

# ELA Multi-signed Wallet PC V1.1

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The Elephant Wallet now supports ELA multi-signed wallet! At the same time, the Elephant Wallet is also compatible with the previous web version of the multi-signed wallet.

Currently supported by the PC version, the Elephant Wallet for ELA multi-signed wallets starts with the following versions:

- Android version: V1.6.0
- iOS version: V1.5.3

Please download and update the version of the Elephant Wallet, here is the download link: <https://elphant.app/>

ELA multi-signed wallet PC version link: <https://jointaccount.elphant.app/>

This document is mainly introduced from the following aspects, taking three people A, B, C as an example:

- Create an ELA multi-signed wallet
- ELA multi-signed wallet payment

## Create an ELA multi-signed wallet

There are three people (A, B, C) who want to create an ELA multi-signed wallet:

- A sends a URL including his own public key to B;
- B adds his own public key, and then sends the URL including the public keys of A and B to C;
- C adds his public key and then sends the URL including all three public keys to A and B, and then A, B, and C can create an ELA multi-signed wallet together.

The logic is: Each participant passes the accumulated public key URL one by one, the last participant sends the url including all the public keys to all previous participants, then everyone can create a multi-signed wallet together.

## Steps are as follows:

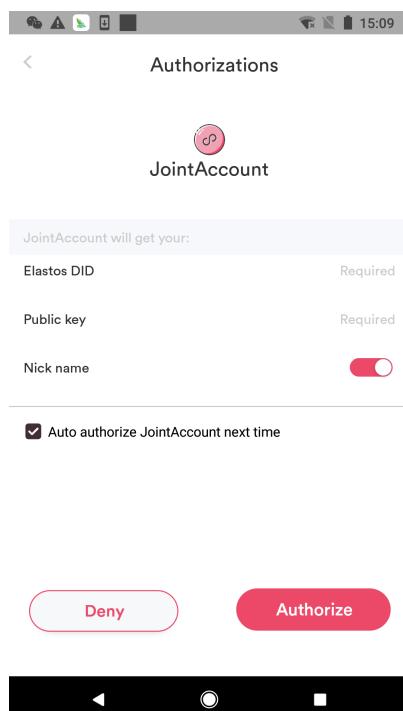
1. A opens the link on a browser: <https://jointaccount.elphant.app/>, enters the multi-signed wallet home page:

[+ Create a new wallet](#)

Click the "+ Create a new wallet" button, jump to the QR code interface.

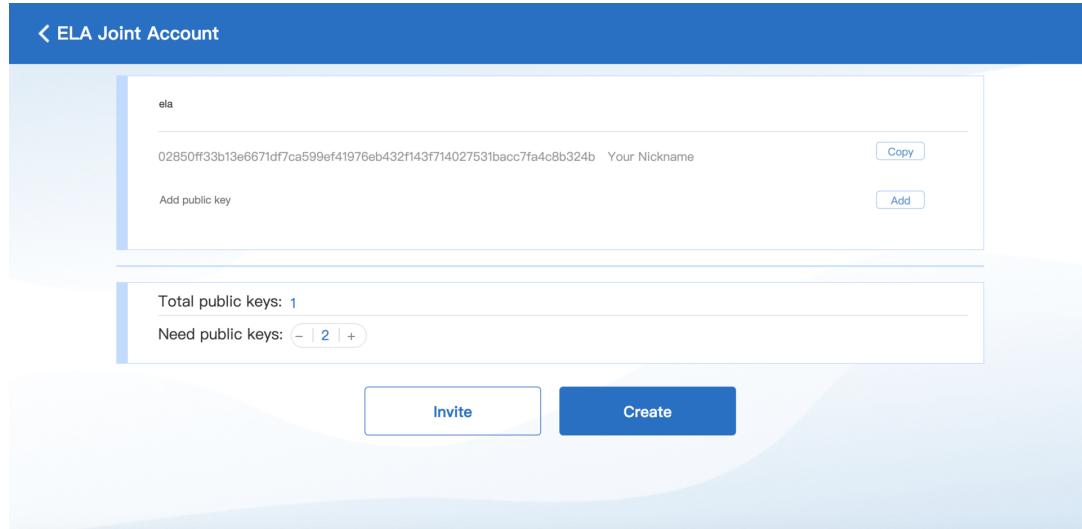


Open the Elephant wallet, tap scan button in the upper-left corner of the Elephant Wallet DID tab, scan the QR code above. Then the authorization interface will pop up:

