Data hergebruik en Solid

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About me

- Co-Founder & CTO at Digita
  - Software and services so organisations can easily connect to a Solid-based personal data ecosystem
  - Still hiring to grow our team of ten people
- Adjunct Professor at KU Leuven
- Before:
  - Researcher at KU Leuven
  - Visiting Researcher at University of Cambridge

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Typical situation

Organisation A

Organisation B

You

Typical situation

Government

Bank

You

Typical situation

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I have collected and validated data about the user.

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Bank

When a user wants a product, I need to ask him/her for data and validate this data.

You

Typical situation

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I have collected and validated data about the user.

I need to manually enter all information and provide evidence again and again.

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When a user wants a product, I need to ask him/her for data and validate this data.

Wait a minute!

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I have collected and validated data about the user.

Can't I **reuse** the validated data that the gov has about me when I apply for a product at the bank?

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But, I want to be the one that remains in **control**.

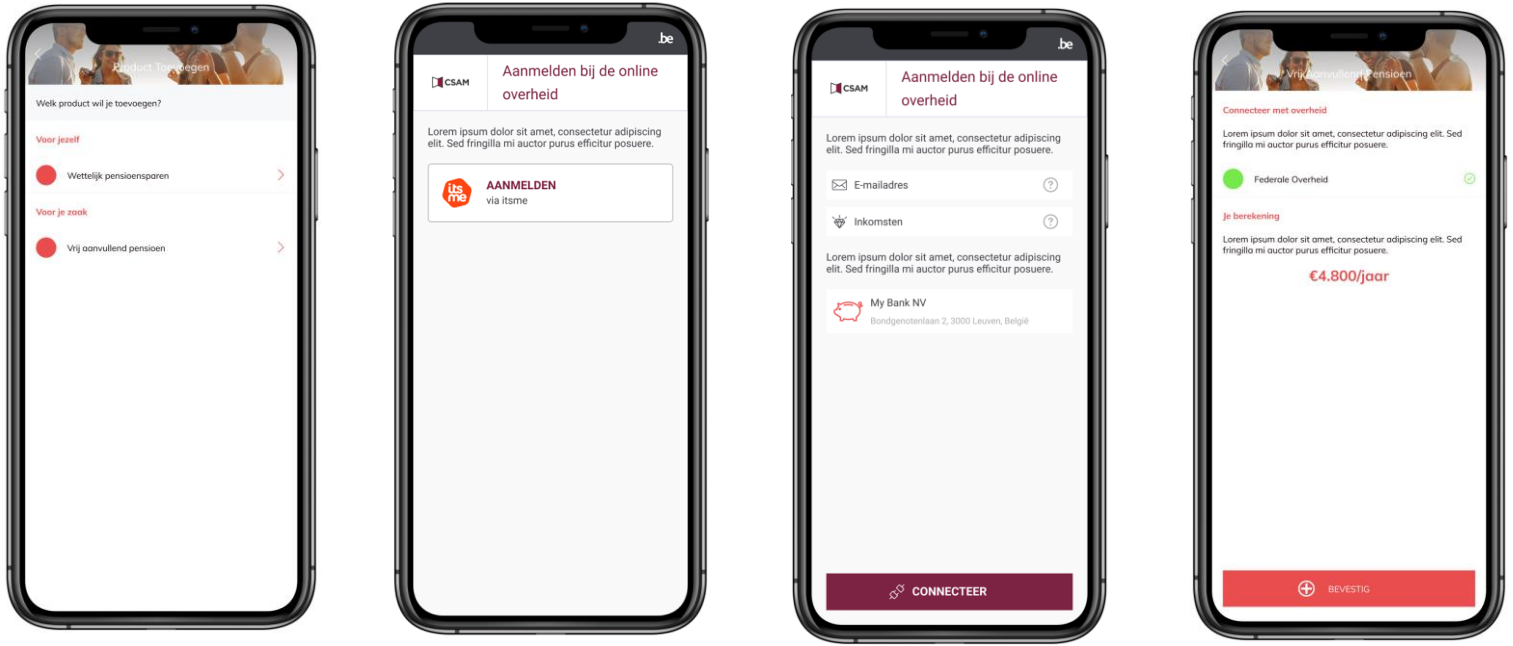
But, I want this to happen in a **transparent** way.

