

[Using credential providers \[for custom registries\]](#)

[help](#)

[blonk](#) August 8, 2024, 2:35pm 1

(Continuing from [this thread](#))

Thanks to [@shepmaster](#) I got authentication working; as suggested in the other thread, "token" shouldn't be taken too literally. When accessing http resources cargo will first attempt to use an unauthenticated access. If it receives a 401 it will treat the "token" as a http `Authorization` header value. The "token" value should be the same format as the http header value, using the `Basic` scheme.

However, I'd like to understand how to use the platform-specific credential storage to store secrets, which cargo appears to support.

These can (allegedly) be enabled by adding `cargo:macos-keychain` (on macos) as a credential provider. This can either be done globally, or to a specific registry. I did this:

```
[registries.my-reg]
index = "sparse+http://127.0.0.1:8000/"
credential-provider = ["cargo:macos-keychain"]
```

.. is this correct? It feels a little odd to have a list when the key is singular (the global setting is plural).

As far as I can tell, looking at [the code](#), the idea is that the "password" is simply the "token value". I.e. it should contain the `Basic <base64 blob>`. The code says that "account" isn't used and is empty. I don't know what the exact implications of this are. It looks up the password by the service set to `let service_name = registry(reg.index_url);`. The `registry()` function simply adds a `cargo-registry:` in front of whatever is passed to `reg.index_url`.

I tried to open up my keychain and simply add a new item. In the "Keychain Item Name" I filled in `cargo-registry:sparse+http://127.0.0.1:8000/`. The "Account Name" needs to be set to *something*, so I set it to some random value. For the "Password" I set the token blob that worked when I put it in `~/ .cargo/config.toml`.

Once this has been added, I get an entry which is broken in interesting ways. the "Name" is `<unknown>`, "Kind" is "Internet password", "Account" is `foo` and "Where" is `␣: // (yes..)`. (Anyone who wants to go hunt for a CVE due to unvalidated input in Apple's Keychain application .. you're welcome).

I think it's the `:` and `+` that throws the keychain app off, because if I just put in a plain ol' `http://127.0.0.1` it doesn't explode.

Anyway -- all this is to ask the simple question: How does one format a Keychain item so that cargo can pick it up for a custom registry?

[shepmaster](#) August 8, 2024, 3:56pm 2

I set up `cargo:macos-keychain` as my global credential provider and then used `cargo login` to store my token. The keychain entry looks like:

```
Name: cargo-registry:https://github.com/rust-lang/crates.io-index
Kind: application password
Where: cargo-registry:https://github.com/rust-lang/crates.io-index
```

Account and Comments are blank, and the password contains the token.

Perhaps substituting your registry URL for the crates-io one would work?

[blonk](#) August 8, 2024, 6:04pm 3

Just to get a reference, I tried to use a credential provider on Windows, using `cargo-wincred`. I had basically the same initial issue -- I wasn't 100% certain that I understood how to format the credential, but I looked at what the code did and it seemed to do much the same as `macos-keychain`, so I assumed it wanted the "location" to be `cargo-registry:sparse+http://127.0.0.1:8000/`, and the password to be the same "token" as on macos.

This had a measurable effect, unfortunately cargo just ended up saying `error: [75] Unknown error`. However, this isn't necessarily bad news, because that means I can see that cargo is picking up the credential item (a point I never really reached on macos).

It looks like:

- `macos-keychain` can't be used, because the Keychain app is broken (it generates garbage if you try to mix in some `:` and `+` into the name). (Perhaps if one uses an alternative means of adding a credential item, it may work -- but the Keychain app is currently unhelpful).
- `wincred` seems to be broken; may be an actual issue in cargo.

Should probably test it on Linux as well, while I'm on a roll. It would be nice to see it work on *some* system, just so I can verify that I have done everything correctly.

[shepmaster](#) August 8, 2024, 6:59pm 4

shepmaster:

Perhaps substituting your registry URL for the crates-io one would work?

This worked for me:

[image818x504 31.1 KB](#)
[image842x342 57.1 KB](#)

```
% cargo build
Updating `my-awesome-registry` index
Updating crates.io index
Locking 8 packages to latest compatible versions
```

(I had other issues because this is my junk test registry and the URL in config.json didn't match the actual URL, but it successfully authenticated).

1 Like
[blonk](#) August 8, 2024, 7:10pm 5

Well I'll be -- that worked. I tried to create it in *Local Items* rather than *login* (because I read somewhere that *login* is "legacy"). I really should have tried *login* as well.

Thank you!

1 Like
[ehuss](#) August 10, 2024, 5:54pm 6

blonk:

It feels a little odd to have a list when the key is singular (the global setting is plural).

It is singular because you can only specify one provider for a specific registry. It is an array to give you the option to pass arguments to the provider. It can also just be a plain string if it doesn't have any arguments.

[registry.global-credential-providers](#) supports multiple providers, but does not support arguments directly. There is a separate alias table for that.

[blonk](#) August 10, 2024, 6:51pm 7

Ah, right -- yeah, that makes sense. It didn't occur to me that providers may need multiple arguments. I've been so focused on *macos-keychain* and *wincred*, but I see now that the *1password* provider takes arguments.

[system](#) Closed November 8, 2024, 6:51pm 8

This topic was automatically closed 90 days after the last reply. We invite you to open a new topic if you have further questions or comments.

Related topics

Topic	Replies	Views	Activity
Margo — a simple Cargo registry using static files announcements	8	1169	November 6, 2024
Cargo registry authentication within docker container help	3	965	April 8, 2024
How to set up Git credentials to be used by Cargo for access to a *custom* registry in a non-interactive way? help	3	1098	October 9, 2024
Difficulty with cargo registry authentication in Linux help	4	345	March 11, 2025
How to force cargo to use an internal server? (registry) help	4	156	November 9, 2025

- [Home](#)
- [Categories](#)
- [Guidelines](#)
- [Terms of Service](#)