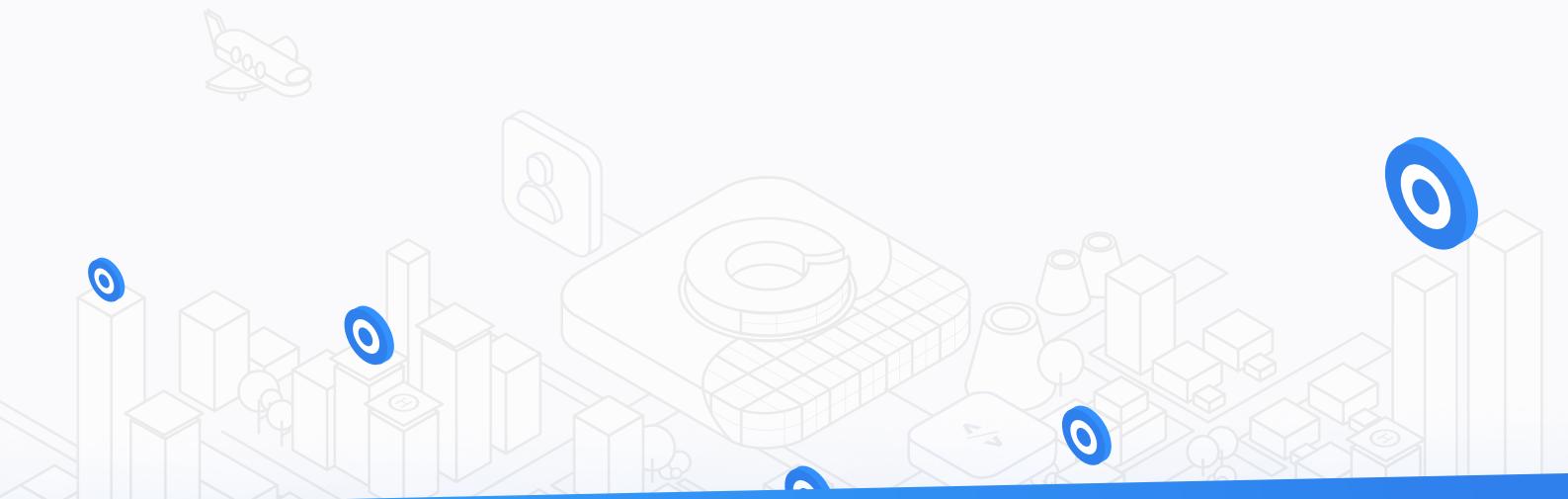




OPEN Chain



EXPLORER & WALLET USER GUIDE

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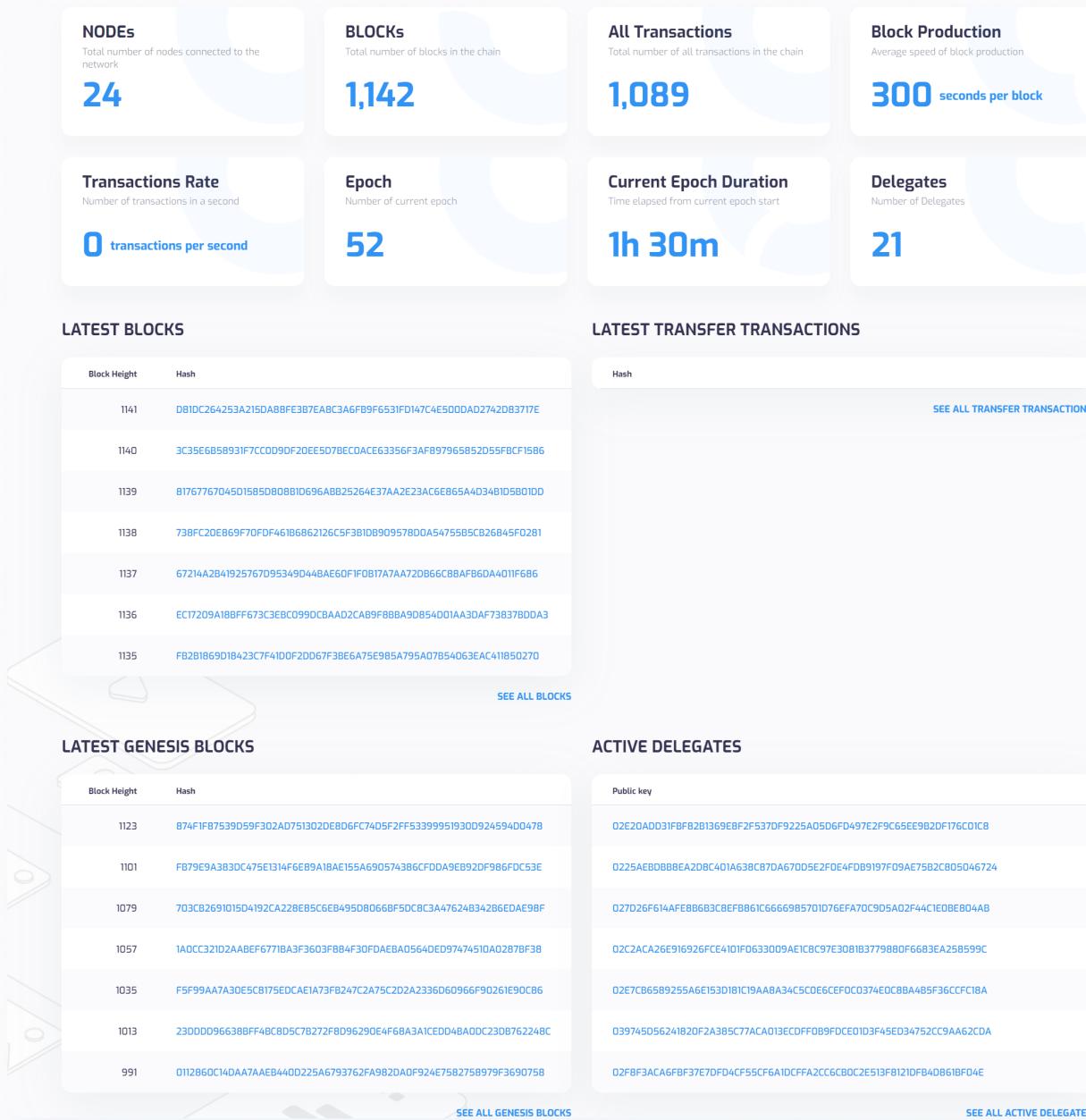
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OPEN CHAIN EXPLORER

