OpenEHR Technical

Sophie de Klerk

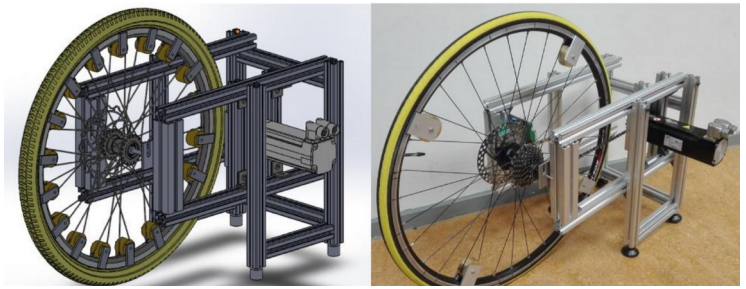
Bewegingswetenschapper

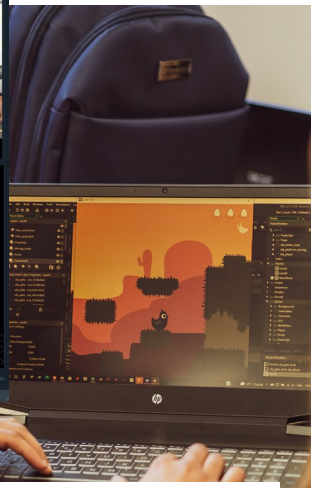
Signaal analyse

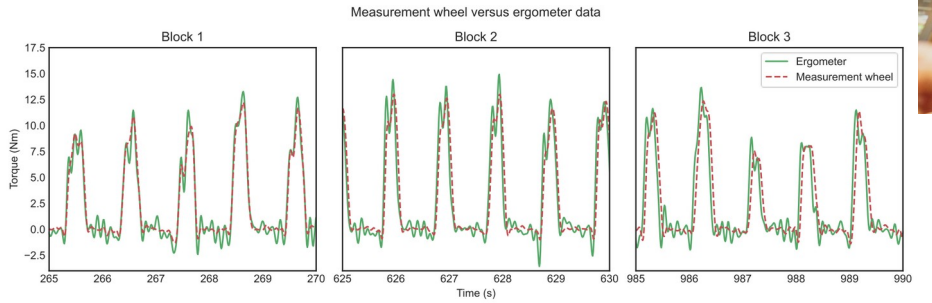
Data science

Creative Media & Game Technologies

Health Informatics







Project examples

1) Predicting falls

Project examples

1) Predicting falls

2) Predicting bladder infections

1

2

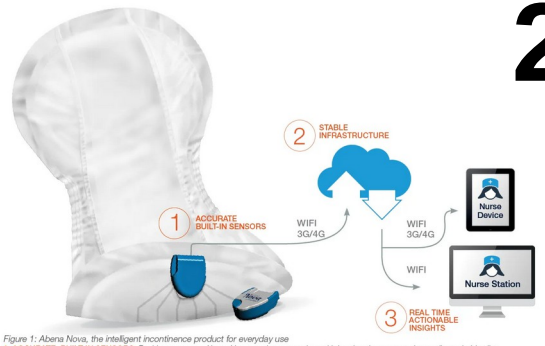


Figure 1: Abena Nova, the intelligent incontinence product for everyday use
1. ACCURATE BUILT-IN SENSORS: Residents wear an Abena Nova continence product with imprinted sensors and a small attachable clip.
2. STABLE INFRASTRUCTURE: Data is transmitted to the cloud irrespective of the facility's physical environment and IT set-up.
3. REAL TIME ACTIONABLE INSIGHTS: Caregivers are notified (tablet, PC, smart phones) and take action.

Project examples

1) Predicting falls

2) Predicting bladder infections

3) Matching interventions

1

2

Figure 1: Abena Nova, the intelligent incontinence product for everyday use
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3

MobileCare

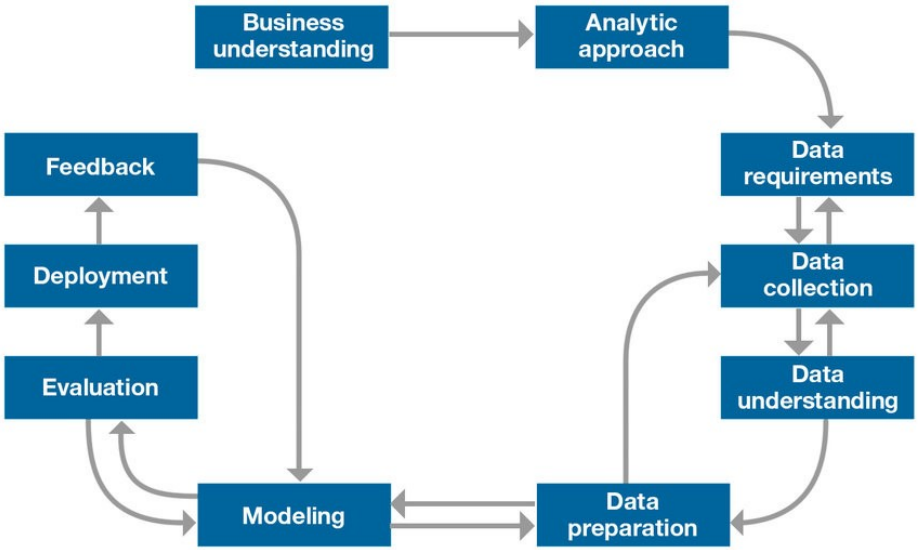
Challenges

1) Data availability

2) Data quality

3) Data quantity

4) Data types



IBM Data Science Methodology

Challenges

1) Data availability

2) Data quality

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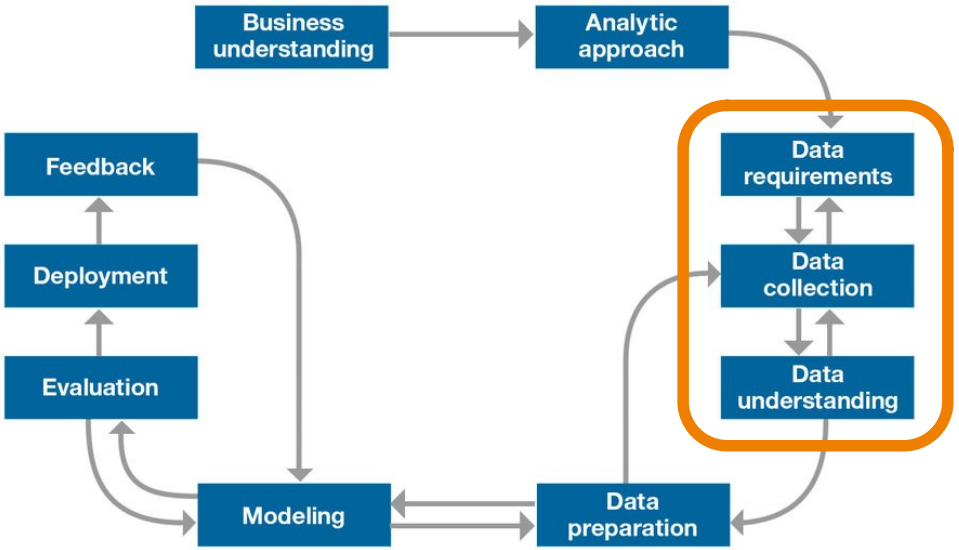
4) Data types



