

Unchained Digital Cash Payments

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Benoist

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Taler

Taler a privacy preserving payment system

Introduction to GNU Taler

Customer user experience

Merchant Integration (Rest API for payment)

Manipulate merchant backend

- Using Single Page Application

- Using RESTfull API

Questions and Answers

Digital cash, made **socially responsible**.



Privacy-Preserving, Practical, Taxable, Free Software, Efficient

What is GNU Taler?

<https://taler.net/en/features.html>

GNU Taler is

- ▶ a Free/Libre software *payment system* infrastructure project
- ▶ ... with a surrounding software ecosystem
- ▶ ... and a company (Taler Systems S.A.) and community that wants to deploy it as widely as possible.

However, GNU Taler is

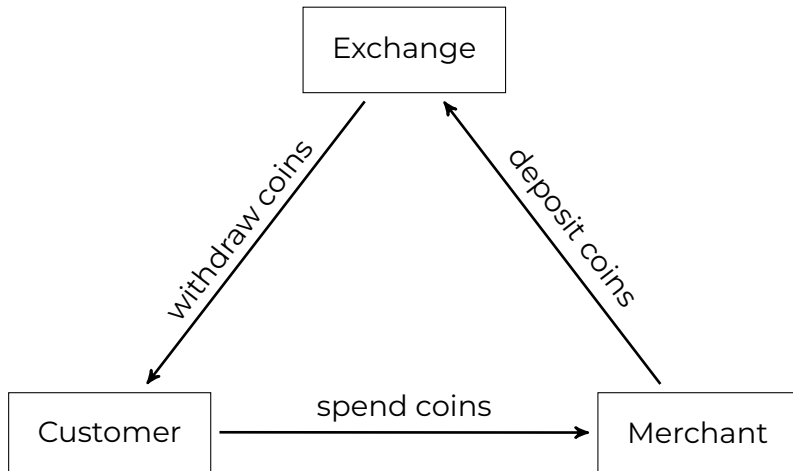
- ▶ *not* a currency
- ▶ *not* a long-term store of value
- ▶ *not* a network or instance of a system
- ▶ *not* decentralized
- ▶ *not* based on proof-of-work or proof-of-stake
- ▶ *not* a speculative asset / “get-rich-quick scheme”

Design goals for the GNU Taler Payment System

GNU Taler must ...

1. ... be implemented as **free software**.
2. ... protect the **privacy of buyers**.
3. ... must enable the state to **tax income** and crack down on illegal business activities.
4. ... prevent payment fraud.
5. ... only **disclose the minimal amount of information necessary**.
6. ... be usable.
7. ... be efficient.
8. ... avoid single points of failure.
9. ... foster **competition**.

GNU Taler Overview



Taler : Deployment plan

In Switzerland

- ▶ *Netzbond* : Local currency in Basel, deployment already started.
- ▶ *BFH Intern* : Snacks and café automats, in use.
- ▶ *CHF in Switzerland* : deployment just started

Europe

- ▶ *NGI-Taler project* with a German bank (GLS), deployment in the Eurozone for the end of 2025.
With a Hungarian bank (MagNet) deployment in 2026 in Hungary.
- ▶ *Depolymerizer* for Bitcoin. Working already as a University research project (not commercial).

Install the app on your phone

Alternatives (for browsers, etc.) wallet.taler.net

Apple App Store



Google Play Store

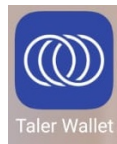


Install the app from the store

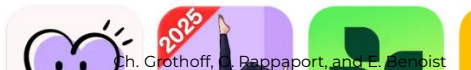
Install the Taler Wallet



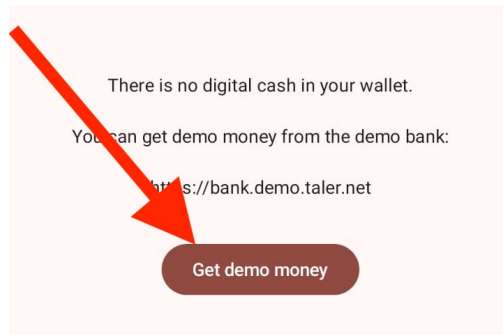
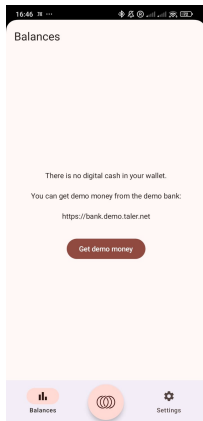
Taler wallet icon:



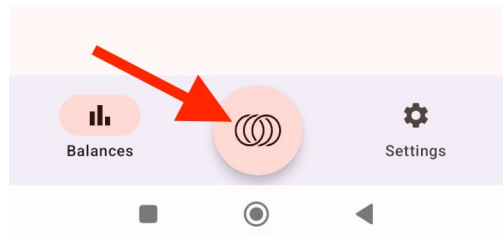
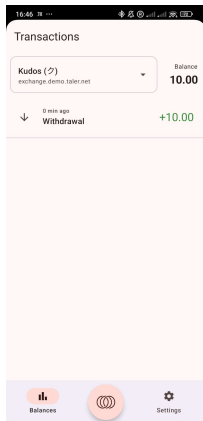
More apps to try →