OPEN Chain Explorer is a web application that allows viewing OPEN Chain status and statistics. Chain explorer can be found at explorer.openfuture.io



Below you can see the description of each field on Explorer page:

- **Nodes** – number of active nodes in the network
- **Blocks** – number of blocks generated by the network
- **All Transactions** – total number of transactions in the network

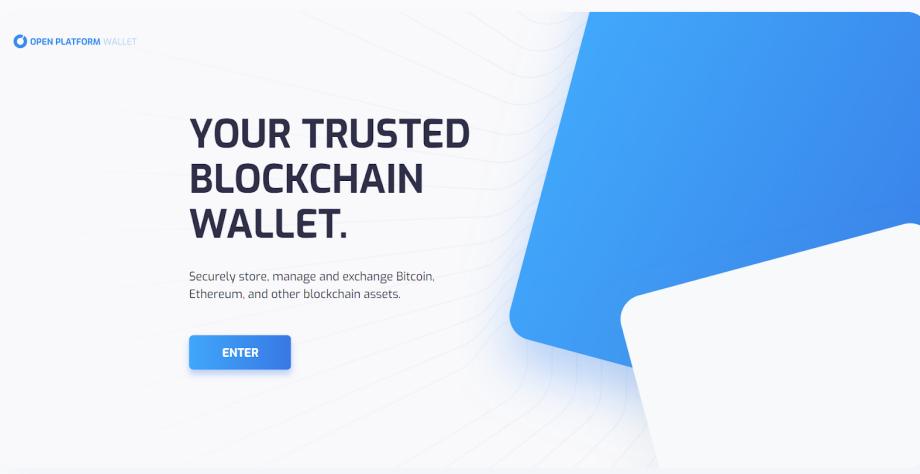
- **Block Production** — average block creation velocity in the network
- **Transactions Rate** — average transactions number per second in the network
- **Epoch** — number of current epoch
- **Current Epoch Duration** — time elapsed since current epoch start
- **Delegates** — number of active delegates producing blocks
- **Latest Blocks List** — list of latest blocks created in the network
- **Latest Transfer Transactions** — list of latest transfer transactions in the network
- **Latest Genesis Blocks** — list of latest genesis blocks in the network
- **Active Delegates** — list of active delegates in the current epoch
- **Block Information**
 - Delegate address
 - Amount
 - Previous block's hash
 - Block's hash
 - Date
 - Epoch
 - Transactions
 - Created by
 - Signature
- **Genesis Block Information**
 - Block height
 - Previous block's hash
 - Block's hash
 - Date
 - Epoch
 - Delegates
- **Active Delegate Information**
 - Address
 - Public key

OPEN CHAIN WALLET

OPEN Chain Wallet is a web application that allows interacting with the OPEN Chain (create wallet, transfer and receive OPEN tokens, delegating as an active delegate candidate and voting for active delegate candidates

OPEN WALLET START PAGE

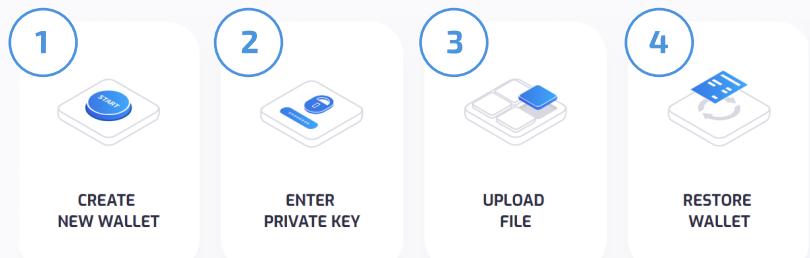
To access OPEN wallet go to localhost:8080 after running the OPEN node.



Press “ENTER” to go to login options.

