

#37 - HTTP Notification Provider Contest



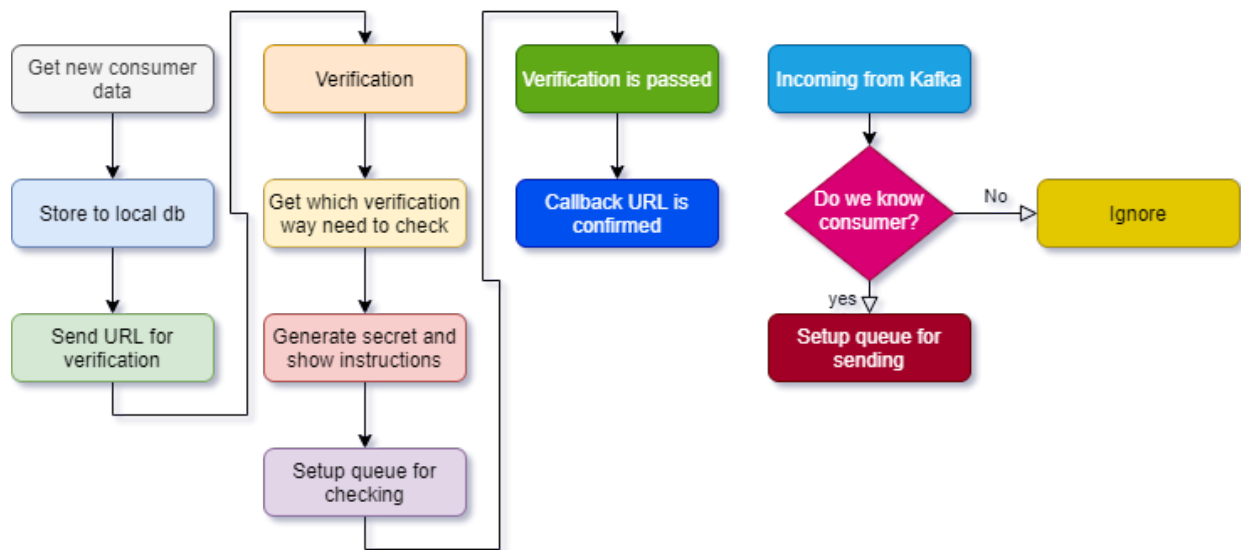
Contest dates:
15 September 2021 -
15 October 2021 23:59 UTC

Advantages

1. Low memory (7mb in idle mode) and CPU consumption, because write in pure golang language and compile for a specific platform
2. Embedded DB. Don't need to install and support external databases. All stores are in the same folder with the application in the sqlite3 database. To check something, you just need to download one file and open it in SQL client software
3. Customized templates for verification UI. They placed it near with application
4. Queues work by retry scheme with postponed start and the next attempt calculation by constant or exponential time
5. Queues API allows integrating other storages, like MongoDB or MySQL server
6. All processes for sending/checking work on queues
7. Async processes that exclude locked database cases. Any data that is sent to the application will be served
8. Supervisor demon controls the state of the application and restarts it in critical cases
9. Docker containers help avoid any critical cases with power shutdown in data centers, etc. The docker process will be restarted after rebooting, the container will be started always. The database is ready all the time
10. Good performance. It can serve up to 10K requests per second on the one instance with low-rated hardware
11. Cron management can clear Db periodically

12. Storing all sending messages with a created and delivered timestamp. Possible to draw charts, etc.
13. Support domain names and IP addresses, with ports.
HTTP/HTTPS requests. GET/POST/PUT/PATCH methods. It is possible to add other URL schemes
14. Cross platform compilation with CGO in Docker container. You can compile this application for Windows on Linux/MacOs platform and vice versa
15. Quick deployment time. Just build a new version, upload to the build folder and run 'kill processId' for the process in Docker container. Supervisor will update all. Don't need to worry about message losses. The server has built-in graceful stop logic. Queues will wait 5 seconds before force stop and server will wait 10 seconds before dropping all connections. Such time is a very big safe period to serve all, the new instance will be deployed in less than 300ms.

Process flow



UI and test flow

Main page

HTTP notification provider

HTTP notification module provides service for delivering events that happened on Free TON blockchain network



Input format

Path /

Method POST

Parameters:

Hash - Recipient id

Data - URL* Method? Query?. You may use only URL. Method and Query are optional parameters. Method can be GET, POST, PUT, PATCH, by default POST. Query is a parameter line, by default is 'param'

Contact - support@mytonwallet.com

Sending a callback URL from http-provider-test-server with parameters to the notification Debot

Notification DeBot ♦
ДеБот

Choose your provider:

github.com/mytonwallet, ID = mtw

Enter data for this provider

https://test-file-nph.mytonwallet.com/callback_url PUT q

Your id is 1. You need to confirm your rights for this endpoint. Please, follow to the <https://nph.mytonwallet.com/verify/1> to pass verification procedure.