Bank

When a user wants a product, I need to ask him/her for data and validate this data.

One example of how this can look like

Bank → Gov → Gov → Bank



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Data Reuse: How it currently happens

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Address Information

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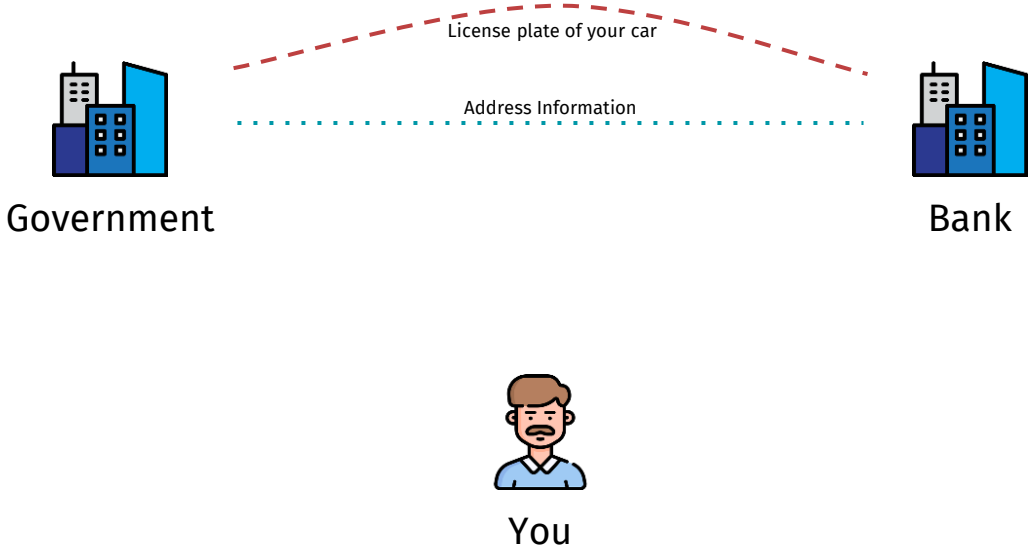
Data Reuse: How it currently happens



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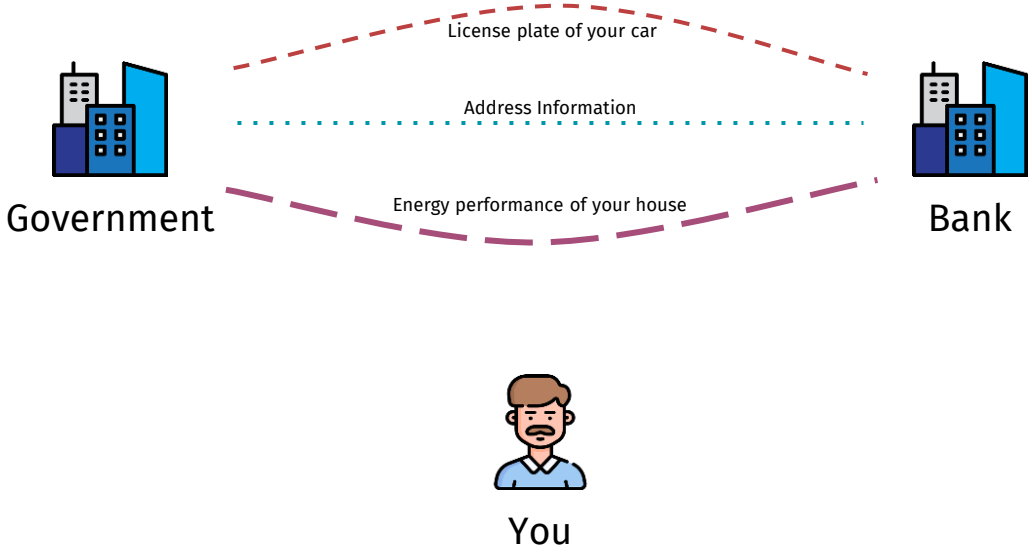