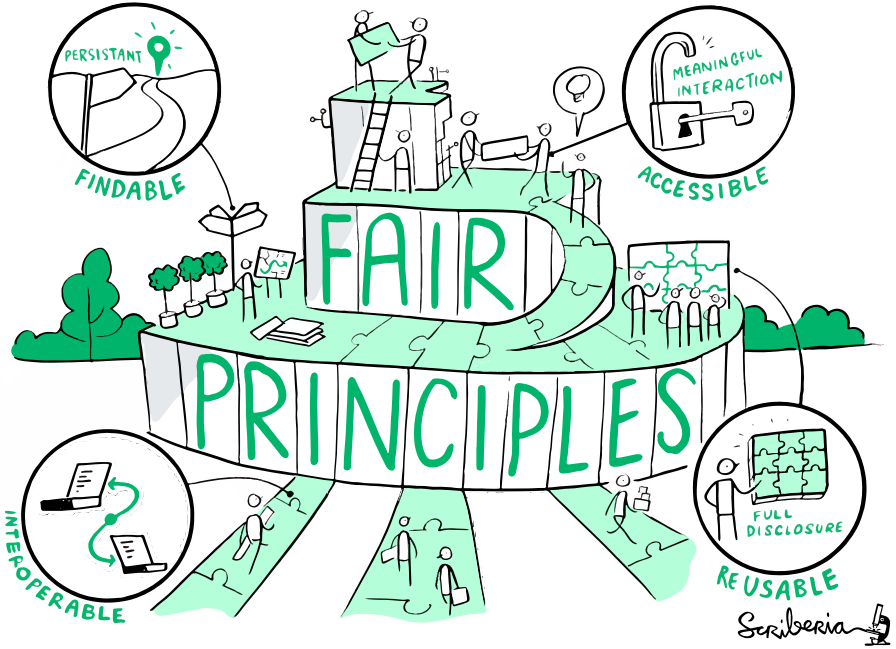
IBM Data Science Methodology

Research line Health Informatics

Key concepts

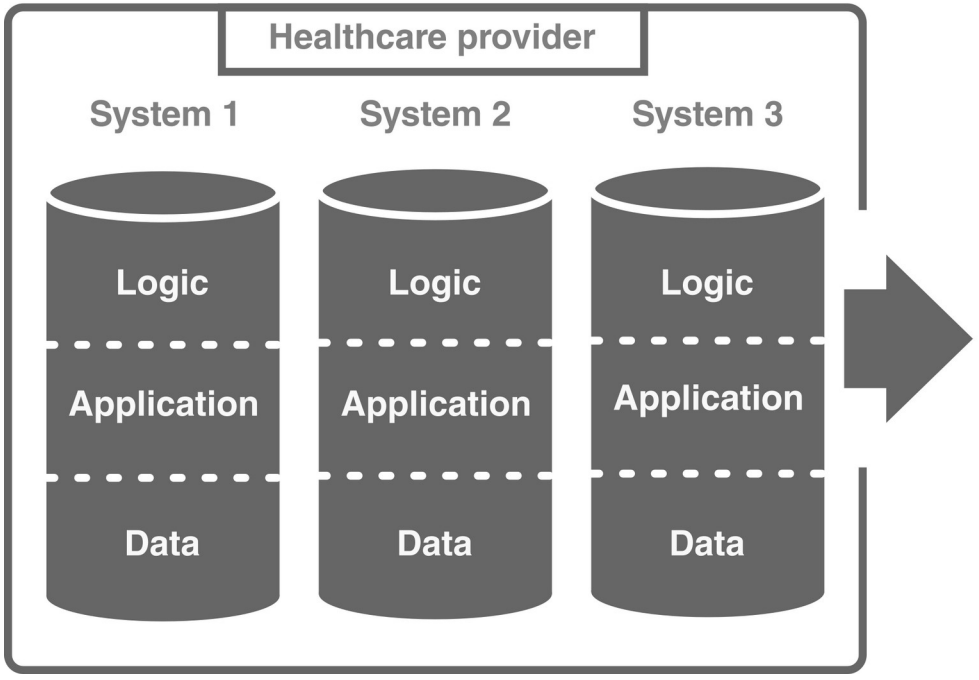
- Data centric
- Open standards
- Platform
- Critical approach