Available actions:

Show provider list

Send callbackUrl | deviceToken to provider

Get rules

Set rules

Reset rules

Select a verification way



Please select the verification way for your endpoint

Keep in mind that you will be able to change your choice before confirmation of verification on this page.

- DNS ☐
- File ☐
- Metatag ☐

Send

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Instruction about how to pass the verification process. Add the secret to the test server instance and run it.



Instructions for File verification

Please add empty file (you have 24hrs for this procedure, else you need to resend form manually on [this page](#)):

with name **9d53cd47fdc28ccf5f164331dda4b410.html** to the root of your endpoint.

Check verification

You can track the state on [this page](#)

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Users can track the process on the informational page.



Name	Value
Id	1
URL	https://test-file-nph.mytonwallet.com/callback_url
Method	PATCH
Query	q
Confirmed	false
Counter	0
Verification way	File
Verification secret	9d53cd47fdc28ccf5f164331dda4b410 Instructions
Created time	136184007
Updated time	136184011

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Also possible to track by API. Just need to add ?json=1 to the page

```
{"id":2,"url":"http://test-dns-nph.mytonwallet.com:8080/callback_url","method":"GET","query":"param","confirmed":true,"counter":2,"verification_way":"DNS","verification_secret":"22ea0be85fa790f2bcfddeadfc3ae70b","create_d_time":136190139,"updated_time":136190139}
```

Set rules to filter messages on blockchain

Get rules

ID=mtw
0:e5c88adfbe24624f3818ce0e98c5cb9680b9d012cfdc75c60fe1327f5f07e466
all

Available actions:

Show provider list

Send callbackUrl | deviceToken to provider

Get rules

Set rules

Reset rules

Send message to this address

Test

Send transaction

Server: Test

Amount	Fee
0.0010	~ 0.0201
Address	Destination
0:42b2...ff91	0:e5c8...e466
Message provider	

CancelSend

14.10.2021, 13:06:33

transfer

14.10.2021, 12:08:07

-0.0215 RUBY

Get encoded message from kafka

```
Id 1, Nonce sV8kxkIQSzt3XZMFA6QJWk3enJRJ05ml, Message Fhkmg+u8l199+OUxgW2UCi6u5TsFXfWsgcXRn0lLdR80ekEc+4186WuTzoQ/pcE0ofKjIBgQyKSSZifnzXtdOH/VgOvKJiYoiU4jQpGci17vvyAtGZBojQRJ1CvCAi24RSp4wnQyFj3Z2UTy3qFTBZ8R447Jsm5I2sQHKBXwIEV46lQVSmkeAnZL5ipMIDUrLBWY04t4Cly3k8LIWdg8DoxFVLQSeInRUn6GdmfHVXfEYgop4ReXlm8ui3G20Fsa2cteyLf6CqIFHADW8EIXD7Ek9JcmRK22IhgFY022ruhjNcUs+AJOFC3l41lJhuAlr/pftYb5WJ6H8sGvH8AInZQKU/Usm0ZzrfhFltuWd+2BEPQaoIkHfTxKlP9PfgQSMgc8l25j3l62wTT9erWeyGxqL3VTofgWFMJW7oemaFDbq3Ydnp5XZDUfTxpEgq4mKAnUWc3P2IVP9L7oV2eA99HEs+svsO/fTgCdoID0/gzg56JgH39QeMehh3jRgDjEMF83v001lLzLQbWqOhPzInHqz49pLhVwisp89m8HcU00NARuoa8AbQSHb3BlG3gJ+4M453Nw/Hb8mDlKrcCBT7o+CgFXz2AhhEz6m48xTeKXSPDNppEHDWwRvDwJA02KJdzm820KwleodFCL/Yf9Kjbu62/sDACLdhecV/rwXWvz1BZUX+I/dB6QheIzXtdm/bP8oFia2WoveNPHIxaXa4789pYalI2c0LOUz+uv6Tg6dRkuk6Jev2l9/pmWLNBr/umI0dz/KvaRPH2W/RieIWNctE7HwY7JOA5VvJ3vBUKvZatLHYFNG4JGuIM0S2OvrtcmPumOIyPK3qDmuhka/3X4K+K88/dDpYvXitoRBInsgXklz6YB664J6Cqg90BeZ2Zm8aa84FQM8gWJ5/OKj1K9kYkayK9nURf2+TISY8232V/kvHNUxpFvtr/o2i2Ymmzg012Ehmle72eKouZumx0HlIB/oIX0pvQeHFR2SMPhG4Ga366EIAoyHOFa9IfQVcCcm1l5g1Wo9/a3THTOVqqpmFu1RDTNSzBI9LutZlbpJSUNlzcZK226+AVjTjTFK/800324PKlY9xO/ActdPlzHhZclr/BK960k6+Kjhd83uBcggj1ZyexL2P7w==1214 (0x0,0x0)
```