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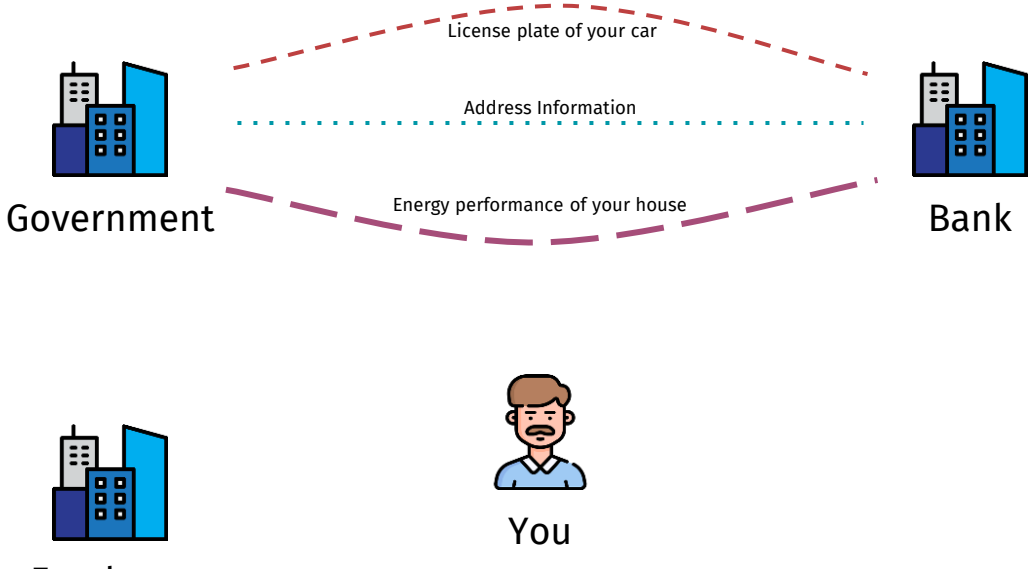

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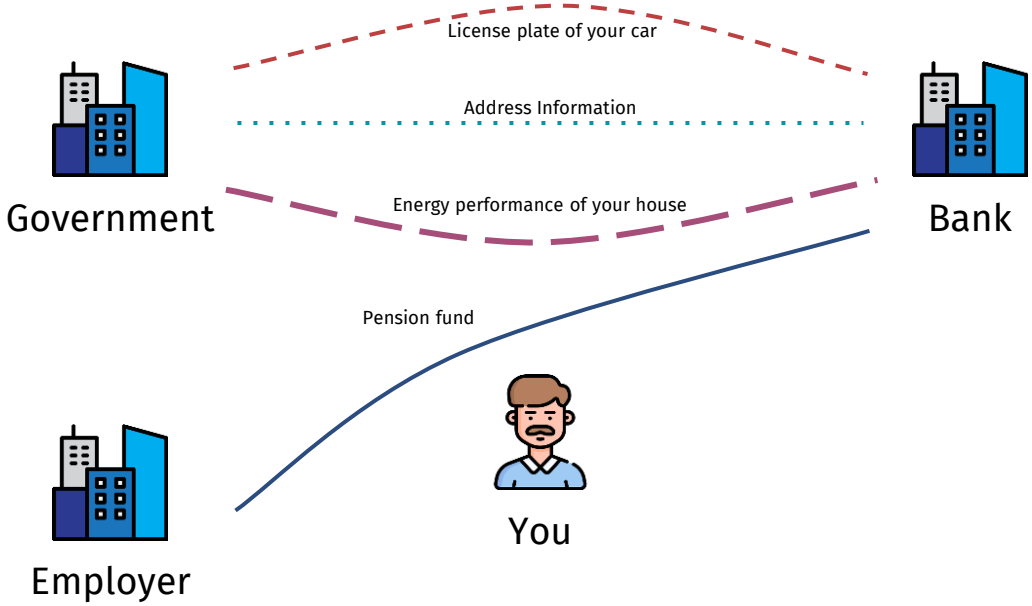