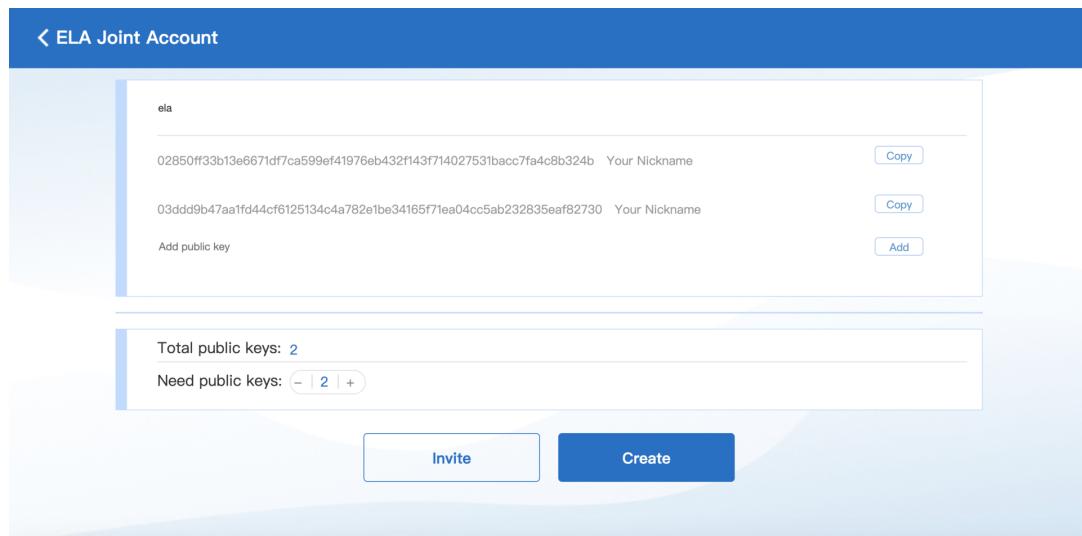


After clicking "Authorize" to authorize, the PC browser interface jumps to the creation of the wallet interface. By default, A's public key is displayed on that

interface. A can copy the URL including his public key by clicking "["Invite"](#)" button, and then share the URL with B through 3rd-party tools (e.g. Wechat, Telegram, Email, etc.).



2. B copies the information shared by A, pastes it on browser, it goes to QR code interface. After B scans and authorizes it through the Elephant wallet, it goes to the 'Create Wallet' interface (It displays the public keys of A and B), click "["Invite"](#)" button, copy the URL including the public keys of A and B, and then pass it to C through 3rd-party tools.



3. C copies the information shared by B, pastes it on browser, it goes to the QR code interface. After C scans and authorizes it through the Elephant wallet, it goes to the 'Create Wallet' interface (It displays the public keys of A, B, and C).

ela

02850ff33b13e6671df7ca599ef41976eb432f143f714027531bacc7fa4c8b324b Your Nickname Copy

03ddd9b47aa1fd44cf6125134c4a782e1be34165f71ea04cc5ab232835eaf82730 Your Nickname Copy

0342401d1de94c8f7ab0283d7c906a1263e6ad7352d9a79caa8a207c41af57fdc Your Nickname Copy

Add public key Add

Total public keys: 3  
Need public keys: - 2 +

Invite Create

4. C clicks the "Create" button of the creation interface, and it goes to the QR code interface (not shown here). C scans the QR code using the Elephant wallet, the mobile phone goes to the authorization interface. After this click "Create" button, showing a toast message "Wallet Created", then it goes to the DID interface of the Elephant wallet.