Check log by url <https://test-file-nph.mytonwallet.com/log>

```
time="2021-10-14T11:36:26Z" level=info msg="36 <nll>"
message="Fhkmg+u8l199+OUxgW2UCi6u5TsFXfWsgcXRn0lLdR80ekEc+4186WuTzoQ/pcE0ofKjIBgQyKSSZifnzXtdOH/VgOvKJiYoiU4jQpGci17vvyAtGZBojQRJ1CvCAi24RSp4wnQyFj3Z2UTy3qFTBZ8R447Jsm5I2sQHKBXwIEV46lQVSmkeAnZL5ipMIDUrLBWY04t4Cly3k8LIWdg8DoxFVLQSeInRUn6GdmfHVXfEYgop4ReXlm8ui3G20Fsa2cteyLf6CqIFHADW8EIXD7Ek9JcmRK22IhgFY022ruhjNcUs+AJOFC3l41lJhuAlr/pftYb5WJ6H8sGvH8AInZQKU/Usm0ZzrfhFltuWd+2BEPQaoIkHfTxKlP9PfgQSMgc8l25j3l62wTT9erWeyGxqL3VTofgWFMJW7oemaFDbq3Ydnp5XZDUfTxpEgq4mKAnUWc3P2IVP9L7oV2eA99HEs+svsO/fTgCdoID0/gzg56JgH39QeMehh3jRgDjEMF83v001lLzLQbWqOhPzInHqz49pLhVwisp89m8HcU00NARuoa8AbQSHb3BlG3gJ+4M453Nw/Hb8mDlKrcCBT7o+CgFXz2AhhEz6m48xTeKXSPDNppEHDWwRvDwJA02KJdzm820KwleodFCL/Yf9Kjbu62/sDACLdhecV/rwXWvz1BZUX+I/dB6QheIzXtdm/bP8oFia2WoveNPHIxaXa4789pYalI2c0LOUz+uv6Tg6dRkuk6Jev2l9/pmWLNBr/umI0dz/KvaRPH2W/RieIWNctE7HwY7JOA5VvJ3vBUKvZatLHYFNG4JGuIM0S2OvrtcmPumOIyPK3qDmuhka/3X4K+K88/dDpYvXitoRBInsgXklz6YB664J6Cqg90BeZ2Zm8aa84FQM8gWJ5/OKj1K9kYkayK9nURf2+TISY8232V/kvHNUxpFvtr/o2i2Ymmzg012Ehmle72eKouZumx0HlIB/oIX0pvQeHFR2SMPhG4Ga366EIAoyHOFa9IfQVcCcm1l5g1Wo9/a3THTOVqqpmFu1RDTNSzBI9LutZlbpJSUNlzcZK226+AVjTjTFK/800324PKlY9xO/ActdPlzHhZclr/BK960k6+Kjhd83uBcggj1ZyexL2P7w==" nonce=sV8kxkIQSzt3XZMFA6QJWk3enJRJ05ml
```

For testing all possible cases, please check

<https://github.com/mytonwallet/ton-http-notification-provider-test-server>

You can shutdown the test server to emulate lost connection, change parameters etc.

API

Add new callback URL

Send new callback URL to http provider

- *URL*
/
- *Method*
POST
- *URL Params*
No

- *Data Params*

Required:

hash=[string]

Required:

data=[string]

- *Success Response:*

- Code: 200

Content: Your id is 1. You need to confirm your rights for this endpoint. Please, follow to the <https://nph.mytonwallet.com/verify/1> to pass verification procedure.

- *Error Response:*

- Code: 200

Content: You must specify url. Format: URL Method Query

- OR

- Code: 200

Content: Callback URL is not valid

- OR

- Code: 200

Content: Callback URL scheme is not valid. Only http:// or https://

- OR

- Code: 200

Content: Callback URL host is not working domain or IP address

- OR

- Code: 502

Content: Repeat your request later

Get information by id

Get information by id (this id represents callback URL)

- *URL*

/get/:id

- *Method*
GET
- *URL Params*
Required:
id=[int]
- *Data Params*
Optional: json=1
- *Success Response:*
 - Code: 200
Content: Html page with information or json if was called with json=1 query
- *Error Response:*
 - Code: 400
Content: You must specify id
 - OR
 - Code: 502
Content: Repeat your request later
 - OR
 - Code: 404
Content: Id is not existed

Select verification way for id

Form to select verification way by id (this id represents callback URL)

- *URL*
/verify/:id
- *Method*
GET
- *URL Params*
Required:
id=[int]

- *Data Params*
No
- *Success Response:*
 - Code: 200
Content: Html page with form to select verification way - DNS, File, Metatag
- *Error Response:*
 - Code: 400
Content: You must specify id
 - OR
 - Code: 502
Content: Repeat your request later