- FAIR

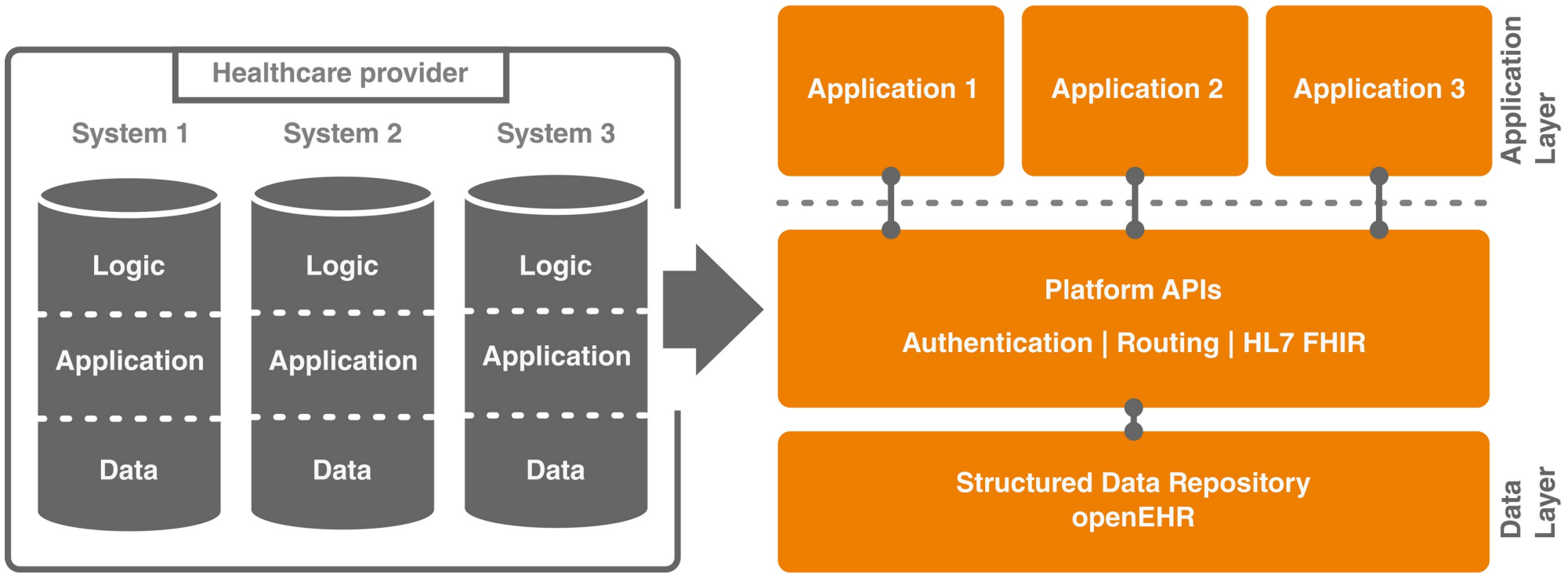


Scriberia for The Turing Way

Application versus data driven

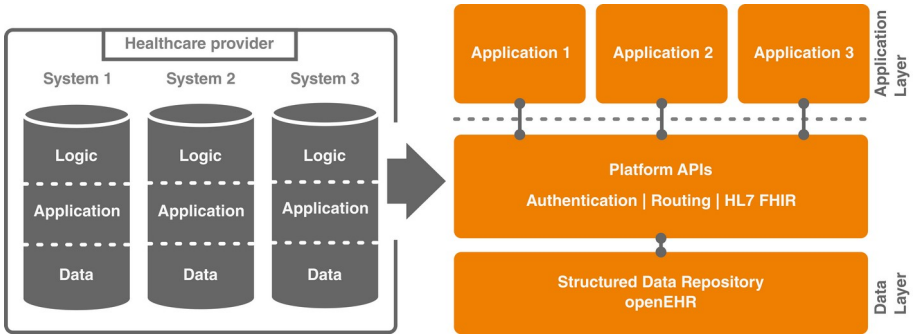


Application versus data driven



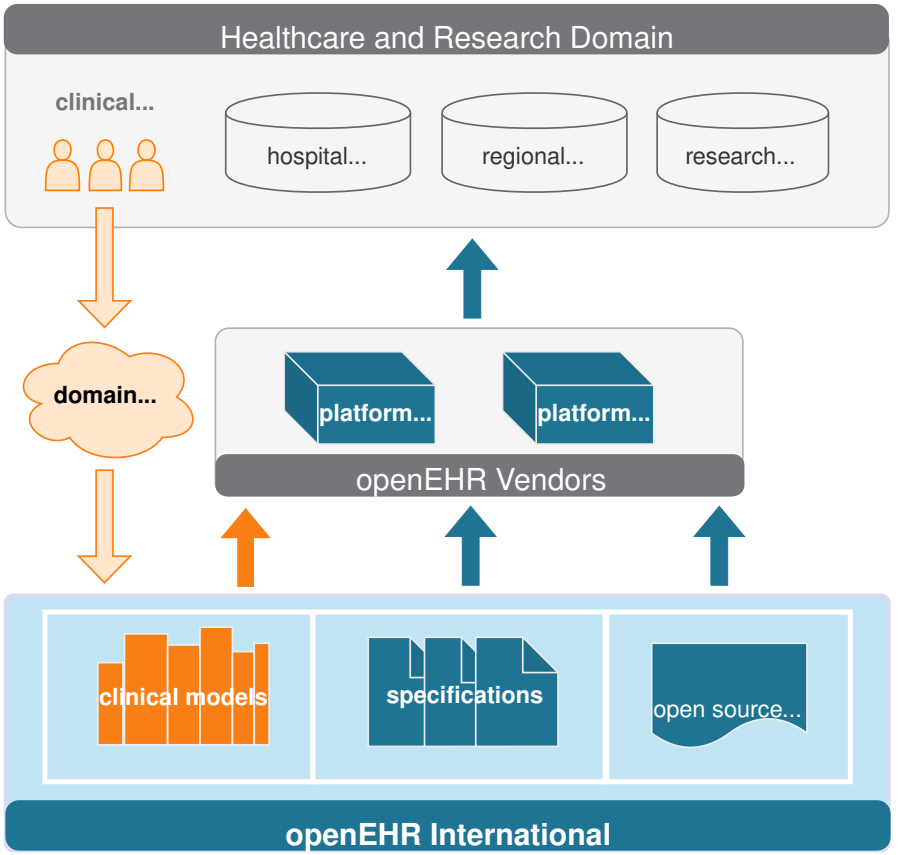
Modern EHRs

- Data centric
- Open standards
- Platform
- Secondary use
- Prevent vendor lock-in



openEHR

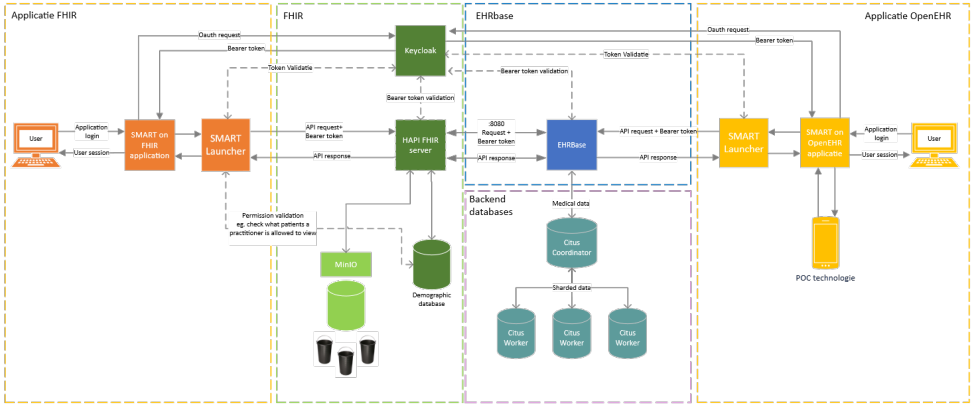
- Electronic Health Record
- Open specification
- Non-profit
- International community



Previous work

Open source reference implementation

- Open source stack is incomplete



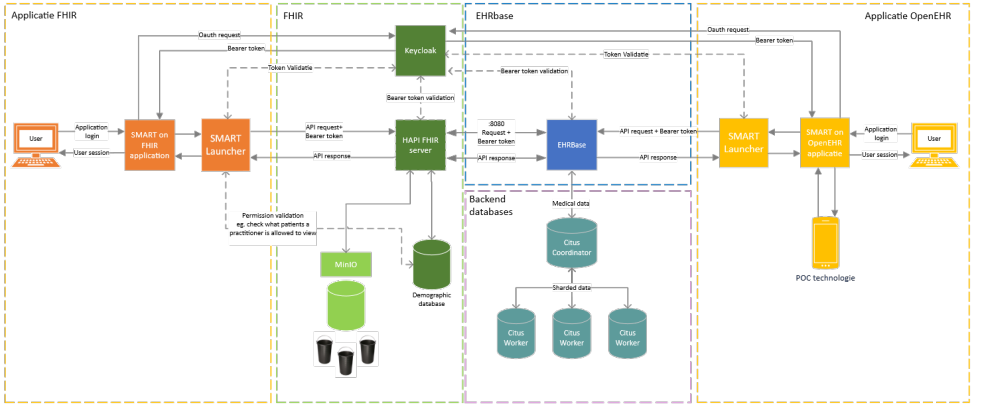
Previous work

Open source reference implementation

- Open source stack is incomplete

Application backend

- openEHR is too big for this application



EHRbase

Future projects on OpenEHR

Hospital use case (Isala): Requirements of storage of clinical data

- Own database (current situation)
- FHIR DB
- OMOP
- OpenEHR

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Federation of openEHR instances (multi-vendor)