Shared Wallet Creation

ELA

A shared wallet is being created.

Address  
8XAqZYqyVcmHL6kuVGMdv755FJF26GggYv

Total keys: 3  
02850ff33b13e6671df7ca599ef41976eb432f143f714027531bacc7fa4c8b324b(me)  
03ddd9b47aa1fd44cf6125134c4a782e1be34165f71ea04cc5ab232835eaf82730  
0342401d1de94c8f7ab0283d7c906a1263e6ad7352d9a79caa8a207c41af57fdc

Unlock keys required: 2

Decline Create

DID

Your Nickname  
did:ela:iZFzcZqDGE4M28EforvtdfZCmvbyTwApS1

What is DID?

- Authorizations >
- Manage Tokens Wallet Created >
- Preferences >
- + Security Settings >
- ✉ e-Sign >
- ⬆ Check Upgrade >
- ⓘ About >

At the same time, on PC side, it goes to the detail interface of the wallet:

**ELA Joint Account**

The screenshot shows a web-based interface for managing a multi-signed ELA wallet. On the left, there's a QR code and a copy/share button. Below it, the wallet balance is listed as 0.08643888 ELA with a 'Send' button. A summary table indicates 3 total public keys and 2 required for approval, both created on 2019-10-10 16:07:21. On the right, a 'History' section lists 12 transaction entries, each with details like recipient, amount, memo, status, and timestamp.

ELA	From	To	Memo	Status	Transaction Time
-0	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	to me	Sent	2019-10-10 11:13:13
-0.001	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EkyzU79bxWVAzSh1L 58IVzPjS1FzksSt		Sent	2019-10-09 18:39:09
-0.000101	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EdqqJokdTdfkxVbTu NXGMd83FEcXA	testtest	Sent	2019-10-08 11:34:27
-0.000123	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EdyyoJokdTdfkxVbTu NXGMd83FEcXA	test multi	Sent	2019-10-04 14:00:54
-0	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	multi	Sent	2019-10-04 13:54:26
-0.011	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EkyzU79bxWVAzSh1L 58IVzPjS1FzksSt	test multi	Sent	2019-10-04 13:00:02
-0	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	test test	Sent	2019-09-30 08:15:25
-0	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	testhhhhhhh	Sent	2019-09-19 10:59:29
-0.00010001	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EkyzU79bxWVAzSh1L 58IVzPjS1FzksSt	多签测试test	Sent	2019-09-17 15:02:13
-0.000121	8XAqZYqyVcmHL6kuVG Mdv755FJF26GggYv	EdyyoJokdTdfkxVbTu NXGMd83FEcXA	test测试ios	Sent	2019-09-17 14:30:26

5. Click the "Share" button, copy the URL including the public keys of A, B, and C, then share the information with A and B.
6. A and B copy the URL sent by C, and after pasting it on the browser, the interface in step 3 will show up, then step 4 will complete the creation of the multi-signed wallet.(Till now, the multi-signed wallet is created successfully.)

## ELA multi-signed wallet payment

Steps are as follows:

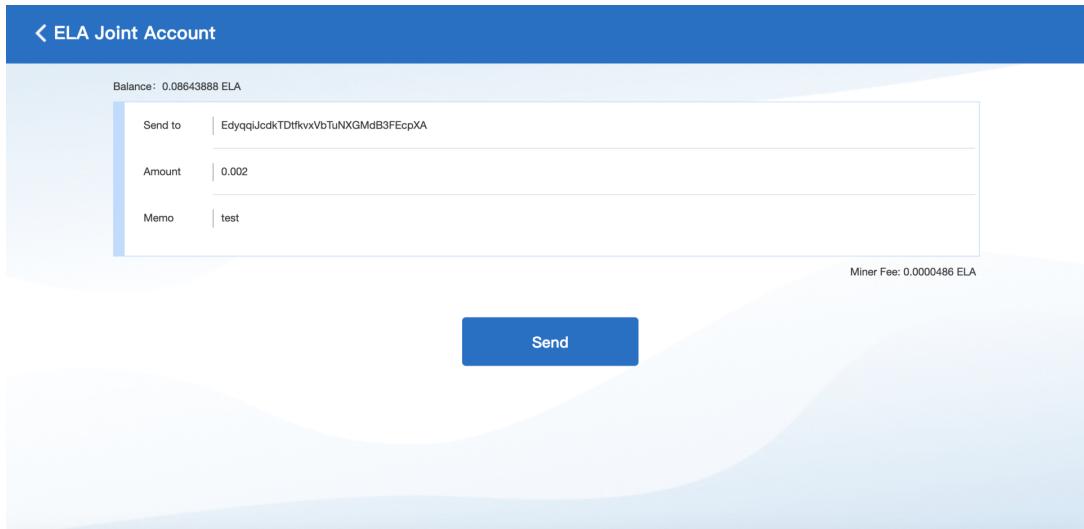
### 1. A initiates a payment request

In the detail interface of A's multi-signed wallet, click the "Send" button to enter the sending interface:

**ELA Joint Account**

The screenshot shows the 'Send' interface for the multi-signed wallet. It includes fields for 'Send to' (ELA receive address), 'Amount' (input your amount), and 'Memo' (input your memo). At the bottom, a large blue 'Send' button is centered. A note at the bottom right indicates a miner fee of 0.0000486 ELA.

Fill in the ELA address, the number of transmissions, and memo (optional).



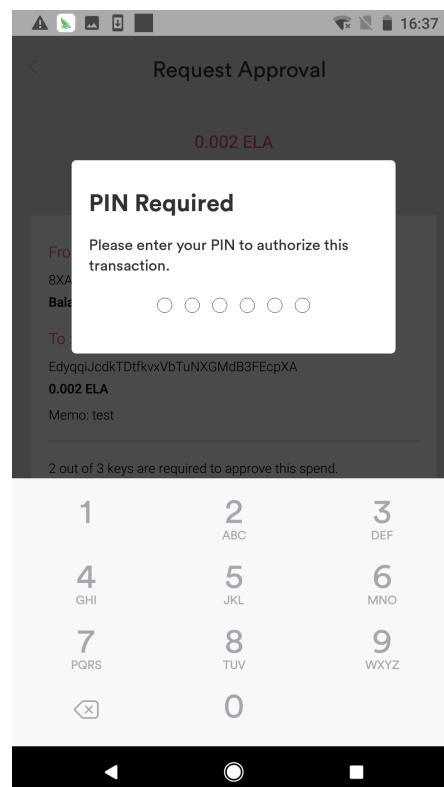
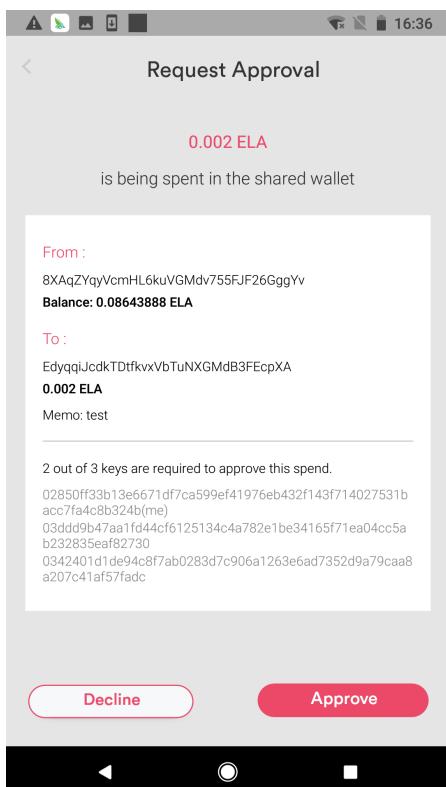
After fill-in (as shown above), click "Send" button, it goes to a QR code interface.



