

# How to build a website for the IndieWeb

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jackdbd




giacomodebidda.com

# The Golden Age of the Internet

The web today is much more **centralized** than it was in the past.

I miss when the internet felt like an **endless ocean** full of passion and creativity. It's now full of corporations, tribalism and people who seek to earn money/push their political views.

—wallakfir90


Source: I Miss Forums (And the Decentralized Internet) 

The web today is much more **homogenous** than it was in the past.

Even in the days of MySpace, users enjoyed a level of **control** over their personal pages not seen today, with the ability to change the CSS and background image to their liking. Unfortunately, those times are largely behind us now—lost somewhere in the mid-2000s.

In the Facebook era, everybody shares the same sterile profile, with the only avenues for **self-expression** being the photos and comments that they post.

—Dave Heinemann


Source: This is not the Web I've Known 



# Silos

A silo (AKA walled garden) is a **centralized** web site (like most social media) that stakes some **claim to content** contributed to it and **restricts access** in some way (has walls).

”

Source: [silos, on indieweb.org](http://silos.on.indieweb.org) 

- require you to create an account specific to that site to use it (silo identity)
- allow you to interact only with accounts on that site (silo contacts)
- allow you to post only specific forms of content (e.g. text of 140 characters)
- claim some ownership or license to any content you create within the silo
- restrict your ability to import/export your content (e.g. posts, comments, tags)
- have an access wall that prevents indexing of (at least some of the) content you contribute
- have restrictive terms of service (TOS)
- can be shut down (acqui-hire, site-death), taking content and permalinks with them

Perhaps you're done with  
others owning your content,  
your identity, and your self

Reclaim your  
content and self  
host it

# Own your domain

A personal domain name is an inexpensive, internationally **universal identifier** which gives you more control over your space than other IDs (e.g. email address or phone number.) ”


Source: IndieWebify.Me @

## Why not just a subdomain?

A subdomain (like `example.wordpress.com` or `example.github.io` ) **is not something you own**, rather you are at the mercy of the corporation that owns the actual domain name, who thus has ownership and control of all subdomains as well. ”

Source: personal-domain, on indieweb.org @

# Web Sign-in

You can sign in to websites using your domain name. This **mechanism** is called Web sign-in 

Web sign-in can be implemented using these **authentication protocols**:

- RelMeAuth
- IndieAuth

Here is how it works:

1. A website presents a login form to the user
2. The user enters their personal domain name into the login form
3. The website verifies that the user has control of that domain (e.g. via RelMeAuth or IndieAuth)



# RelMeAuth

RelMeAuth uses `rel="me"` link(s) to match your domain name with existing identity(ies).

In RelMeAuth an identity can be:

- The account you have with an OAuth 2.0 provider (e.g. your GitHub account)
- Your email
- Your OpenPGP key

# website → provider

Option A: `<a rel="me">` in the `<body>`

```
<body>
  <a href="https://github.com/jackdbd"
    rel="me">@jackdbd on Github</a>

  <a href="https://fosstodon.org/jackdbd"
    rel="me">@jackdbd on Mastodon</a>

  <a href="mailto:me@example.com"
    rel="me">me@example.com</a>

  <a href="/assets/openpgp-pubkey.txt"
    rel="pgpkey">My OpenPGP public key</a>
</body>
```

Option B: `<link rel="me">` in the `<head>`

```
<head>
  <link rel="me" href="https://github.com/jackdbd" />
  <link rel="me" href="https://fosstodon.org/@jackdbd" />
  <link rel="me" href="mailto:me@example.com" />
```

# provider → website

- Add your website in your Github profile
- Verify your identity on Mastodon
- Receive a verification code via email
- Sign a challenge with your OpenPGP private key  
(e.g. `echo <challenge> | gpg --clearsign -armor`)

Use indiewebify.me/validate-rel-me to validate that your domain name and profiles are linked together.

## 2. Set up Web Sign In

In order to be able to sign in using your domain name, connect it to your existing identities.

You probably already have many disconnected profiles on the web. Linking between them and your domain name with the `rel="me"` microformat ensures that it's easy to see that you on Google/Twitter/Github/Flickr/Facebook/email are all the same person as your domain name.

On the wiki: [How to set up Web Sign In](#).