- Code24
- EHRBase

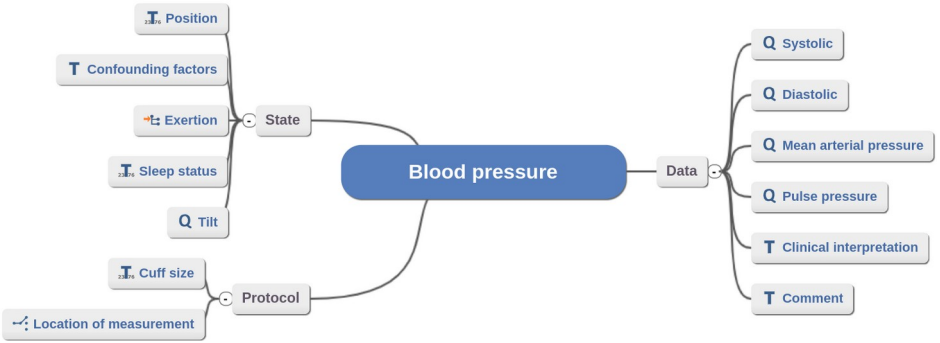
REGIEORGAAN OPEN SCIENCE NL

OpenEHR

https://sophiedkk.github.io/openEHR-Hanze

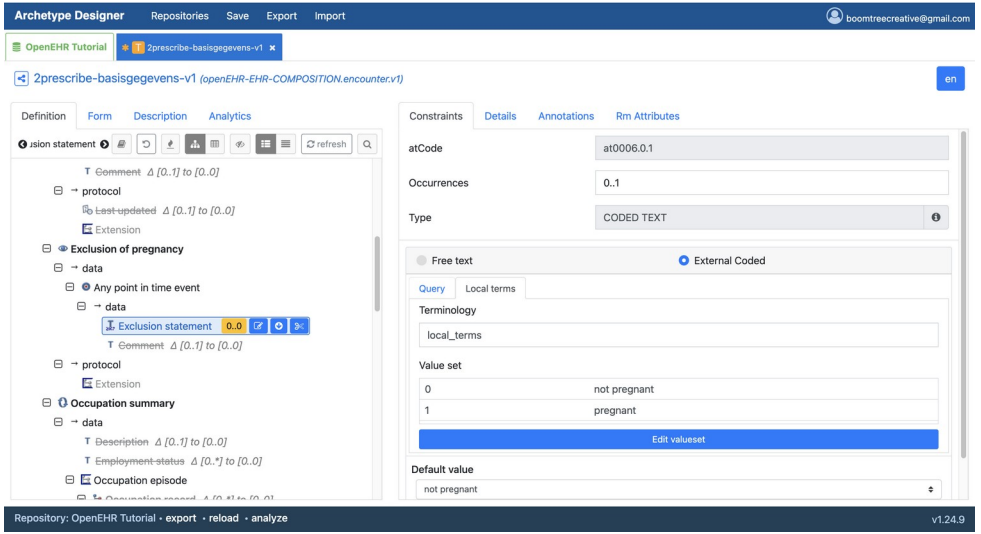
openEHR

- **Archetypes**
- Templates
- Compositions
- Standard APIs



openEHR

- Archetypes
- **Templates**
- Compositions
- Standard APIs



openEHR

- Archetypes
- Templates
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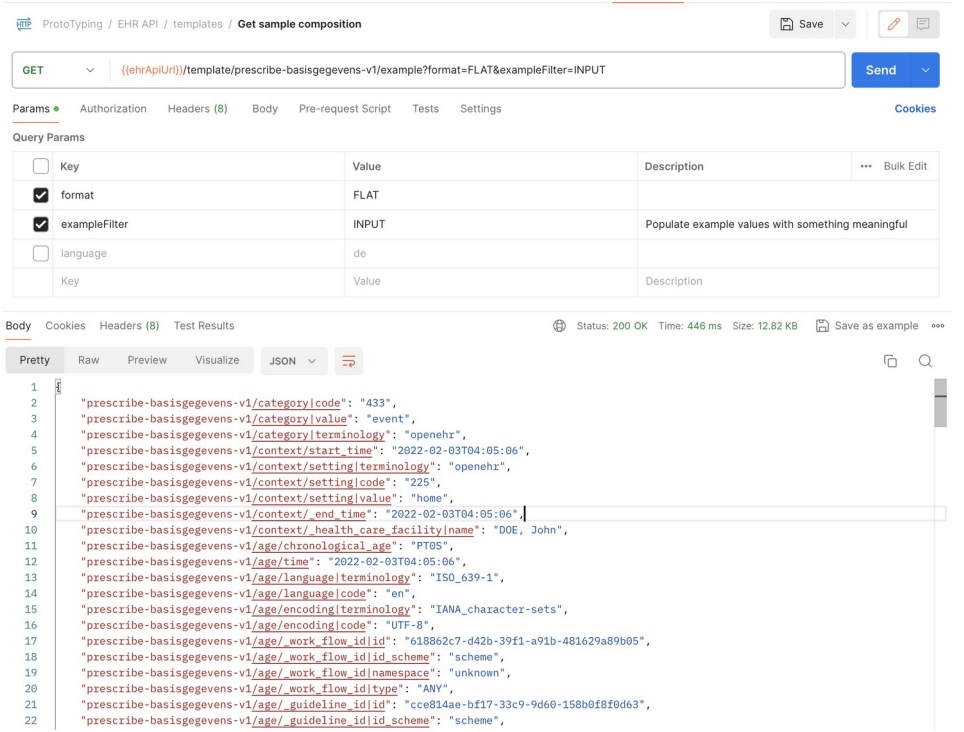
- Standard APIs