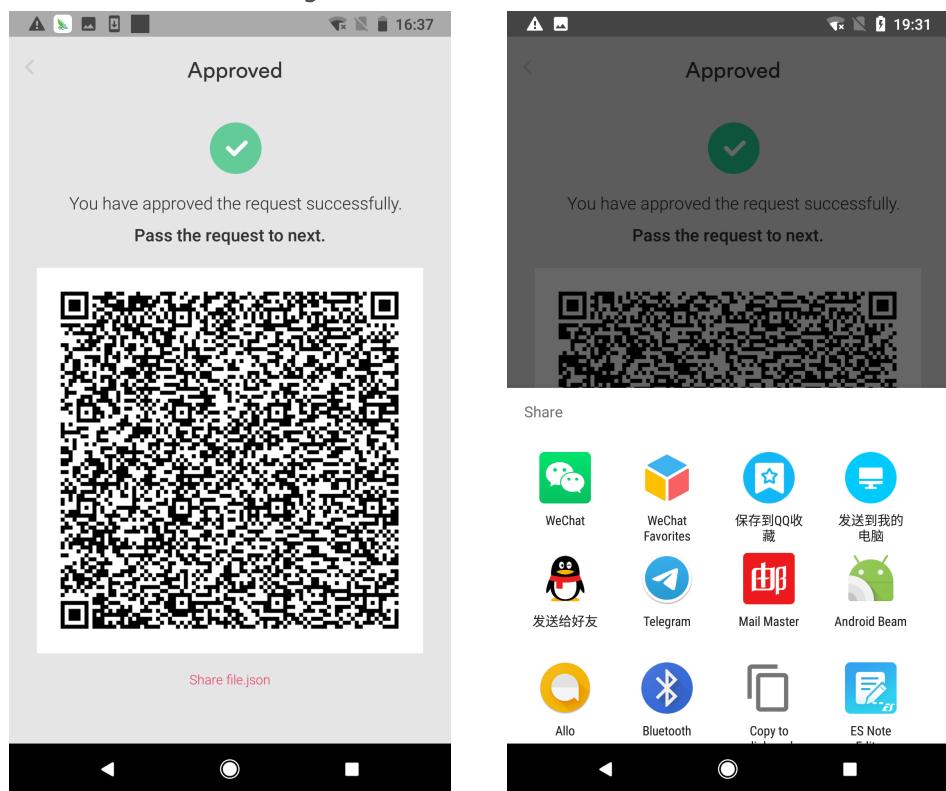
1/2

Open Elephant App to scan  
[Download file.json](#)

A scans the generated QR code through the Elephant wallet, it goes to the approval request interface. Click "Approve" button then enter the PIN code of wallet.