We found the following `rel="me"` URLs on your site:

- <https://github.com/jackdbd> works perfectly
- <mailto:giacomo@giacomobidda.com> only http and https links are validated
- <https://fosstodon.org/@jackdbd> works perfectly

Test

# Example: IndieWeb.org

Enter your URL to sign in.

Log in to <https://indieweb.org/>

giacomodebidda.com

Sign In

## Sign in to [indielogin.com/id](https://indielogin.com/id)

Authenticate using one of the methods below to sign in as  
<https://giacomodebidda.com/>

3 supported and verified providers were found!

8 hours ago [Refresh](#)



[giacomo@giacomodebidda.com](mailto:giacomo@giacomodebidda.com)

Receive a verification code via email



[GPG \(giacomodebidda.com/assets/pgp-key.txt\)](https://giacomodebidda.com/assets/pgp-key.txt)

Click to sign a challenge with your GPG key.



[github.com/jackdbd](https://github.com/jackdbd)

Ok! Click to authenticate using this provider.

You will be redirected to <https://indielogin.com/redirect/indieauth> after authorizing this application.

**User profile****Appearance****Editing****Recent changes****Watchlist****Search****Basic information**

Username: Giacomodebidda.com

Member of groups: [Autoconfirmed users](#), [Users](#)

Number of edits: 0

Registration time: 18:15, 30 October 2024

Real name:

Real name is optional. If provided, it may be used to give you attribution for your work.

Access account data: [My account data from this project](#)

Reset settings: [Restore all default preferences \(in all sections\)](#)

**Internationalisation**

Language:

en - English



How do you prefer to be described?

☒ They edit wiki pages  
(When mentioning you, the software will use gender neutral words whenever possible)

☐ She edits wiki pages

☐ He edits wiki pages

Setting this preference is optional. The software uses its value to address you and to mention you to others using the appropriate grammatical gender. This information will be public.

Save

# Own your identity

Instead of logging in to websites as "you on Twitter" or "you on Facebook", you should be able to log in as just "you". ”  
We should not be relying on Twitter or Facebook to provide our authenticated identities, we should be able to use our own domain names to log in to sites everywhere.

Source: IndieAuth.com: Sign in with your domain name ↗

# IndieAuth

Every service that spins up an OAuth-enabled API ends up being its own **isolated system**. ”

For example, if I want to build an app that can read someone's step count from FitBit, I have to first go register as a developer on FitBit's website in order to get API keys to use with their OAuth API.

—Aaron Parecki

Source: OAuth for the Open Web @

IndieAuth is:

- an OAuth 2.0 extension that defines an identity layer
- an authentication protocol alternative to OpenID Connect
- typically used to obtain an OAuth 2.0 Bearer tokens for Micropub clients
- used on sites like indiebookclub.biz

# IndieAuth

- **Unique user identifier**: a URL
- Identity is **portable**
- Identity is tied to DNS
- OAuth 2.0 clients (aka OAuth apps) require no registration, since client IDs are resolvable URLs
- Defines 2 scopes for the access token
- Your app can define additional scopes/claims
- access token, no ID token
- User's info available at the `/userinfo` endpoint
- Does not deal with session management, focuses on just returning the user's identifier

# OpenID Connect

- **No** consistent **unique user identifier** across providers
- Identity is **not portable** → many identities
- Each identity is tied to an OpenID Connect provider
- OAuth 2.0 clients require registration (e.g. you need to create a GitHub OAuth App, a LinkedIn app, etc.)
- Defines 20 standard claims
- OIDC provider can define additional scopes/claims
- Your app can define additional scopes/claims
- access token and ID token
- Claims returned in an ID Token and are also available through the `/userinfo` endpoint
- Deals with session management, ID tokens can be used as a session



# No OAuth 2.0 client registration

In IndieAuth the client ID is a resolvable URL

```
GET https://indiebookclub.biz/id
```

```
{  
  "client_id": "https://indiebookclub.biz/id",  
  "client_name": "indiebookclub",  
  "client_uri": "https://indiebookclub.biz/",  
  "logo_uri": "https://indiebookclub.biz/images/book.svg",  
  "redirect_uris": ["https://indiebookclub.biz/auth/callback"]  
}
```

## Allow [indiebookclub.biz/id](https://indiebookclub.biz/id) access to [giacomodebidda.com](https://giacomodebidda.com/)?

The app <https://indiebookclub.biz/id> would like to access your site, <https://giacomodebidda.com/>

The app is requesting the following [scopes](#):

- create
- draft
- profile

Authenticate using one of the methods below to approve this request.