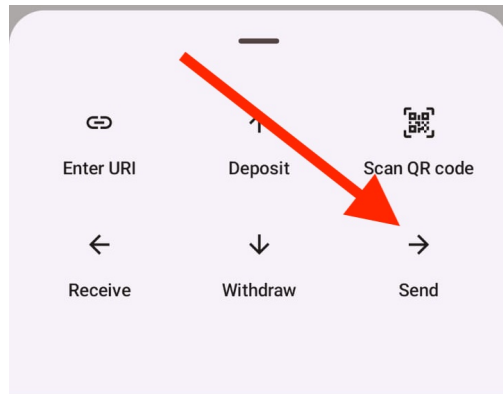
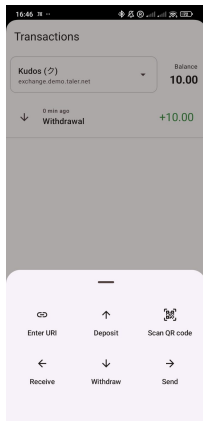
Welcome page : get demo money



Start action menu



Send money to another wallet



Fill out the form to generate the QR-Code

16:47

← Send money to another wallet

Available for transfer after fees: ｸ9.94

Amount to send ｸ5.00 Currency KUDOS

+0.01 payment fee

Purpose test

4/100

Expires in

1 day 1 week 30 days Custom

Provider

exchange.demo.taler.net

Send funds now

test Test t'est

a z e r t y u i o p

q s d f g h j k l m

NGI TALER

Ch. Grothoff, O. Rappaport, and E. Benoist

16:47

← Sending

This transaction is pending

14 April 2025, 16:47

Scan this QR code to receive ｸ5.00

Alternatively, copy and send this URI:

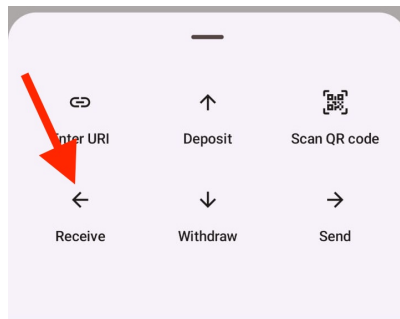
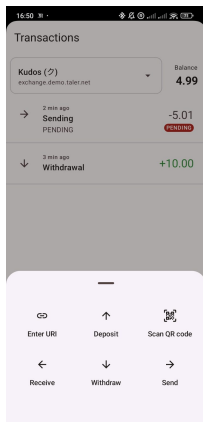
taler:///pay-push/exchange.demo.taler

Copy Share

Unchained Digital Cash Payments

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Request Money from another Wallet



Generate a Request for Money and its QR-code

16:51

← Request money

Amount to receive: 5.00 Currency: KUDOS

Purpose: test receive money

19/100

Provider: exchange.demo.taler.net

Expires in: 1 day 1 week 30 days Custom

Create request

1 2 3
4 5 6
7 8 9
⌫ 0 ✓



Create a merchant account and your first order

Access the merchant backend

`https://backend.demo.taler.net/
instances/sandbox/` Access Token
: sandbox



Create your shop / do your first delivery

- ▶ Create a product.
- ▶ Create a new “Order”.
- ▶ Give the QR-code to your neighbour for them to pay ;-)
- ▶ Wait for confirmation.

Use Rest API

Connect from your program

- ▶ RESTfull interface
- ▶ CRUD functionalities
- ▶ Interfacable with any system

```
curl --request GET \  
--url https://backend.demo.taler.net/instances/sandbox/private/products \  
--header 'Authorization: Bearer secret-token:sandbox' \  
--header 'User-Agent: yourApp/0.0.1'
```

Insert a new order

```
curl --request POST \  
  --url https://backend.demo.taler.net/instances/sandbox/private/orders \  
  --header 'Authorization: Bearer secret-token:sandbox' \  
  --header 'Content-Type: application/json' \  
  --header 'User-Agent: yourApp/0.0.1' \  
  --data '{"order":{  
    "amount": "KUDOS:10",  
    "summary": "Test for EuroDIG",  
    "fulfillment_message": "Thank you"}}'
```

Insert a new order (Cont.)

Got the message as a response:

```
{  
  "order_id": "2025.112-0080M3T5162RE",  
  "token": "YTRXG5FQ8WTAC3PWRCMT4GMYA4"  
}%
```

```
{  
  "order_id": "2025.112-02CDQQYASFPPY"  
}%
```

Generate the payment URL

URL : "https://" + Host + "/orders/" + payment ID

`https://backend.demo.taler.net/instances/sandbox/orders/2025.132-01RCH1C173J`

`https://backend.demo.taler.net/instances/sandbox/private/orders/2025.132-01R`

`taler://pay/backend.demo.taler.net/instances/sandbox/2025.132-01RCH1C173JC4`

Questions ?



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