.0 (summer 2022) was a self-contained Go executable
 - ▷ Available at <https://github.com/FAU-CDI/wisski-distillery>
 - ▷ Licensed under AGPL, documentation is a work-in-progress
- ▶ Next: Will show some features of the distillery

WissKI Distillery | Public Facing View





The screenshot shows a web browser window with the address bar displaying `wisski.data.fau.de`. The website header includes the FAUWissKICloud logo and navigation links for News, Resolver, twiesing, Admin, and Logout. The main content area features the title "FAUWissKICloud" and a welcome message. To the right of the text is a stylized illustration of a blue distillery train with a grey hopper car. The train consists of three blue cars, each containing a beaker with a molecular structure, followed by a grey hopper car filled with yellow liquid and molecular structures.

FAUWissKICloud

Welcome to the [FAUWissKICloud](#) - the home of WissKI-based-systems at FAU Erlangen Nürnberg provided by the [FAU Competence Center for Research Data and Information](#) (CDI).

FAUWissKICloud is based on the [WissKI Distillery](#) software - a general hosting and management facility that can manage and care for [WissKI](#)-based systems. The software is developed in-house, but freely available under the terms of the AGPL 3.0 License. For details about WissKI see <https://wiss-ki.eu>.

Below you can see a list of WissKI-based systems (active and archived) on FAUWissKICloud and some of their metadata.

WissKI based systems on FAUWissKICloud

apitest	behaim	bronzeepitaphien
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WissKI Distillery | Provisioning

The screenshot shows a web browser window with the URL `wisski.data.fau.de`. The page content is as follows:

Identity

Slug

The `slug` is the primary identifier for the system. It forms part of the domain, and must be unique across this instance of the distillery. Once set, the `slug` cannot be changed.

System Parameters

PHP Version

The version of [PHP](#) to use. The distillery will always pick the latest patch release of the selected minor. Note that not all PHP versions work with all WissKI versions. Changing the PHP version is possible at any time.

IIP Image Server

Run an [IIP Image server](#) inside this instance. When configuring the `WissKI IIIF` module, use `/var/www/data/project/web/sites/default/files/` as a prefix. This can be used for streaming 2D images inside this WissKI, see [the WissKI Documentation](#) for more details. Please be aware that any installation or configuration steps are performed automatically by the distillery. This option can be changed at any time.

OPcache Development Configuration

Toggle the [OPcache](#) configuration. By default the distillery enables the [recommended settings](#) for production. When checked a more lenient caching approach intended for development is configured. This may lead to a decrease in performance. Changing the configuration is possible at any time.

Content-Security-Policy

Set a [Content-Security-Policy](#) header to help to protect against JavaScript injections or unintended use of CDNs. Leave blank to not set a header. Autocomplete will make several suggestions for this field. Changing the header is possible at any time.

WissKI Distillery | Updating

PHP Version	Default (8.1)
IIP Image Server	false
OPCache Development Config	false
Content Security Policy	

```

Connecting ... Connected.
=> Updating Packages
Loading composer repositories with package information
Updating dependencies
Lock file operations: 0 installs, 12 updates, 0 removals
- Upgrading drupal/sophron (2.0.1 => 2.0.2)
- Upgrading drush/drush (12.4.2 => 12.4.3)
- Upgrading fileeye/mimemap (2.0.2 => 2.0.3)
- Upgrading symfony/console (v6.3.4 => v6.3.8)
- Upgrading symfony/dependency-injection (v6.3.5 => v6.3.8)
- Upgrading symfony/http-foundation (v6.3.7 => v6.3.8)
- Upgrading symfony/http-kernel (v6.3.7 => v6.3.8)
- Upgrading symfony/serializer (v6.3.7 => v6.3.8)
- Upgrading symfony/string (v6.3.5 => v6.3.8)
- Upgrading symfony/validator (v6.3.7 => v6.3.8)
- Upgrading symfony/var-dumper (v6.3.6 => v6.3.8)
- Upgrading symfony/yaml (v6.3.7 => v6.3.8)
Writing lock file
Installing dependencies from lock file (including require-dev)
Package operations: 0 installs, 12 updates, 0 removals
- Downloading symfony/string (v6.3.8)
- Downloading symfony/console (v6.3.8)
- Downloading symfony/yaml (v6.3.8)
- Downloading symfony/validator (v6.3.8)
- Downloading symfony/serializer (v6.3.8)
- Downloading symfony/http-foundation (v6.3.8)
- Downloading symfony/var-dumper (v6.3.8)
- Downloading symfony/http-kernel (v6.3.8)
- Downloading symfony/dependency-injection (v6.3.8)
- Downloading fileeye/mimemap (2.0.3)
- Downloading drupal/sophron (2.0.2)
- Downloading drush/drush (12.4.3)
0/12 [>-----] 0%

```


WissKI Distillery | User Management

The screenshot shows a web browser window at `wisski.data.fau.de`. The page title is "Users & Grants". The main content area contains a list of users and a table of grants.