Below you can see the description of each field on Explorer page:

- 1 Create a new wallet;
- 2 Enter the wallet using the wallet's private key;
- 3 Enter the wallet using the wallet's file;
- 4 Restore the wallet using the wallet's seed phrase;

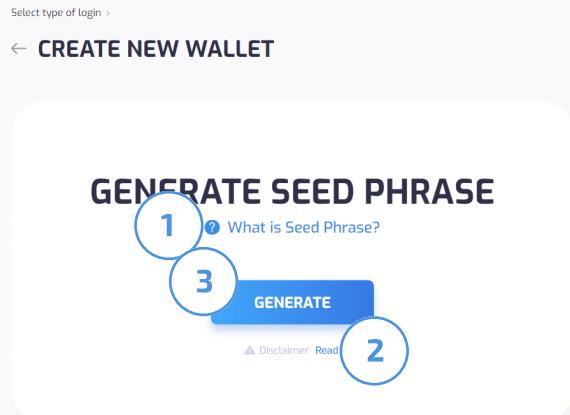


CREATING NEW OPEN WALLET

To create a new OPEN Wallet select “CREATE NEW WALLET” option at Start Page

If you are not familiar with the seed phrase conception

- 1 “What is Seed Phrase” to read more about it;
- 2 “Read” to read Seed Phrase disclaimer text;
- 3 “Generate” to generate a seed phrase for your wallet;



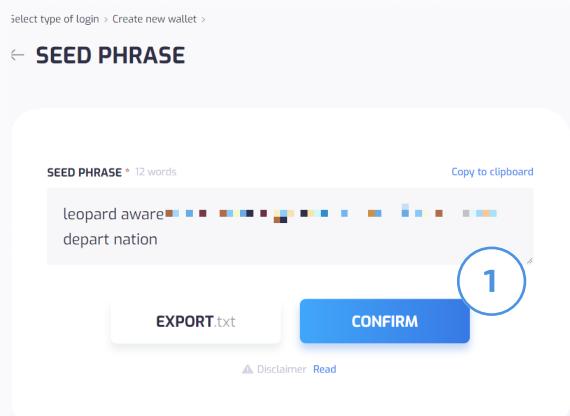
After seed phrase generation you can see your

- 1 Seed phrase;
- 2 Copy it to the clipboard;
- 3 Enter the wallet using the wallet's file;
- 4 Restore the wallet using the wallet's seed phrase;



Press 1 “CONFIRM” when you have securely stored the seed phase and ready to finish wallet creation.

Once you press 1 “CONFIRM” you will be redirected to a wallet data page.



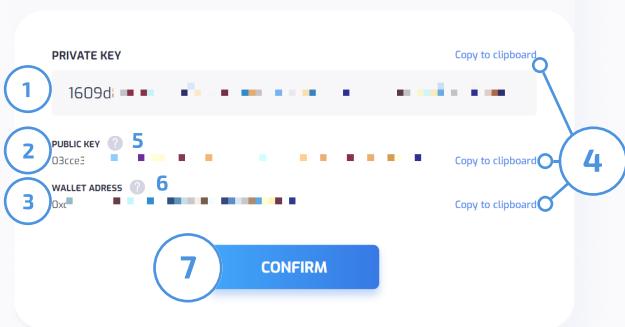
On the wallet data page, you can see

- 1 Wallet's private key;
- 2 Wallet's public key;
- 3 Wallet's address;
- 4 Copy this information to the clipboard
- 5 Read more about public key
- 6 Read more about wallet address

Once you reviewed wallet data information press **7 "CONFIRM"** to proceed to a wallet file creation.

Select type of login > Create new wallet > Seed phrase >

← **WALLET DATA**

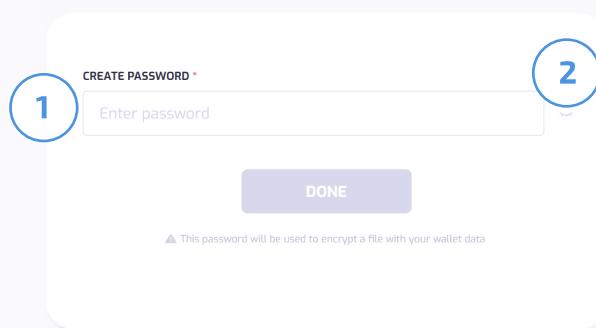


At this step, you will be asked to create a password to protect the wallet data file. Enter file password to "Create password" field **1**.

Press the "show password" button **2** to see the password you've entered.

Select type of login > Create new wallet > Seed phrase > Wallet data >

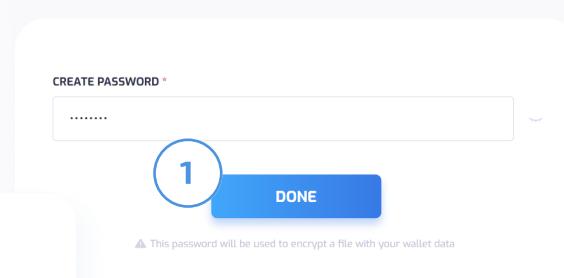
← **CREATE PASSWORD**



Press **1 "DONE"** to complete the wallet creation and download the wallet data file to your computer.

Select type of login > Create new wallet > Seed phrase > Wallet data >

← **CREATE PASSWORD**



WALLET REGISTRATION IS COMPLETE!

I understand that my funds are securely held by this device, not by the company, and I will store the file with the keys in a safe place

COMPLETE!

LOGIN TO OPEN WALLET USING PRIVATE KEY

To log in to OPEN wallet using a private key enter your wallet's private key to the “**PRIVATE KEY**” field **1**.

Press the “show key” button **2** to see the private key you've entered.

Select type of login >

← **ENTER PRIVATE KEY**

1 PRIVATE KEY *

Private Key

2

CONFIRM

Press the “show key” button **1** to see the private key you've entered.

Press **2** “**CONFIRM**” to access your wallet's dashboard.

Select type of login >

← **ENTER PRIVATE KEY**

1 PRIVATE KEY *

.....

2

CONFIRM

LOGIN TO OPEN WALLET USING WALLET DATA FILE

Press **1** “**SELECT FILE**” to select the wallet data file path and upload it to the wallet page.