openEHR

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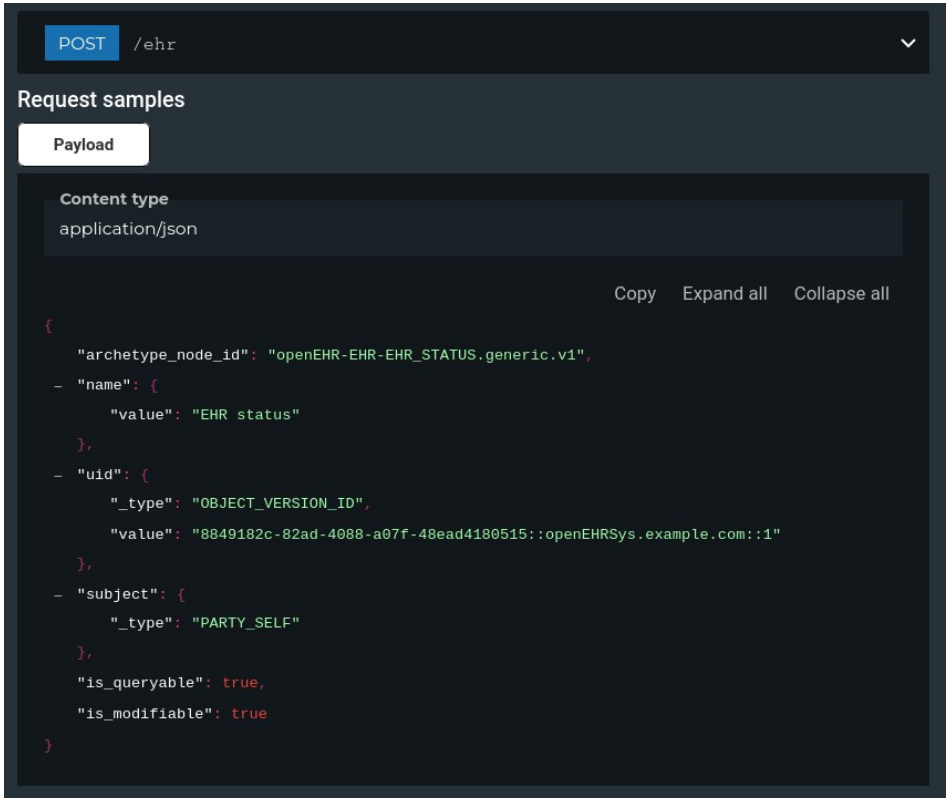
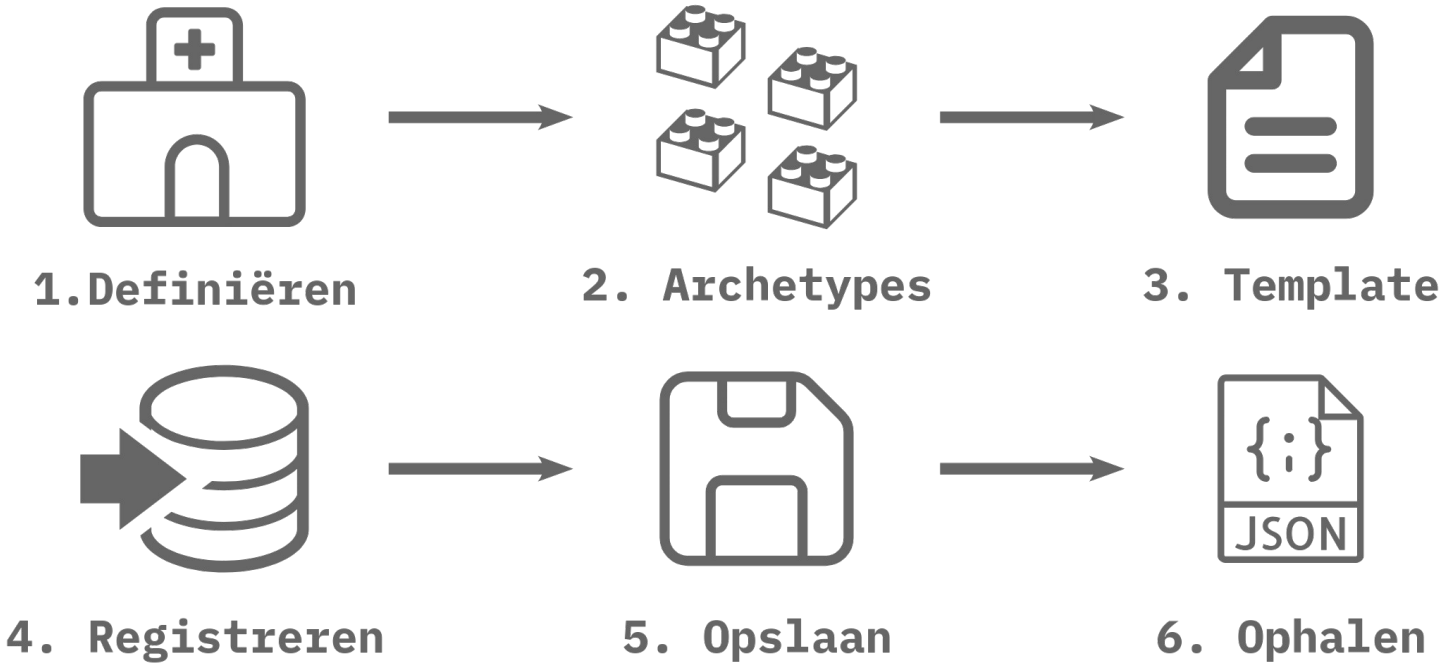
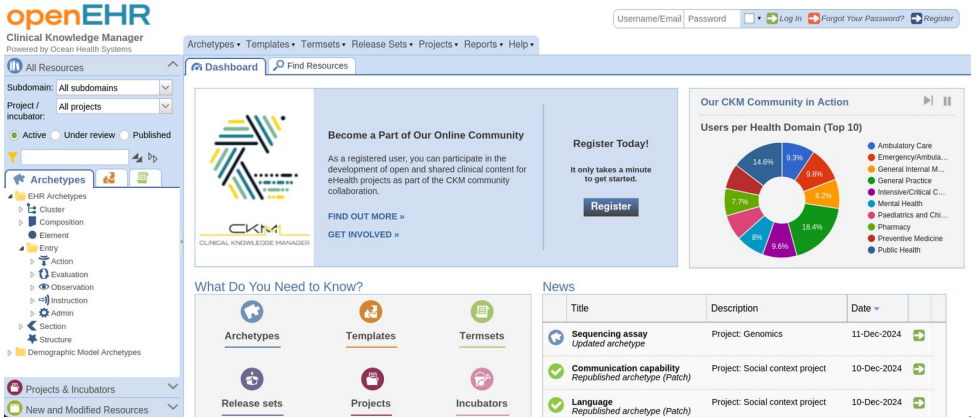



1.Definiëren
2. Archetypes
3. Template
4. Registreren
5. Opslaan
6. Ophalen
{;}
JSON

Archetypes

Archetypes

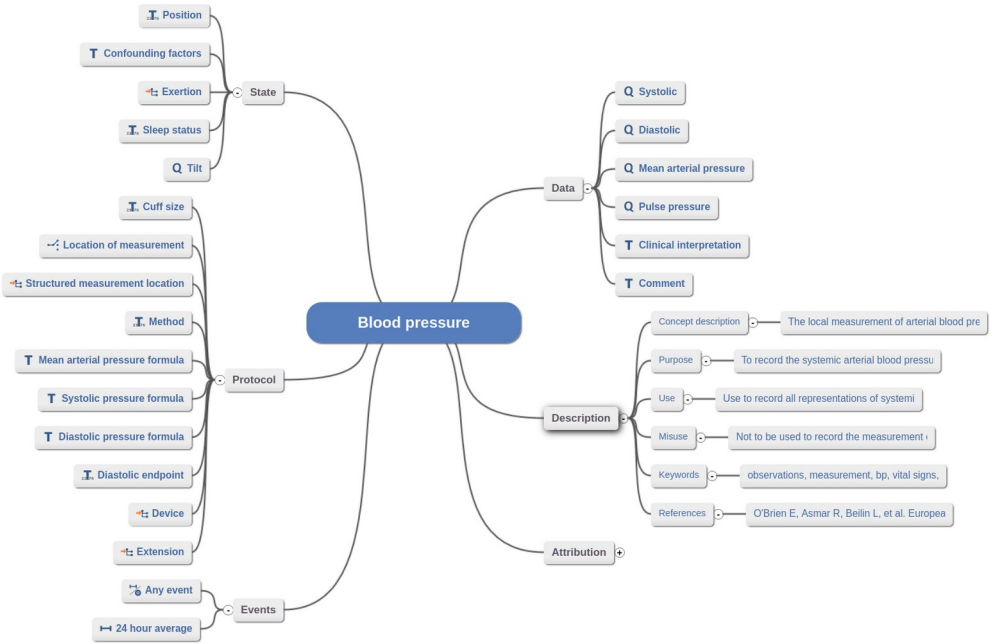
- **Clinical Knowledge Manager**
- Klinische concepten
- Exporteren
- Inspecteren



https://ckm.openehr.org/ckm/

Archetypes

- Clinical Knowledge Manager
- **Klinische concepten**
- Exporteren
- Inspecteren



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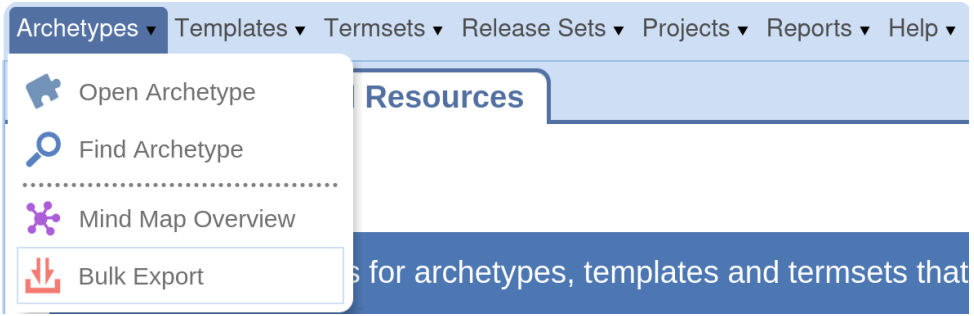

Archetypes

- Clinical Knowledge Manager
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- Exporteren
- **Inspecteren**