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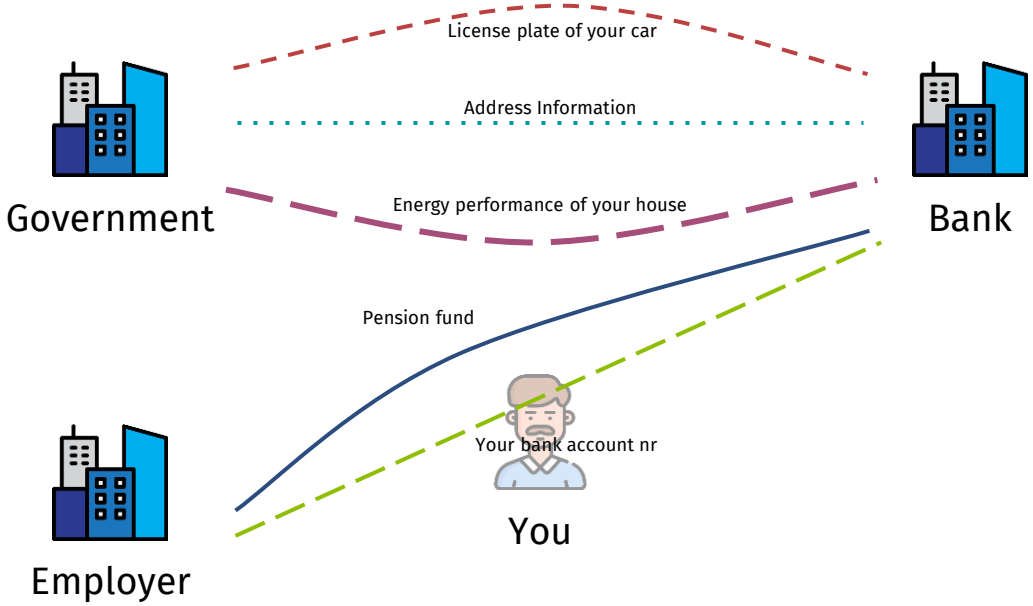

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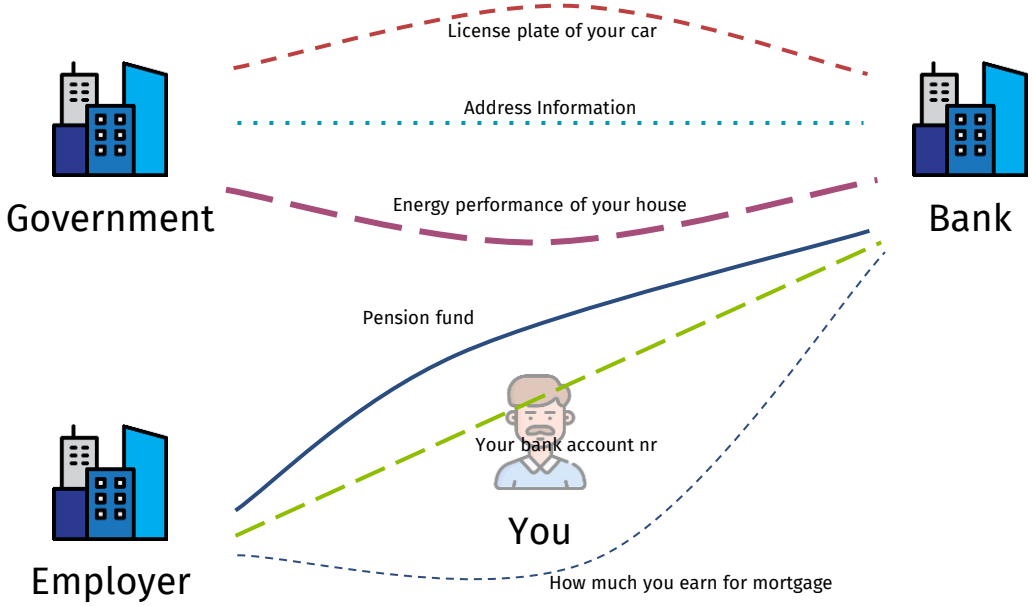