Select type of login >

← **UPLOAD FILE**

1 SELECT FILE *

Select file

ENTER PASSWORD *

Enter password

CONFIRM

Enter wallet data file password to “ENTER PASSWORD” field.

Press the “show password” button **1** to see the password you've entered.

Press **2** “CONFIRM” to access your wallet's dashboard.



RESTORING OPEN WALLET USING SEED PHRASE

Enter your wallet's seed phrase to restore the wallet in “ENTER SEED PHRASE” field and press **1** “CONFIRM”.

Once you press **1** “CONFIRM” you will be redirected to a wallet data page.



On the wallet data page, you can see

- 1** Wallet's private key;
- 2** Wallet's public key;
- 3** Wallet's address;
- 4** Copy this information to the clipboard
- 5** Read more about public key
- 6** Read more about wallet address

Once you reviewed wallet data information press **7** “CONFIRM” to proceed to a wallet file creation.



At this step, you will be asked to create a password to protect the wallet data file. Enter file password to "Create password" field **1**.

Press the "show password" button **2** to see the password you've entered.

Select type of login > Create new wallet > Seed phrase > Wallet data >

← **CREATE PASSWORD**

1 Enter password

2

DONE

⚠ This password will be used to encrypt a file with your wallet data

Press **1 "DONE"** to complete the wallet creation and download the wallet data file to your computer.

Select type of login > Create new wallet > Seed phrase > Wallet data >

← **CREATE PASSWORD**

1

DONE

⚠ This password will be used to encrypt a file with your wallet data

WALLET DASHBOARD

1 OPEN PLATFORM WALLET **2** DASHBOARD **3** WALLETS **4** DELEGATES **5** WALLET BALANCE **6** LAST TRANSACTIONS **7** 1528 OPEN **8** WALLET ADDRESS **9** Copy to clipboard **10** Vote **11** View All Transactions **12** View all delegates

Rank	Address	Amount of votes
1	0x51c5311f25206de4a9c6e...	0
2	0x51c5311f25206de4a9c6e...	0
3	0x51c5311f25206de4a9c6e...	0
4	0x51c5311f25206de4a9c6e...	0

After log in to OPEN Wallet you will see the Wallet dashboard that contains following:

- 1 Dashboard menu section;
- 2 Wallet menu section;
- 3 Delegates menu section;
- 4 Log out button
- 5 Wallet info section
- 6 Last transactions section
- 7 Wallet balance
- 8 Wallet address
- 9 Copy to the clipboard option
- 10 Create transaction
- 11 View all transactions
- 12 Delegates section and vote button
- 13 View all delegates

TRANSACTIONS TABLE

The screenshot shows the OPEN Platform Wallet dashboard. At the top, there are three tabs: DASHBOARD (highlighted in blue), WALLET, and DELEGATES. The DASHBOARD tab shows a summary: **WALLET BALANCE 1528 OPEN**, **WALLET ADDRESS 0x51c5311f25206de4a9c6e...**, and a **Copy to clipboard** button. Below this is the **LAST TRANSACTIONS** section, which displays four recent transactions. Each transaction row has a circled number above it: 1, 2, 3, and 4. Transaction 1: Hash 9a09499e18148c0be956da..., From 0x51c5311f25206de4a..., To Contract: 0x400e67aecd25..., Date 2019-02-21, 14:10:26 UTC, Amount 12, Fee 28. Transaction 2: Hash 4ce31d98bd47a044e6162f09..., From 0x51c5311f25206de4a..., To Smart contract deploy, Date 2019-02-21, 14:06:46 UTC, Amount 0, Fee 10. Transaction 3: Hash d683699d7d8727b39d40b..., From 0x51c5311f25206de4a9c6..., To Smart contract deploy, Date 2019-02-21, 14:05:55 UTC, Amount 0, Fee 28. Transaction 4: Hash ab93c093df4ba63a59bb67..., From 0x51c5311f25206de4a9c6..., To 0xad0c3d036f96caaf256..., Date 2019-02-21, 14:02:54 UTC, Amount 10, Fee 1. The **DELEGATES** section below shows a list of four delegates with their addresses and vote counts. Delegate 1: Address 0x51c5311f25206de4a9c6e..., Amount of votes 0. Delegate 2: Address 0x51c5311f25206de4a9c6e..., Amount of votes 0. Delegate 3: Address 0x51c5311f25206de4a9c6e..., Amount of votes 0. Delegate 4: Address 0x51c5311f25206de4a9c6e..., Amount of votes 0. There is also a **View all delegates** link. A blue button at the top right says **Create transaction**.

- 1 Blue-coloured hash – transaction is executed successfully ;
- 2 Red-coloured hash – transaction failed, transaction may fail in case the lack of sum necessary for the contract execution;
- 3 If transaction is intended for the contract execution, "Contract x" (where x – is the contract address) will be displayed in the field "Contract";
- 4 If the transaction is intended for the contract deploy, "Smart Contract Deploy" will be displayed in the field "TO";

WALLET MENU

The screenshot displays the Open Platform Wallet interface. At the top, there are tabs for OPEN PLATFORM WALLET, DASHBOARD, WALLET (which is selected), and DELEGATES. On the right, there is a balance indicator showing 808 OPEN and a QR code.

1 CREATE TRANSACTION: This section contains fields for 'FROM' (Address: 0x51c5311f25206de4a9c6ecaa1bc2be257), 'TO' (Address: Wallet Address), 'DATA' (Data input field and ESTIMATE button), 'AMOUNT' (Amount input field), and 'FEE' (Fee input field). A 'CONFIRM' button is at the bottom.