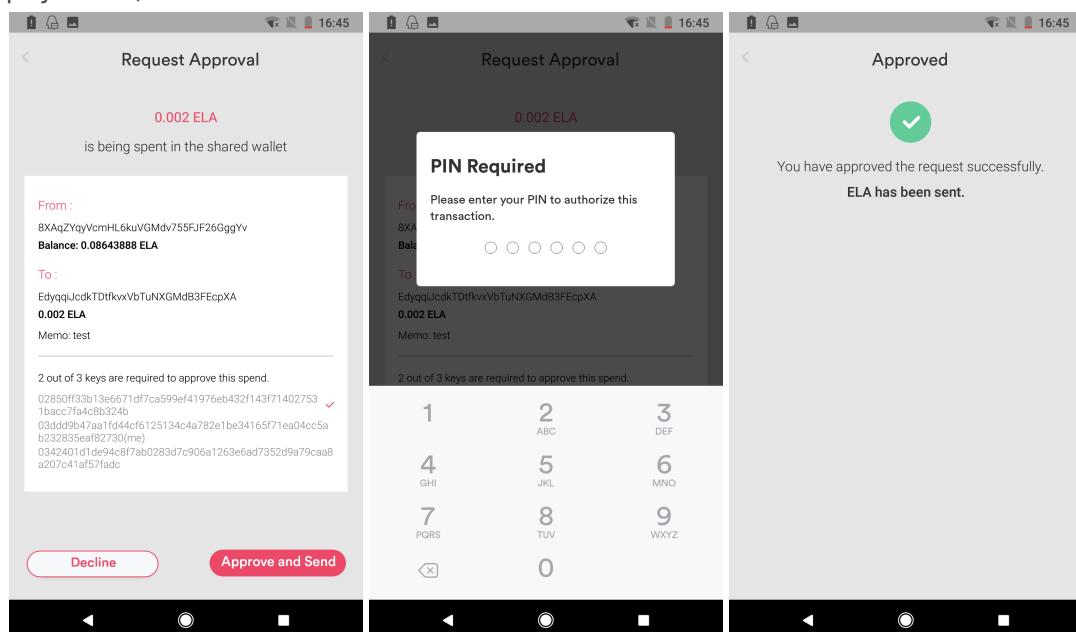
After PIN code verification, the authorization is successful. The current interface will display a dynamical QR code. There will be a button "["Share file.json"](#)". Click "["Share file.json"](#)" to share the json file with other participants to complete the creation of the multi-signed wallet.



## 2. B Approved payment

B scans the QR code shared by A through the Elephant wallet (or by opening the json file shared by A), it goes to approval request interface (It shows that A already approved the payment). Click "["Approve and Send"](#)" button then enter the PIN code of wallet.

After PIN code verification, you will see the message "You have approved the request successfully, ELA has been sent." (Since this multi-signed wallet is 2-3 wallet, meaning at least 2 out of 3 approvals are required to approve the payment.)



### 3. View the transaction in the 'History'

You can view the transaction in the '[History](#)' on the right side of the ELA Multi-Signed Wallet Details page.

ELA Joint Account						
ela		History				
ELA	From	To	Memo	Status	Transaction Time	
8XAqZYqVcmHL6kuVGmVs755FJF26GggYv						
<a href="#">Copy</a>						
<a href="#">Share</a>						
0.08439028 ELA	<a href="#">Send</a>					
Total public keys: 3	<a href="#">View</a>					
Min.required for Approval: 2						
Date Created: 2019-10-10 16:07:21						
8XAqZYqVcmHL6kuVGmVs755FJF26GggYv	-0.002	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EdyqqJcdkTdfkvxVbTu NXGMdB3FEqpXa	test	Sent	2019-10-10 16:46:21
	-0	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	to me	Sent	2019-10-10 11:13:13
	-0.001	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EkYZU79b8vVWaSh1L 58vzPjSk1FzsSt	tttttttttt	Sent	2019-10-09 18:39:09
	-0.000101	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EdyqqJcdkTdfkvxVbTu NXGMdB3FEqpXa	testtest	Sent	2019-10-08 11:34:27
	-0.000123	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EdyqqJcdkTdfkvxVbTu NXGMdB3FEqpXa	test multi	Sent	2019-10-04 14:00:54
	-0	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	multi	Sent	2019-10-04 13:54:26
	-0.011	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EkYZU79b8vVWaSh1L 58vzPjSk1FzsSt	test multi	Sent	2019-10-04 13:00:02
	-0	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	test test	Sent	2019-09-30 08:15:25
	-0	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	testhhhhhhh	Sent	2019-09-19 10:59:29
	-0.00010001	8XAqZYqVcmHL6kuVG Mdv755FJF26GggYv	EkYZU79b8vVWaSh1L 58vzPjSk1FzsSt	多签测试test	Sent	2019-09-17 15:02:13

Click on a record to view details:

## Payment approval rules for ELA multi-signed wallet:

The payment approval is One-By-One. That is, it must be done one by one either via json file or QR scanning.

e.g. It is 3-5 multi-signed wallet. 5 people create a wallet and need 3 people to approve the payment.