Users & Grants

This page provides a list of users found in this Drupal instance. You can click the login button to authenticate as that user. Please be aware that these never end an already existing session. When already logged into drupal, an error message *Access denied* may appear. To prevent this, log out of the drupal instance before clicking the button.

Users Table:

ID	Active	Name	Email	Roles	Created
1	true	admin	admin@example.com	administrator	2020-07-06 11:45:34 (UTC+02:00)
2	true	jhamisch		administrator	2020-07-06 11:51:07 (UTC+02:00)
3	true	pgrosse		administrator	2020-07-06 14:06:53 (UTC+02:00)

Grants

A grant provides access for a specific distillery user to a specific WissKI instance. Only *Distillery Administrators* can manage grants.

- *Distillery Users* must exist in order to grant them access to a specific instance
- *Drupal Users* will be automatically created if they do not exist.
- If *Admin* is checked and a user logs in, they will automatically be given the admin role. For security reasons, an admin role is never automatically removed.

Grants Table:

Distillery Username	Drupal Username	Roles	Actions

WissKI Distillery | Data

The screenshot shows a web browser window at `wisski.data.fau.de`. The navigation bar includes 'FAUWissKICloud', 'News', 'Resolver', 'twiesing', 'Admin', and 'Logout'. The breadcrumb trail is 'Admin > Instances > Instance > SSH'. The main content area is titled 'kirmes - Data' and features a sidebar with menu items: Overview, Rebuild, Users & Grants, Drupal Status, **WissKI Data**, WissKI Stats, SSH, Snapshots, and Purge. The 'WissKI Data' section contains two tables:

Pathbuilders	
erfassungsmasken	erfassungsmasken.xml (21918 Bytes)
pb_wisskilinkblock	pb_wisskilinkblock.xml (5109 Bytes)

URI Prefixes (excluded from resolver)	
http://kirmes.wisski.agfd.fau.de/	

WissKI Distillery | Stats

Admin > Instances > Instance > SSH

kirmes - Stats

Overview This page contains statistics generated by the *WissKI Statistics* module. If the module is not available, this page may be empty.

Rebuild

Users & Grants

Drupal Status

WissKI Data

WissKI Stats

SSH

Snapshots

Purge

Bundles			
Label	Machine Name	Count	LastEdit
Künstler	b2c4b42d918bb207451f7543df463191	3	1970-01-01 01:00:00 (l)
Abbildung	b2ce57905278f272114c065ebcdc679f	22	1970-01-01 01:00:00 (l)
Geburtsdaten	b5d19c168c9e83fb038f2fdd4a08260d	0	1970-01-01 01:00:00 (l)
Herstellung/Production	b7b47fe5a0db84dbb65275ea6f476515	0	1970-01-01 01:00:00 (l)
Werke	bafca05c59e1f4e4a19abc f5f256b565	7	1970-01-01 01:00:00 (l)
Kuscheltiere	kuscheltiere	1	1970-01-01 01:00:00 (l)

Triplestore

WissKI Distillery | Resolver

The screenshot shows a web browser window at `wisski.data.fau.de`. The navigation menu includes 'FAUWissKICloud', 'News', 'Resolver', 'twiesing', 'Admin', and 'Logout'. The page title is 'Resolver'.

Resolver

This page contains the global distillery resolver. It takes a **RDF / Triplestore URI** that refers to a **WissKI Entity** and redirects to the page that displays the entity.

Enter A URI To Resolve: [Resolve](#)

You can also resolve a URI by a appending `?uri=` to the URL of this page, for example `https://wisski.data.fau.de/wisski/get/?uri=graf://dr.acula/12345`.

Known Prefixes

These are for debugging purposes only.

Prefix	WissKI
<code>graf://dr.acula/</code>	<code>https://gutesglas.wisski.data.fau.de/</code>