2 LAST TRANSACTIONS: This section shows a table of recent transactions:

Hash	From	To	Date	Amount OPEN	Fee OPEN
9a09499e18148c0be9e6da...	0x51c5311f25206de4a9c6...	Contract: 0x400e67a00c25...	2019-02-21, 14:10:26 UTC	12	28
4ce31d98d47a044e616209...	0x51c5311f25206de4a9c6...	Smart contract deploy	2019-02-21, 14:06:46 UTC	0	10
d683699d7d8727b39d40b...	0x51c5311f25206de4a9c6...	Smart contract deploy	2019-02-21, 14:05:55 UTC	0	28
a093c93d4b63a59b67...	0x51c5311f25206de4a9c6...	0xd013d036f96caad256...	2019-02-21, 14:02:54 UTC	10	1
94a2be55ff73e7fa0eb7b6f...	0x51c5311f25206de4a9c6...	0x3ecb577f10a7caaa788d...	2019-02-21, 14:02:39 UTC	120	1
f627d4da526b11ae9043fd...	0x51c5311f25206de4a9c6...	0x3ecb577f10a7caaa788d...	2019-02-21, 14:02:21 UTC	50	0

Wallet menu contains the following blocks:

- 1 Create transaction menu;
- 2 Last transactions menu;

CREATING TRANSACTION

To create a transaction use "CREATE TRANSACTION" menu where

- 1 Sender address (filled automatically with wallets address);
- 2 Recipient address;
- 3 Transaction data;
- 4 Estimate Button
- 5 Transfer amount
- 6 Transaction fee amount
- 7 Confirmation Button

Estimate Button 4 :

- is activated only when the data is entered (when we are working with the smart contract)
- while pushing the button the minimal sum necessary for the contract deploy/contract execution is displayed in the field "**FEE**" 6 (more sources can be transferred for the contract execution, and the exchange will be returned to User)

Press 6 "CONFIRM" to proceed to transaction confirmation

The screenshot shows a mobile application interface titled "CREATE TRANSACTION". The "FROM" field (1) contains the wallet address 0x51c5311F25206De4A9C6ecAa1Bc2Be257f. The "TO" field (2) contains the recipient address 0x400E67aE0C25f96eB18fA3F9cCcD1174b1. The "DATA" field (3) contains the value "execute". Below the DATA field is a blue "ESTIMATE" button. The "AMOUNT" field (5) contains the value 12. The "FEE" field (6) contains the value 28, with a note "Remember to estimate". At the bottom is a large blue "CONFIRM" button (7).

CONFIRM TRANSACTION

FROM	0X51C5311F25206DE4A9C6ECAA1BC2BE257B0BA1FB
TO	0X400E67AE0C25F96EB18FA3F9CCCD1174B1E11917
DATA	EXECUTE
AMOUNT	12 OPEN
Fee	28 OPEN

1

CONFIRM

2

CANCEL

Review the transaction information and press 1 "CONFIRM" to confirm the transaction or 2 "CANCEL" to cancel the transaction.



TRANSACTION SENT!

DONE

Once the transaction is confirmed it will be sent to the OPEN Chain.

While clicking Confirmation Button 7 User will be able to see the whole transaction info the results.

In case transaction is executed successfully the following info is displayed in User's Wallet.

TRANSACTION INFO

HASH	9A09499E18148C0BE9E6DAD85028DCD385D2F3A6F5B132D1F2296CB27792D91A						
STATUS	SUCCESS						
BLOCK	965DC4EF8BC5833C2729C308F57BF9CC3CC96FE3E6D4A9DA2AB293EDDF122B11						
DATE	2019-02-21, 14:10:26 UTC						
FROM	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb						
TO	Contract: 0x400e67ae0c25f96eb18fa3f9cccd1174b1e11917						
AMOUNT	12						
RESULTS	<table><tr><td>FROM:</td><td>0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb</td></tr><tr><td>TO:</td><td>0x400e67ae0c25f96eb18fa3f9cccd1174b1e11917</td></tr><tr><td>AMOUNT:</td><td>12</td></tr></table>	FROM:	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb	TO:	0x400e67ae0c25f96eb18fa3f9cccd1174b1e11917	AMOUNT:	12
FROM:	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb						
TO:	0x400e67ae0c25f96eb18fa3f9cccd1174b1e11917						
AMOUNT:	12						
FROM:	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb						

In case transaction failed
the following information
is displayed in User's Wallet:

TRANSACTION INFO	
HASH	4CE31D98D47A044E6162F09BA373D5948BB4A5F0075D2EDC38FC0F9896BCF1CD
STATUS	FAILED
BLOCK	24E5FCDD50CB02F302F8D44F33DCAEBB40332C41F0CC67D2A5CC9B5069A6B4AB
DATE	2019-02-21, 14:06:46 UTC
FROM	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb
TO	Smart contract deploy
AMOUNT	0
RESULTS	
FROM:	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb
TO:	0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb
AMOUNT:	10

TRANSACTION TYPES

- Money Transferring (in this case the field “DATA” is not used)

CREATE TRANSACTION

FROM
0x51c5311f25206de4a9c6ecaa1bc2be257b0ba1fb

TO
0x3ecb577f110a7caa7b8de5e63cfcd2475f1fd

DATA
 ESTIMATE

AMOUNT *

FEE *

CONFIRM

CONFIRM TRANSACTION

FROM
0X51C5311F25206DE4A9C6ECAA1BC2BE257B0BA1FB

TO
0X3ECB577F110A7CAA7B8DEE5EE63CFCD2475F1FD

AMOUNT
50 OPEN

FEE
0 OPEN

CONFIRM **CANCEL**

– Contract Deploy (the field “**TO**” is empty, the field “**DATA**” is the byte code of the contract, “**FEE**” is the sum of money necessary for the deploy)