4 supported and verified providers were found!

1 hour ago [Refresh](#)



[giacomo@giacomodebidda.com](mailto:giacomo@giacomodebidda.com)

Receive a verification code via email



[IndieAuth](#)

Ok! Click to authenticate using your IndieAuth server.



[GPG \(giacomodebidda.com/assets/pgp-key.txt\)](https://giacomodebidda.com/assets/pgp-key.txt)

Click to sign a challenge with your GPG key.



[github.com/jackdbd](https://github.com/jackdbd)

Ok! Click to authenticate using this provider.

You will be redirected to <https://indiebookclub.biz/auth/callback> after authorizing this application.

# How does IndieAuth work?

An **IndieAuth server** is a set of endpoints: authorization endpoint, token endpoint, revocation endpoint, introspection endpoint, userinfo endpoint.

A **website/app** that implements IndieAuth advertises these endpoints at the URL `rel=indieauth-metadata`, using IndieAuth Server Metadata (an extension of OAuth 2.0 Authorization Server Metadata).

```
<link rel="indieauth-metadata" href="https://giacomodebidda.com/.well-known/oauth-authorization-server">
```

**IndieAuth clients** fetch the URL at `rel=indieauth-metadata` and discover these endpoints.

```
{
  "authorization_endpoint": "https://indieauth.com/auth",
  "introspection_endpoint": "https://micropub.fly.dev/introspect",
  "issuer": "https://giacomodebidda.com/",
  "revocation_endpoint": "https://micropub.fly.dev/revocation",
  "scopes_supported": ["email", "profile", "create", "draft", "update", "delete", "media"],
  "token_endpoint": "https://micropub.fly.dev/token",
  "userinfo_endpoint": "https://micropub.fly.dev/userinfo"
}
```

# Own your content

## Publish On your own Site

You own the canonical URL of your content...

```
<head>
  <link rel="canonical"
        href="https://www.giacomodebidda.com/articles/performance-audit-italian-news-website/">
</head>
```

## Syndicate Elsewhere

...and publish a copy of your content on other platforms (e.g. social media).

TODO: show example of syndicating content to LinkedIn.

# Microformats2

<https://microformats.org/wiki/microformats2>

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TODO: show snippets from your blog

## Add microformats to your content



Add the h-entry microformat markup to your posts. Many CMSs and themes already support them!

You can use the h-entry validator to verify that your recent post has validate your h-entry.

Why? This will allow other people's software to easily read and understand your content. This is useful for a variety of things like recognizing comments, likes, reposts, and displaying reply-contexts for your posts.

[https://indieweb.org/Getting\\_Started#IndieWeb\\_self-starters](https://indieweb.org/Getting_Started#IndieWeb_self-starters)

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# h-card

Update your index.html home page to include your basic information in an h-card. This h-card can be as simple as your name.

Why? When you publish content, you can link back to your home page using rel-author and your authorship information can be retrieved from the h-card.

Advantages: While you are not yet publishing content on your own site, at this point you have:

Staked your claim on the indieweb Set up an identity that you own and control Why add my basic contact information in an h-card?