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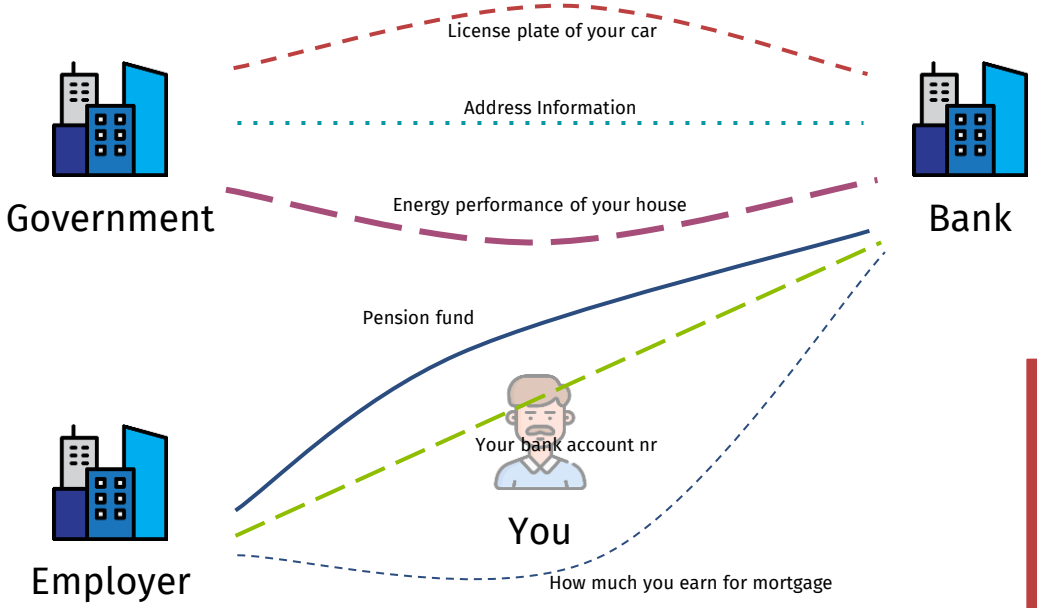

Many different heterogeneous point to point connections

Heterogenous point to point connections

Why are they problematic?

- Each connection with external data source requires a new ICT investment
- Each time, the user has a different user experience
- The user has no way to get an overview of all these connections
- ...

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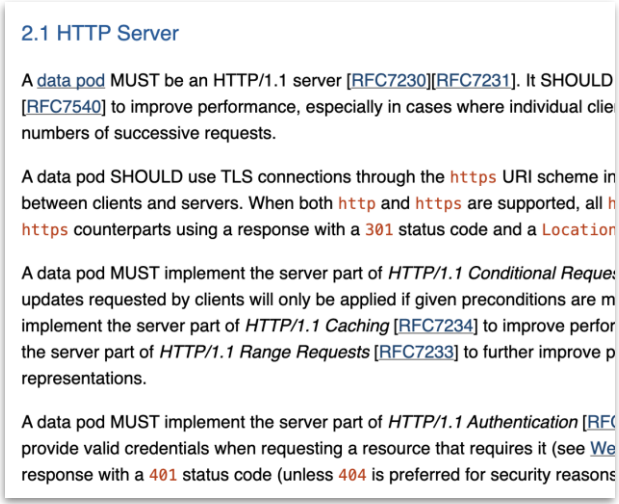
Solid

- A specification based upon open web standards (i.e. a list of rules)
- Goal: standardise many (but not all!!) aspects of data reuse to eliminate homogeneous point-to-point connections
- Solid leads to a world wide web, but then for personal data.



2.1 HTTP Server

A data pod MUST be an HTTP/1.1 server [RFC7230][RFC7231]. It SHOULD
[RFC7540] to improve performance, especially in cases where individual clie
numbers of successive requests.