CREATE TRANSACTION

FROM

TO

DATA

 ESTIMATE

CONFIRM TRANSACTION

FROM

DATA

AMOUNT

0 OPEN

FEE

28 OPEN

CONFIRM
CANCEL

– Contract Execution (the field “**TO**” – the contract address, “**DATA**” – the name of contract method, “**FEE**” – the sum of money necessary for method execution, “**AMOUNT**” – the internal resources of contract: for example, they can be used for transferring money from the contract code)

CREATE TRANSACTION

FROM

TO

DATA

 ESTIMATE

CONFIRM TRANSACTION

FROM

TO

DATA

EXECUTE

AMOUNT

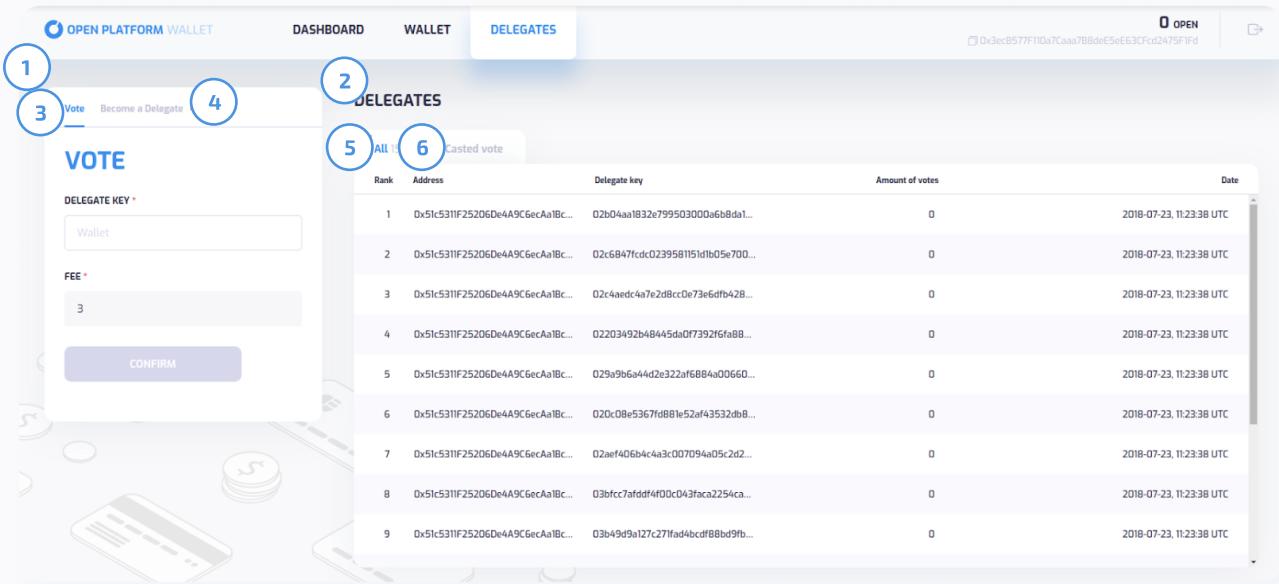
12 OPEN

FEE

28 OPEN

CONFIRM
CANCEL

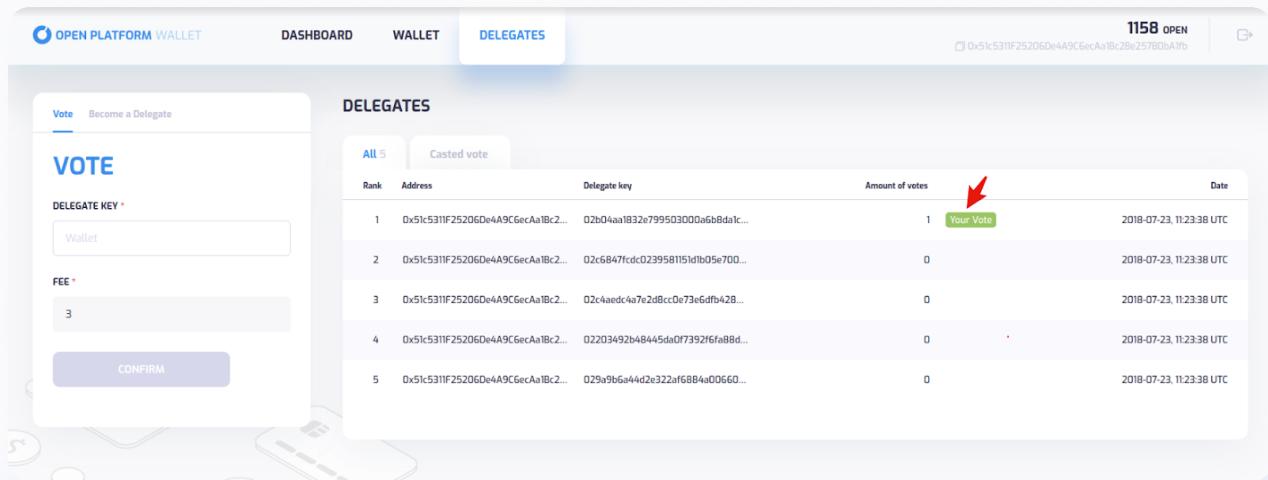
DELEGATES MENU



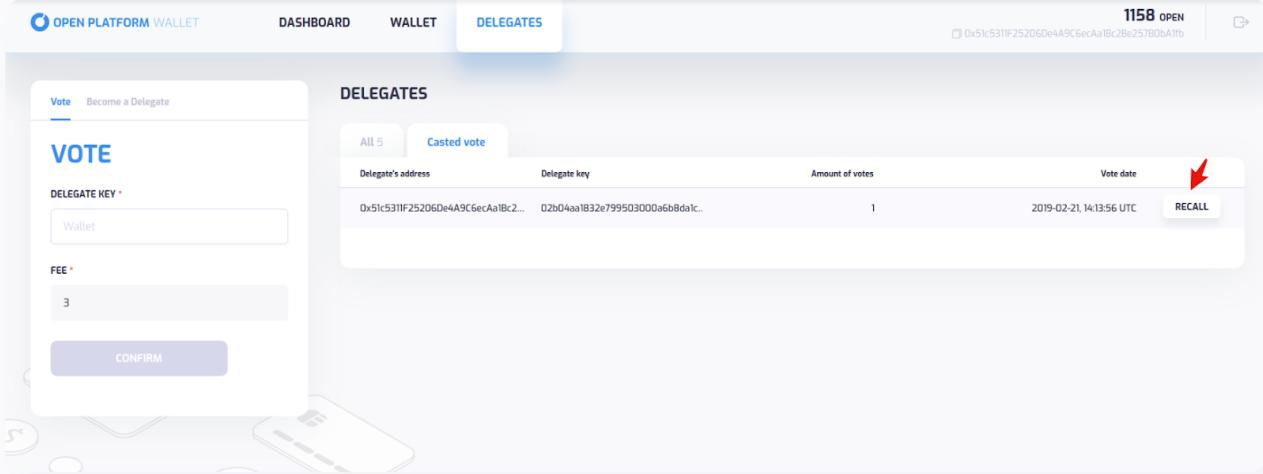
In the delegates menu you can find:

- 1 Vote and Delegate section;
- 2 Delegates section;
- 3 Vote for a delegate tab;
- 4 Becoming a delegate tab;
- 5 All delegates tab;
- 6 Your votes tab;

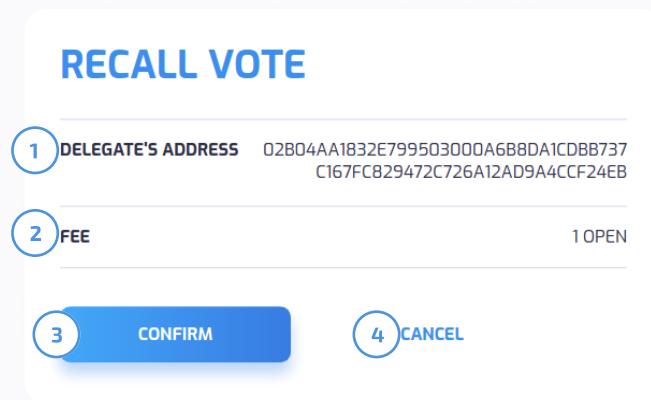