A approves the request at first, B needs to scan the QR code from A, then C needs to scan the QR code from B. The same rule applies using json file to approve the request.

## Tips

- **How to use the new ELA multi-signed wallet for the mnemonic of the multi-signed wallet on the web version?**

Because the web version of the multi-signed wallet and the Elephant Wallet--ELA multi-signed wallet are signed differently, the two versions are not supported for signing transactions.

Users of the web version with multiple wallets can import mnemonics into the Elephant Wallet and authorize the use of ELA multi-signed wallet PC version through the Elephant Wallet. It should be noted that the relevant participants of the same multi-signed wallet need to do this.

- **Why is the multi-signed wallet address generated after the mnemonic of the web multi-signed wallet is imported into the Elephant wallet is inconsistent with the previous address?**

To be consistent with the address generated by the previous web multi-signed wallet, the following conditions must be met:

- The previously created web version of the multi-signed wallet is a single-address wallet.
- The number of signatures required to create an Elephant ELA multi-signed wallet is the same as the number of signatures required for the web multi-signed wallet.
- The previous web multi-signed wallet was created with a new mnemonic to create a ELA multi-signed wallet, so the mnemonic must be backed up correctly; and the mnemonic did not add a password.

If the above conditions are not met, create a new ELA multi-signed wallet on the Elephant wallet and transfer the balance of the multi-signed wallet in the web version to the new ELA multi-signed wallet address.

- **When scanning the QR code or opening the json file, a pop-up prompt: " The multi-signature wallet is not created successfully yet, please try again later", how to deal with it?**

◦ The possibility of this happening:

- No ELA multi-signed wallet has been created yet.
- The wallet is reinstalled or the wallet is unlinked and the wallet is restored again.
- The mnemonic is incorrect.

◦ Steps to the solution:

- Confirm that the mnemonic is correct.
- Open <https://jointaccount.elephant.app/> on the PC browser, then click "Create Wallet" to create a wallet, and the elephant wallet scans the QR code for authorization;
- Let the other participants (the user who has created the ELA multi-signed wallet) copy the URL link to you via the "Share" button on the details page of the ELA multi-signed wallet.
- Open the URL link on the PC browser and create a ELA multi-signed wallet (confirm that the required number of signatures is correct).
- Rescan the QR code or open the json file for approval.

- When the first user initiates a payment request, the number of QR codes is too large to scan, what should I do?

On the PC web page, there is a link "[Download file.json](#)" below the interface of the QR code. Click it to download the json file, then transfer the json file to the user's mobile phone through other tools, and then open the Elephant wallet to authorize.

Suggestion: When the number of QR code exceeds 10, it will be approved by opening the json file.

- Why is the amount scanned during the approval of the payment inconsistent with the amount of the request?

Each transaction spends an input, produces an output, and the output produced is the "unspent transaction output", which is UTXO.

When there is a large amount of UTXO at this address, it will affect the creation of the transaction. At present, it has been resolved. When this happens, add a new transaction after confirming the previous transaction.

- View all participant public keys for ELA multi-signed wallets

On the details page of the ELA multi-signed wallet, click the "[View](#)" button behind the "[Total public keys](#)" on the left to enter the Public Key List page to view all the public keys of the multi-signed wallet.

- Entrance to the transfer transaction

There are two entrances to the transfer transaction: one is to enter the send interface on the ELA multi-signed wallet details page by clicking "[Send](#)"; the other is to select the corresponding wallet from the displayed multi-signed wallet list on the ELA multi-signed wallet homepage, click "[Send](#)" to enter the sending interface.

- View ELA Multi-Signed Wallet Address

On the details page of the ELA multi-signed wallet, you can view the wallet address; on the home page of the ELA multi-signed wallet, display the multi-signed wallet list, select the corresponding wallet, and click "[Receive](#)" to enter the receiving page to view the address.