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    translations = <
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                ["name"] = <"Seung-Jong Yu">
                ["organisation"] = <"NOUSCO Co., Ltd.">
                ["email"] = <"seungjong.yu@gmail.com">
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            author = <
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                ["organisation"] = <"Universidade do Estado do Rio de Janeiro - UERJ">
                ["email"] = <"sergio@lampada.uerj.br">
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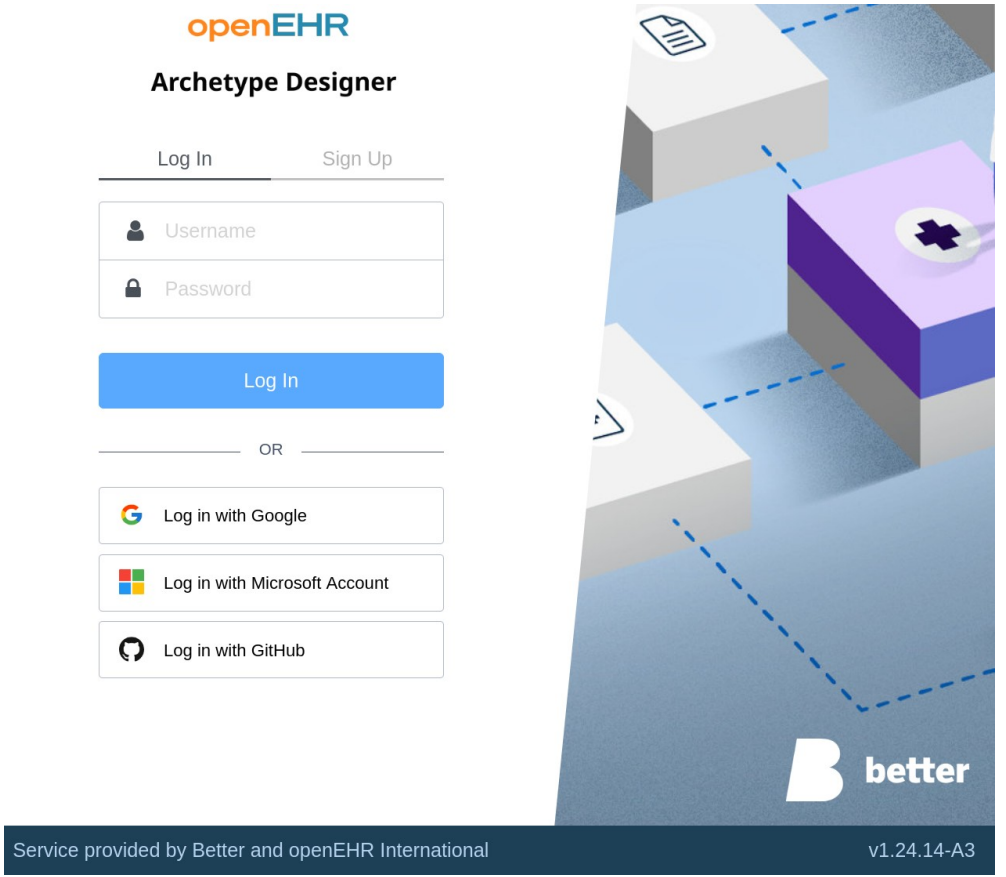
            >
        >
    >
description
    original_author = <
        ["name"] = <"Sergio Miranda Freire & Rigoleta Dutra Mediano Dias">