– Contract Deploy (the field “TO” is empty, the field “DATA” is the byte code of the contract, “FEE” is the sum of money necessary for the deploy)



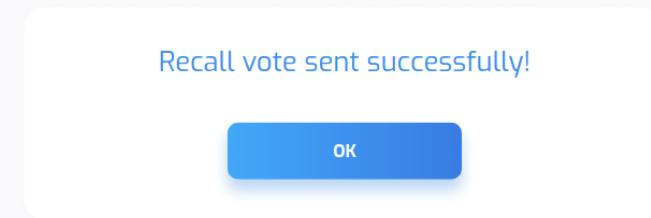
— The button “RECALL” allows User to recall his voice in case he is not sure about his choice on the delegate selected.



After pushing the button “Recall Vote” the pop-up window “Recall Vote” appears on User’s screen with the delegate’s address and amount of fee.



After the vote is successfully recalled by system the pop-up window “Recall vote sent successfully” appears on User’s screen.



DELEGATING NODE

Go to Becoming a delegate tab to nominate your node for active delegate

To nominate your node review following information:

- 1 Your node network ID;
- 2 Delegation fee amount (flat fee);
- 3 Transaction fee (flat fee);

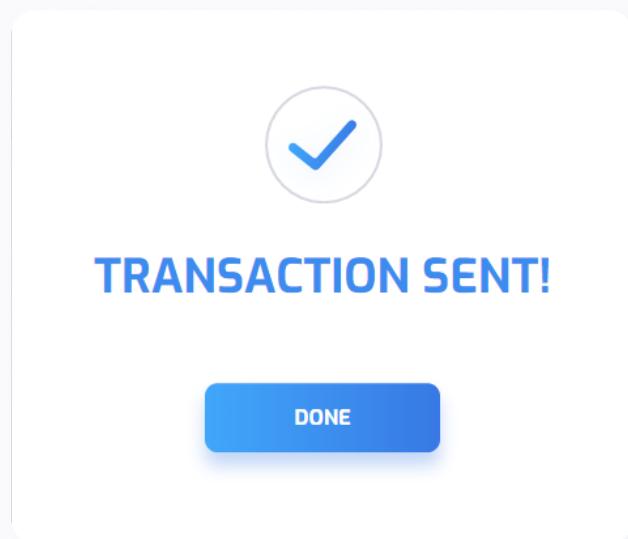
Press 4 "CONFIRM" to confirm your node delegation for active delegate.