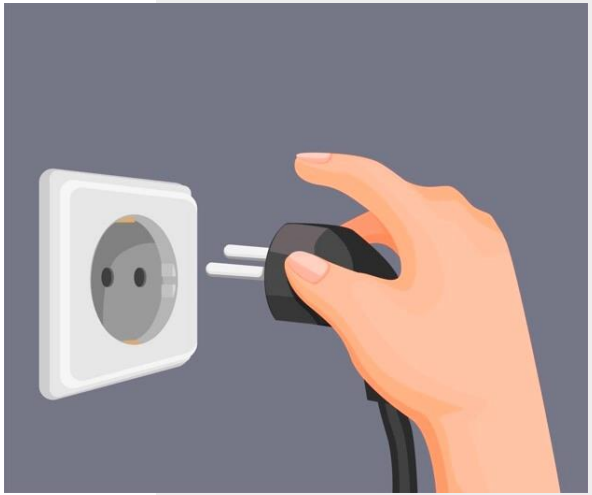
A data pod SHOULD use TLS connections through the `https` URI scheme in
between clients and servers. When both `http` and `https` are supported, all h
`https` counterparts using a response with a `301` status code and a `Location`

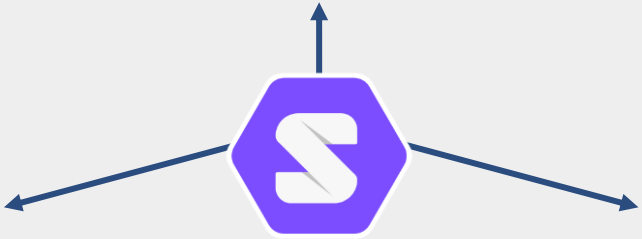
A data pod MUST implement the server part of *HTTP/1.1 Conditional Reques*
updates requested by clients will only be applied if given preconditions are m
implement the server part of *HTTP/1.1 Caching* [RFC7234] to improve perfor
the server part of *HTTP/1.1 Range Requests* [RFC7233] to further improve p
representations.

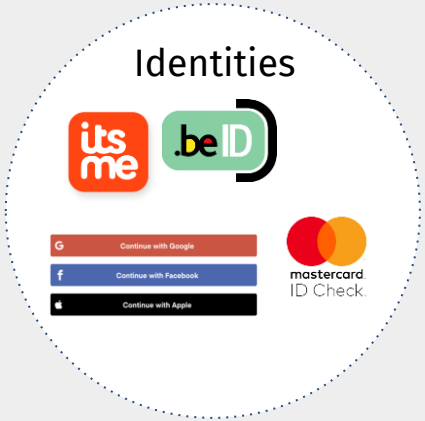
A data pod MUST implement the server part of *HTTP/1.1 Authentication* [RFC
provide valid credentials when requesting a resource that requires it (see We
response with a `401` status code (unless `404` is preferred for security reasons

What does Solid do?

- Leads to a loose coupling and many to many relationship between
  - Apps
  - Pods (a.k.a vaults, data stores, ...)
  - Identities
- Does not create data vaults
- But **standardises** data vaults (i.e. pods)
  Make e.g. My Walmart, My Wells Fargo, My T Mobile, ... interoperable







Standardisation leads to a loose coupling and vertical disintegration

What do the Solid rules say?

- The most fundamental rules: there are WebIDs, pods, identities and apps
- Other rules: how these components should interact

Essential Concepts

WebID's - Pods - Identities and Apps

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WebID

- An HTTP URI
- Uniquely identifies an entity (e.g. a person, organisation, ...)
- Dereferences a WebID profile document.

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- Publicly available
- In Solid, this document contains a list of your storage locations (often called 'pods') and OpenID Connect Issuers.