```

Aan de slag!

Archetypes & Templates

Templates

- **Archetype Designer**
- Repositories
- Root archetype
- Content
- Tweaken
- Exporteren



https://tools.openehr.org/

Templates

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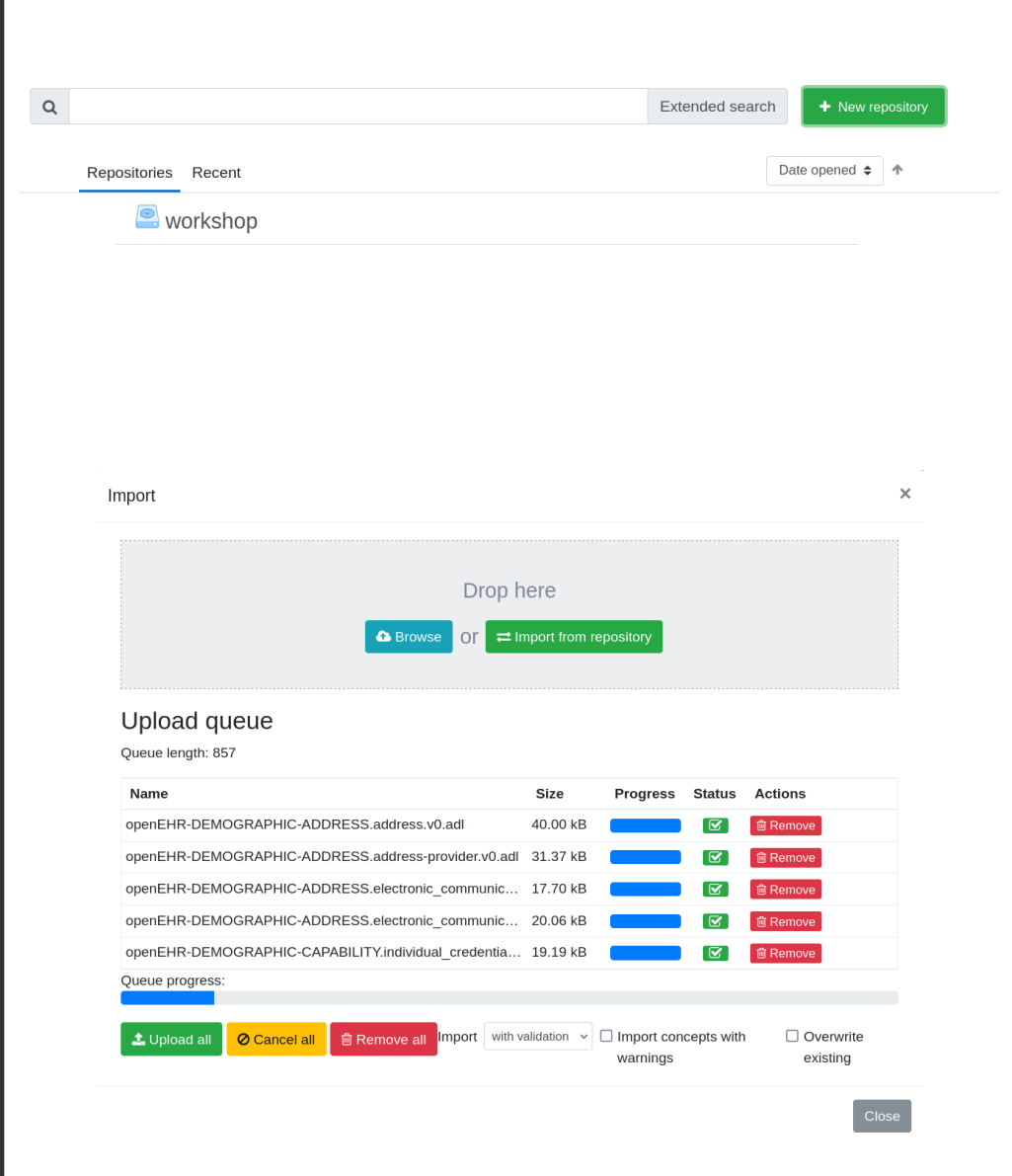

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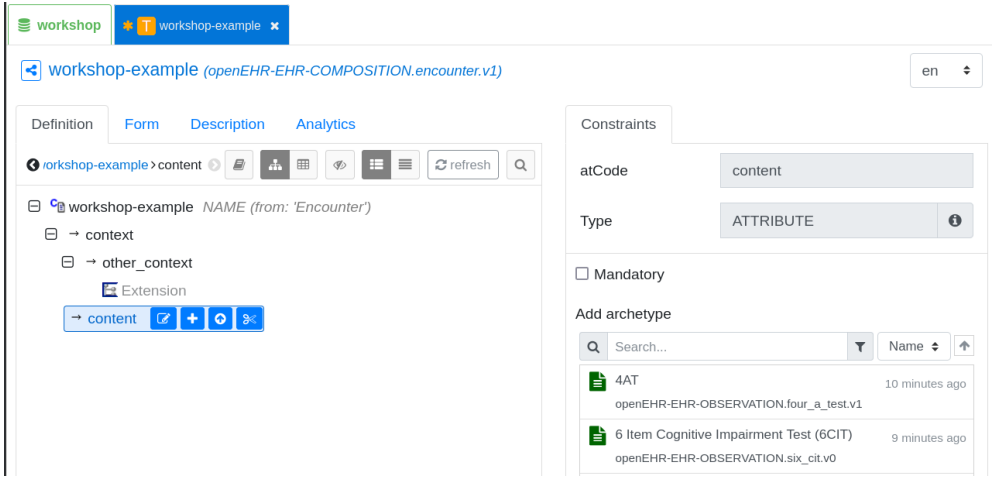

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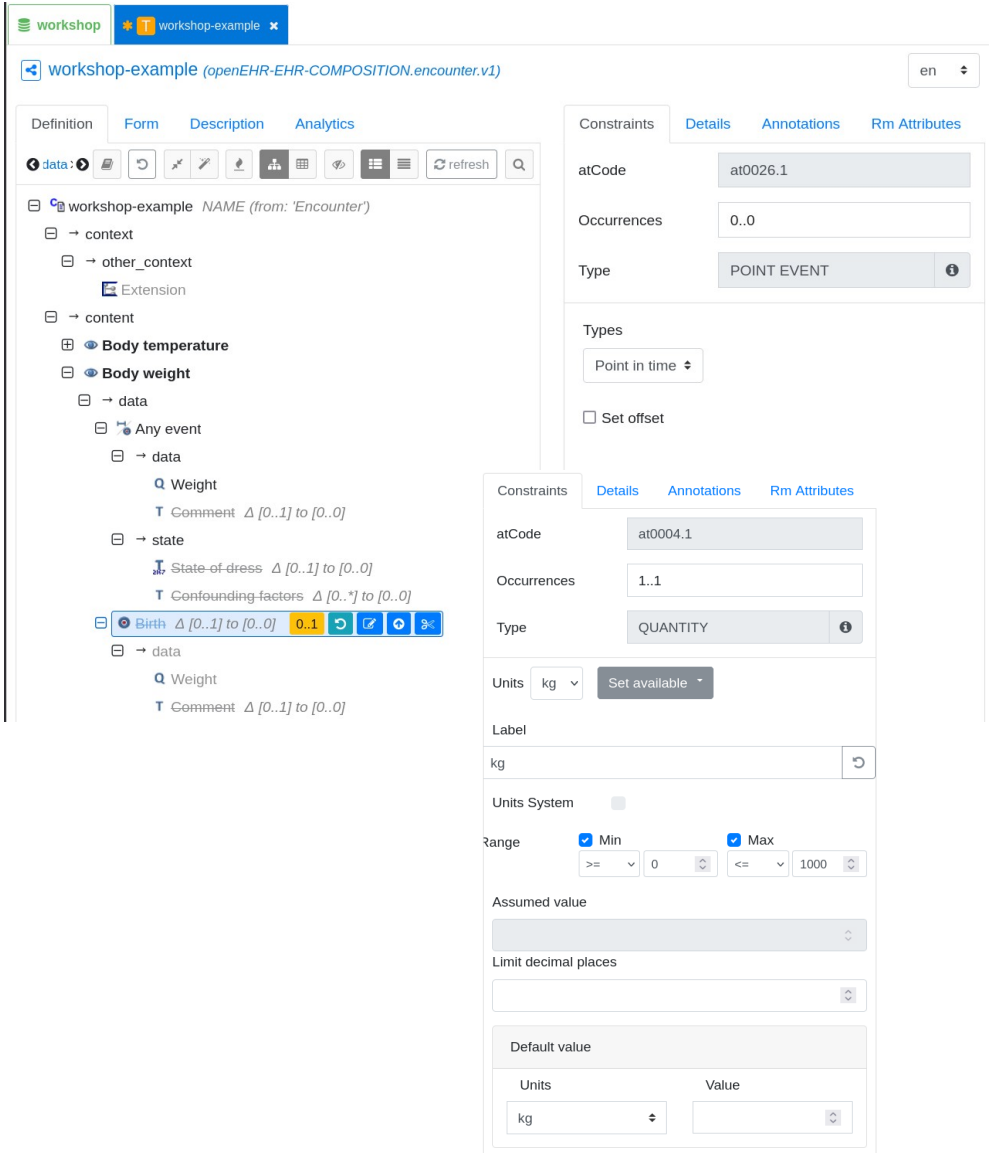

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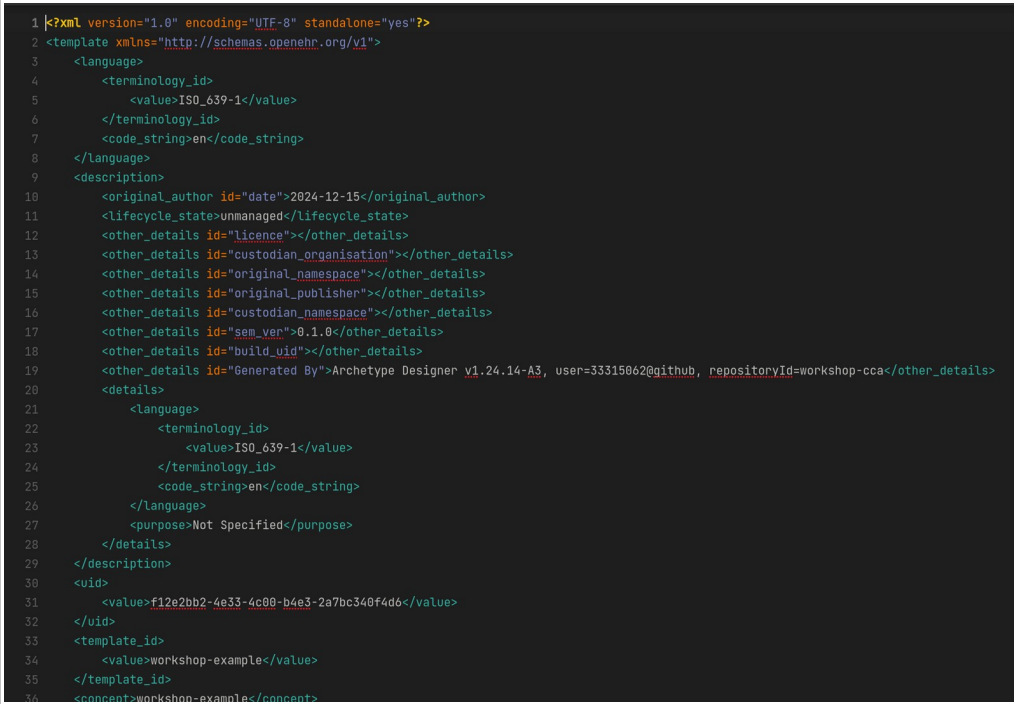

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    </uid>
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    </template_id>
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```

Aan de slag!

EHRBase