Set verification way for id

Set verification way for id (this id represents callback URL)

- *URL*
/verification_way/:id
- *Method*
POST
- *URL Params*
Required:
id=[int]
- *Data Params*
Required:
verification_way=[string]
Possible values - DNS, File, Metatag. By default File
- *Success Response:*
 - Code: 200
Content: Ok
- *Error Response:*
 - Code: 400
Content: You must specify id

- OR
 - Code: 502
Content: Repeat your request later
- OR
 - Code: 404
Content: Domain is confirmed already

Instructions of verification way for id

Page with description how to pass verification process by id (this id represents callback URL)

- *URL*
/verification_way/:id
- *Method*
GET
- *URL Params*
Required:
id=[int]
- *Data Params*
No
- *Success Response:*
 - Code: 200
Content: Html page with instructions for selected verification way
- *Error Response:*
 - Code: 400
Content: You must specify id
 - OR
 - Code: 502
Content: Repeat your request later
 - OR
 - Code: 404
Content: This id is not created yet

- OR
 - Code: 404
Content: Domain is confirmed already

Test server logic

We have created

<https://github.com/mytonwallet/ton-http-notification-provider-test-server> to check all scenarios for the HTTP notification provider.

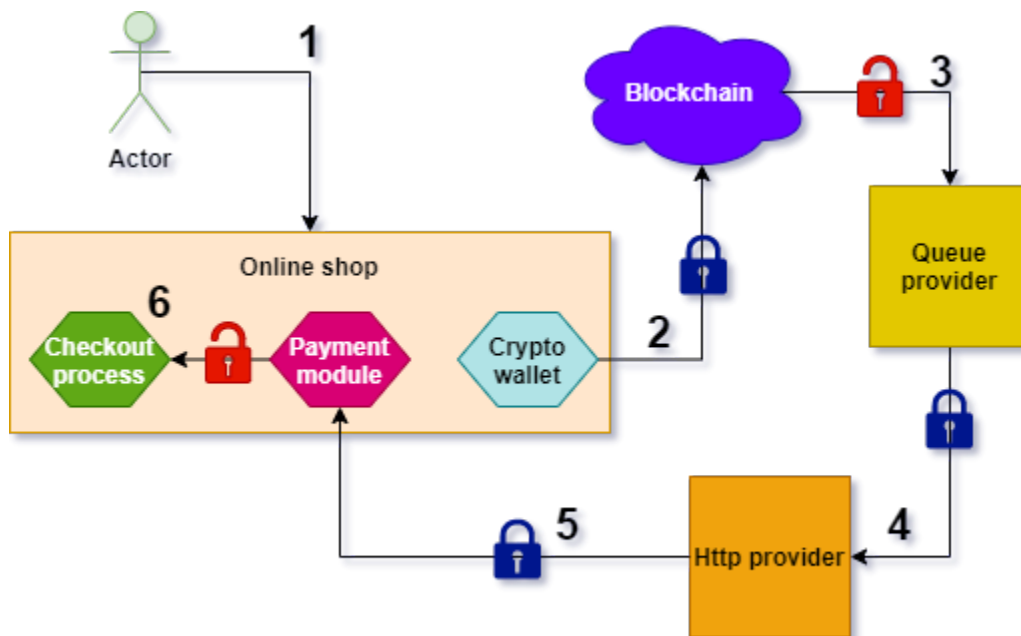
The simple flow:

1. Send a callback URL to notification bot
https://test-file-nph.mytonwallet.com/callback_url
2. Followed by instruction and redirect on **verify/1** page (1 is for example)
3. Select verification way - File
4. Copy filename and adjust file "file.sh" for test-server
5. Test server will emulate that this URL exists for
<https://test-file-nph.mytonwallet.com> (domain name is for example only)
6. After some time, HTTP notification provider will confirm that callback URL is verified
7. Set some Rules in notification DeBot. For simplicity, just specify the same address which was used for the notification Debot deployment process and accept all messages.
8. Send some amount and message with "test" text to this address.
9. Kafka will publish a message that will be handled by the HTTP notification provider.
10. HTTP notification provider will find the callback URL by hash in this message and call it
11. Test server will receive the message and write to log
12. Just open <https://test-file-nph.mytonwallet.com/log> to check that message is handled on the end side

Requested features

- Woocommerce payment module that works with this HTTP notification provider

Our team is going to implement the payment module in the near future.



License

The source code provides by Apache License 2.0

Repository

Main repository:

<https://github.com/mytonwallet/ton-http-notification-provider>

Repository for test server:

<https://github.com/mytonwallet/ton-http-notification-provider-test-server>

Contacts

Telegram: @telepulos (not corporate account, just the coordinator of the team members)

Email: support@mytonwallet.com