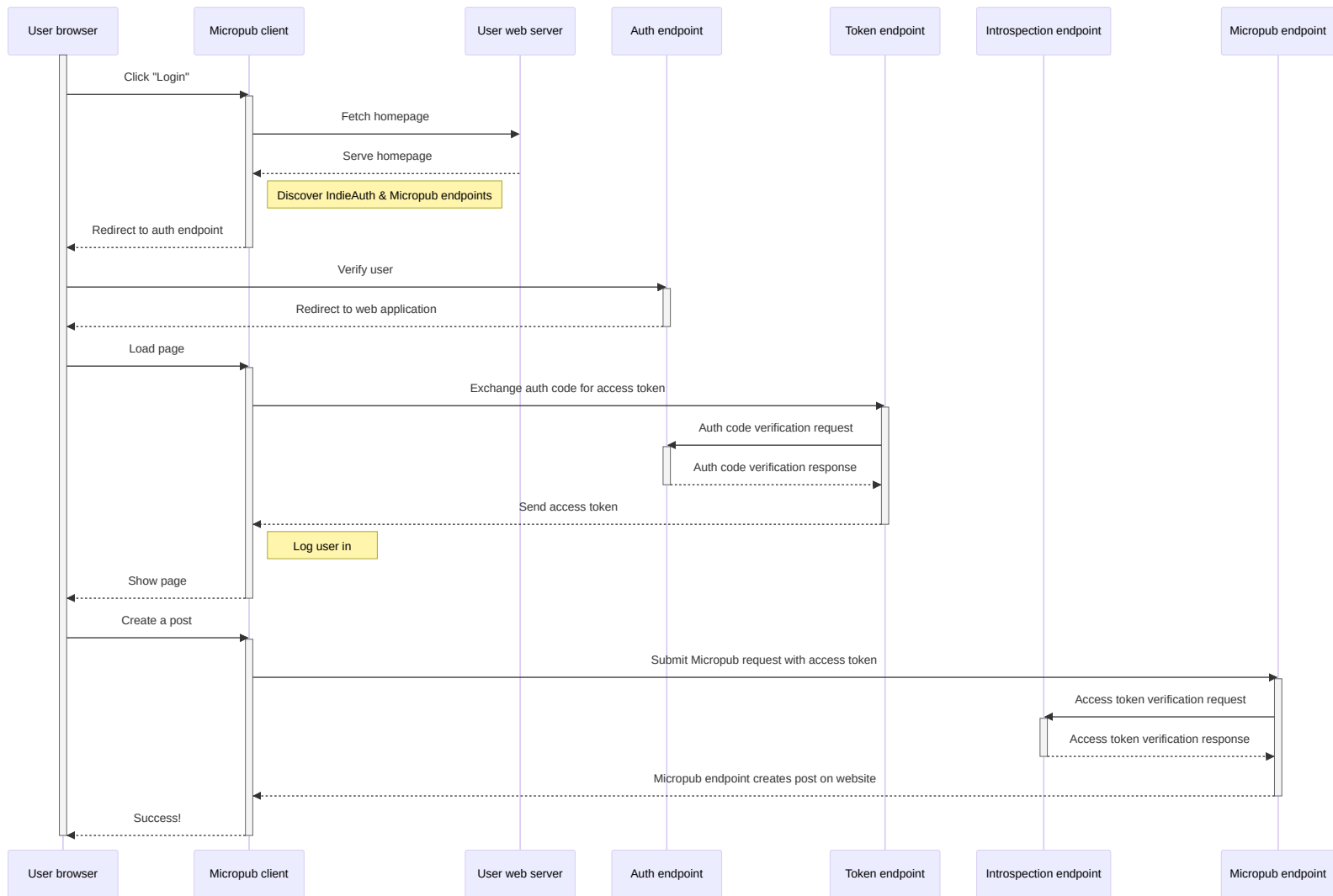
This helps with providing authorship information for anything you publish and link back to your home page with rel-author.

Validate your h-card here: <https://indiewebify.me/validate-h-card/>

Publish  
Syndicate  
Backfeed

# Micropub





# Syndicating your content

webmentions

bridgy








<https://bridgy/>

<https://fed.bridgy/>

# Backfeed (reverse syndication)

todo

# Recap

-  Read Getting Started
-  Buy a domain
-  Build a website and host it on your domain
-  Write your content with microformats2
-  Publish your content on your domain
-  Syndicate content to other platforms
-  Use IndieWebify.me and IndieMark as checklists to verify your progress

**Thanks**

# Left



indiebookclub

# Right

<https://indieweb.org/tools>

[Sign In](#)

## Sign In

indiebookclub is able to post to your website!

Click the button below to sign in and allow this app to post to your site.

[Sign In](#)

### ▼ Debugging Information:

indiebookclub found the following endpoints on your site:

- IndieAuth metadata endpoint: <https://giacomodebidda.com/.well-known/oauth-authorization-server>
- Authorization endpoint: <https://indieauth.com/auth>
- Token endpoint: <https://micropub.fly.dev/token>
- Micropub endpoint: <https://micropub.fly.dev/micropub>
- Revocation endpoint: <https://micropub.fly.dev/revocation>

# IndieLogin.com

```
GET https://indielogin.com/id
```

```
{  
  "client_id": "https://indielogin.com/id",  
  "client_name": "IndieLogin.com",  
  "client_uri": "https://indielogin.com/",  
  "logo_uri": "https://indielogin.com/icons/apple-touch-icon.png",  
  "redirect_uris": ["https://indielogin.com/redirect/indieauth"]  
}
```

Publish on your Own Site  
Syndicate Elsewhere