EHRBase

- Open Source
- Gebaseerd op Archie
- Vitagroup
- Optie 1: Sandbox
- Optie 2: Docker

EHRBASE
open source

https://sandkiste.ehrbase.org/

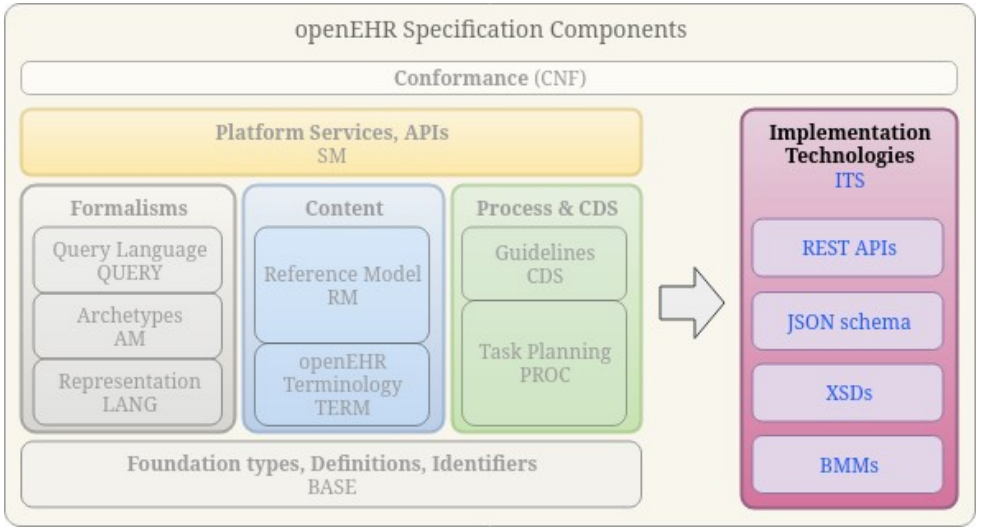
https://docs.ehrbase.org/

Aan de slag!

openEHR API

openEHR API

- OpenEHR Specificatie
- EhrScape API
- Documentatie
- API Client

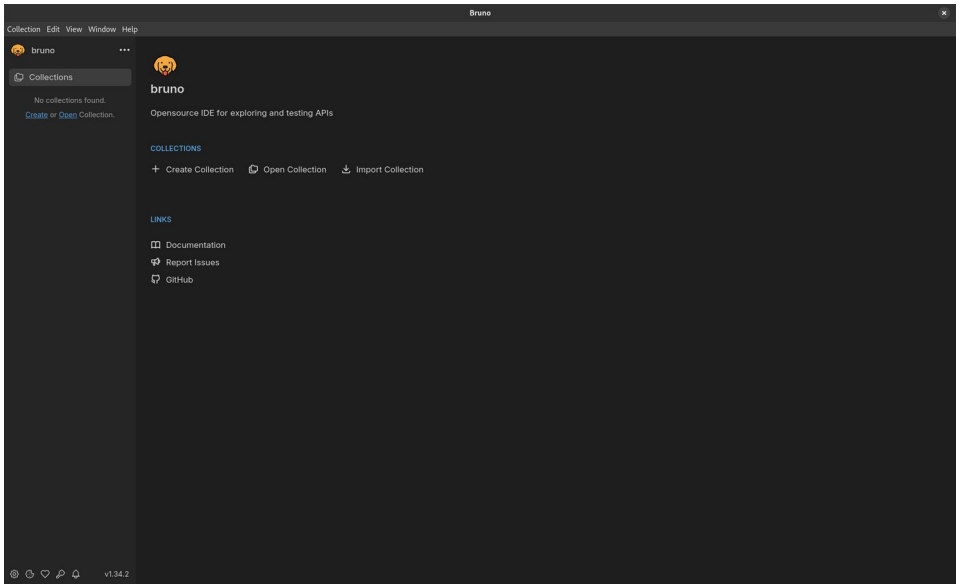


https://docs.ehrbase.org/api/hip-ehrbase/ehr

http://localhost:8080/ehrbase/swagger-ui/index.html

Bruno

- Open Source
- Git friendly
- Collection
- New Request
- New Environment



https://www.usebruno.com/

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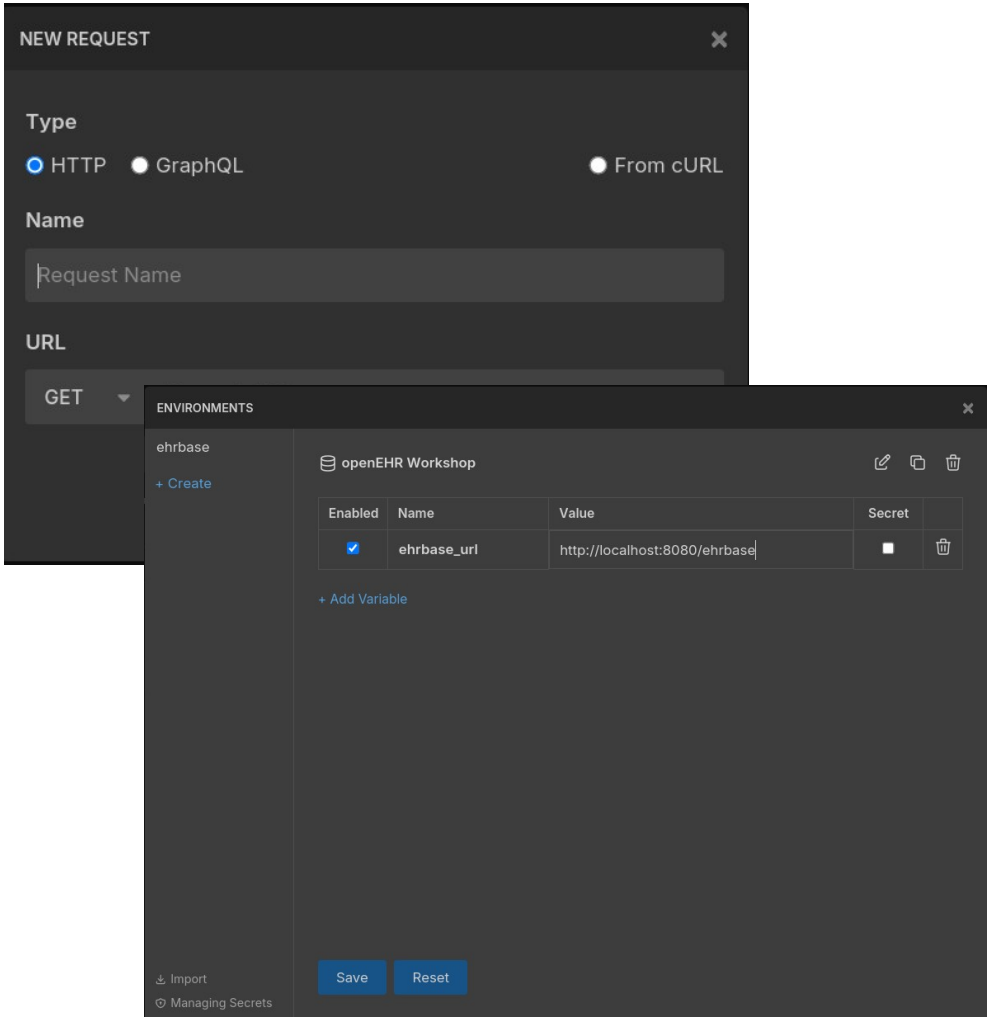

https://www.usebruno.com/

API stappen

- Template uploaden
- EHR aanmaken
- Compositie posten
- Compositie ophalen