The screenshot shows a mobile application interface for becoming a delegate. At the top, there are two tabs: "Vote" and "Become a Delegate", with "Become a Delegate" being the active tab. Below the tabs, the title "BECOME A DELEGATE" is displayed in large blue capital letters. Underneath the title, there is a section labeled "DELEGATE KEY" with a placeholder value: "0322ddb0fd4b1555b48b01a252c9958d08...". To the left of this field is a blue circle containing the number "1". Below the key field is a section labeled "AMOUNT *". A gray input field contains the value "10", preceded by a blue circle with the number "2". Further down is a section labeled "FEE *". A gray input field contains the value "3", preceded by a blue circle with the number "3". At the bottom right of the screen is a large blue button labeled "CONFIRM", preceded by a blue circle with the number "4".

Review the transaction information and press 1 "CONFIRM" to confirm the transaction or 2 "CANCEL" to cancel the transaction.

The screenshot shows a mobile application interface for becoming a delegate, displaying the transaction details. The title "BECOME A DELEGATE" is at the top. Below it, the "DELEGATE KEY" is listed as "0322ddb0fd4b1555b48b01a252c9958d08... 935542e48a7021ee05737a3dd84a77ef". The "AMOUNT" is listed as "10". The "FEE" is listed as "3 OPEN". At the bottom, there are two blue circular buttons: one labeled "1 CONFIRM" and another labeled "2 CANCEL".

Once the transaction is confirmed it will be sent to the OPEN Chain.



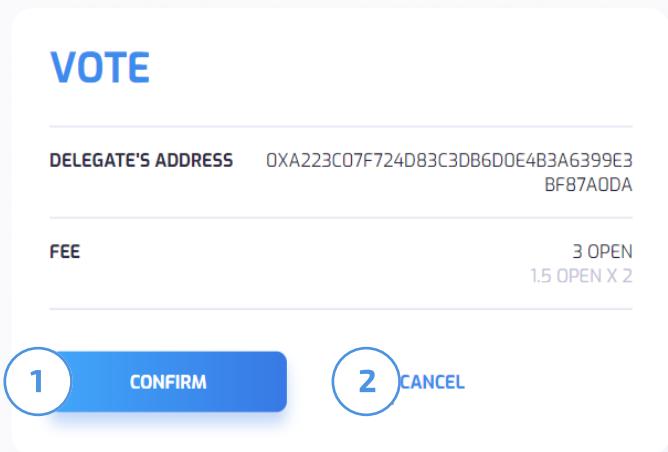
VOTING

Go to the Vote tab to vote for a node you want to become an active delegate

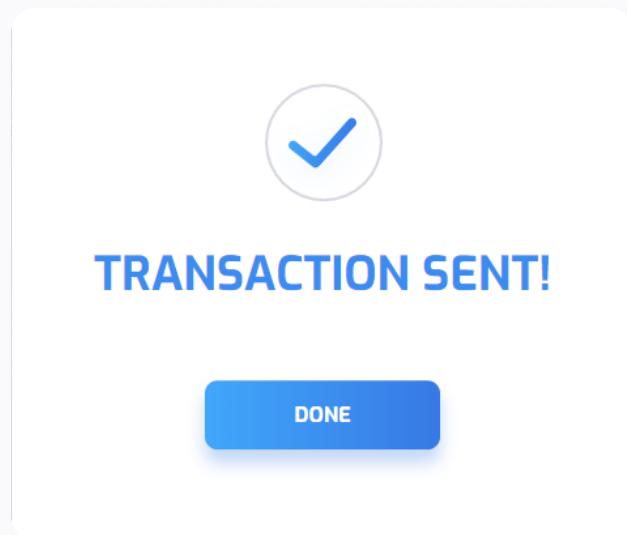
Enter the node's network ID to the "**DELEGATE KEY**" field, review transaction fee (flat fee) and press **3 "CONFIRM"** to confirm your vote.

A light gray rounded rectangle representing a mobile application screen. At the top, there are two tabs: "Vote" (which is selected and highlighted in blue) and "Become a Delegate". Below the tabs is the word "VOTE" in large blue capital letters. There are two input fields: the first is labeled "DELEGATE KEY *" and contains the placeholder text "0xa223C07f724D83C3Db6D0e4B3A6399e"; the second is labeled "FEE *" and contains the placeholder text "3". At the bottom is a blue rectangular button with the word "CONFIRM" in white capital letters. Each input field has a small circular badge with a number (1, 2, or 3) indicating the step in the process.

Review the transaction information and press **1 "CONFIRM"** to confirm the transaction or **2 "CANCEL"** to cancel the transaction.



Once the transaction is confirmed it will be sent to the OPEN Chain.



To view your votes go to Casted vote tab.

All 6	Casted vote			
Delegate's address	Delegate key	Amount of votes	Vote date	RECALL
0xCb8933Eb016634452FB83487420...	03b93218a64df4b09ba45cc6b41d8...	1	2019-02-12, 12:32:53 UTC	1 RECALL

You can recall previously casted vote by pressing **1 "RECALL"** button.

All 6	Casted vote			
Delegate's address	Delegate key	Amount of votes	Vote date	PENDING
0xCb8933Eb016634452FB83487420...	03b93218a64df4b09ba45cc6b41d8...	1	2019-02-12, 12:32:53 UTC	

For the time of recall transaction confirmation recall button will be changed to “**PENDING**” and your vote will disappear from this section once it will be confirmed by the OPEN Chain network.