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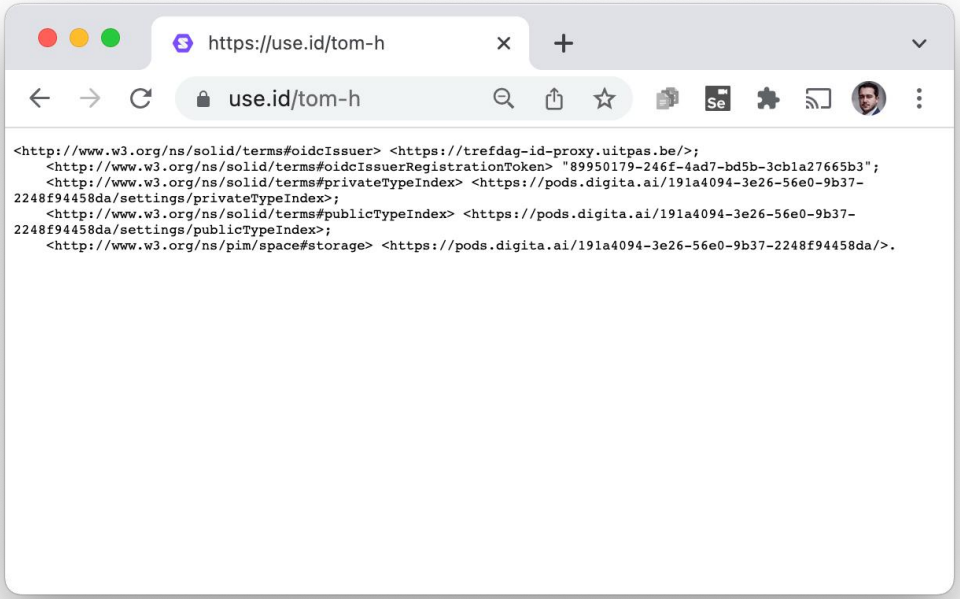

Essential Concepts

WebID’s - **Pods** - Identities and Apps

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A pod is a container to store things with mechanisms to say who can access what. A pod is an implementation of a Linked Data Platform (LDP).

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WebID's - **Pods** - Identities and Apps

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Did you know that... Actually, the concept of a pod does not really exist and the WebID is the most central concept within Solid.

Essential Concepts

WebID’s - Pods - **Identities** and Apps

Solid-OIDC

Essential Concepts

WebID’s - Pods - **Identities** and Apps

Solid-OIDC

- A special flavour of traditional OpenID Connect

Essential Concepts

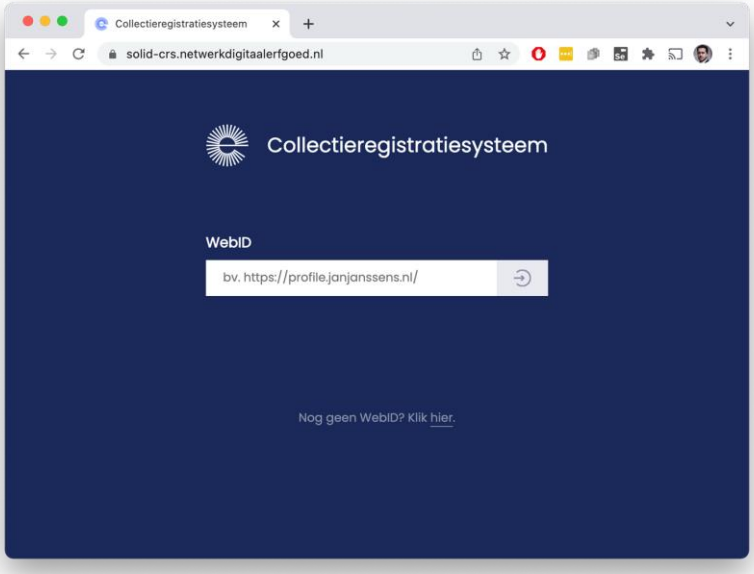
WebID’s - Pods - Identities and **Apps**

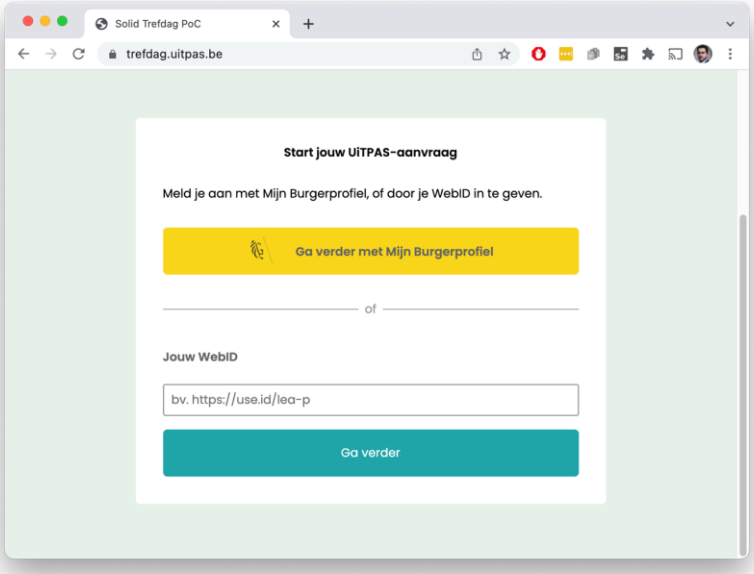
Essential Concepts

WebID’s - Pods - Identities and **Apps**

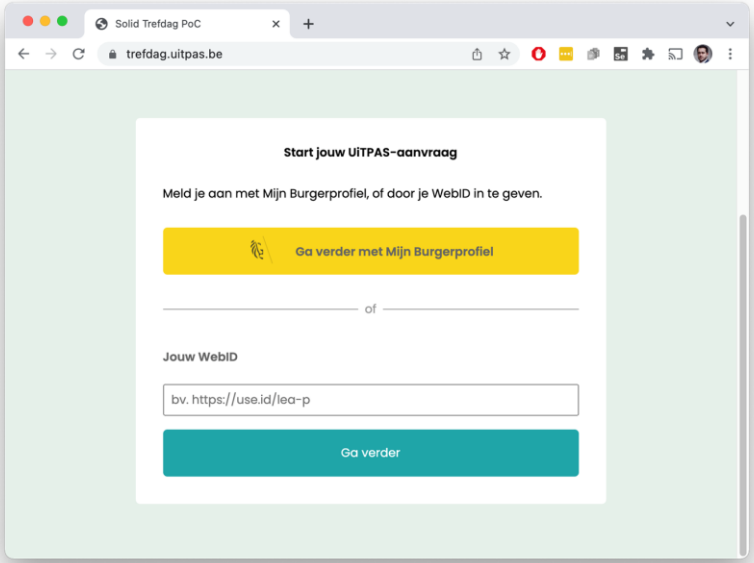
An app in which you can log in with your WebID so you can access your Solid pod

Examples


Collectieregistratiesysteem
solid-crs.netwerkdigitaalerfgoed.nl
Collectieregistratiesysteem
WebID
bv. https://profile.janjanssens.nl/
Nog geen WebID? Klik hier.

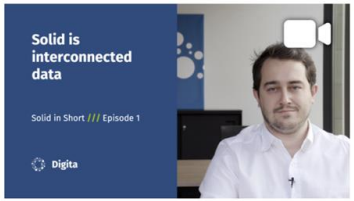

Solid Trefdag PoC
trefdag.uitpas.be
Start jouw UiTPAS-aanvraag
Meld je aan met Mijn Burgerprofiel, of door je WebID in te geven.
Ga verder met Mijn Burgerprofiel
of
Jouw WebID
bv. https://use.id/lea-p
Ga verder

Best of both worlds

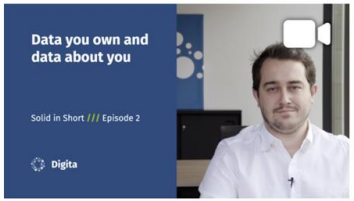


Self selection for power users and non-power users

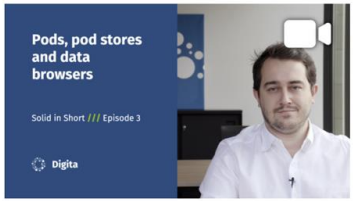
Learn more at digita.ai/resources



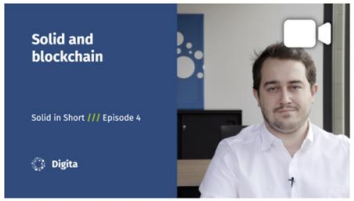
SOLID IS INTERCONNECTED DATA



DATA YOU OWN AND DATA ABOUT YOU



PODS, POD STORES AND DATA BROWSERS



SOLID AND BLOCKCHAIN

THE BUILDING BLOCKS OF SOLID