



Cross Chain Transfer *Guide*

Teleport MOS

ENG

Cross Chain Transfer Guide

Teleport MOS or other Assets

This guide will describe how to teleport MOS from Mosaic Chain to AssetHub or from AssetHub to Mosaic Chain.

What is teleport?

A teleport is a cross-chain asset transfer performed through Polkadot's XCM (Cross-Consensus Messaging) protocol. The process is designed so that the asset is removed from circulation on the source chain and re-created or released on the destination chain, preventing duplication of the asset. In user terms: an amount of a given token (asset) is transferred from the source chain to the destination chain.

Currently these types of cross-chain transfer is supported on Mosaic Explorer:

- Teleporting MOS, DOT, USDC or USDT from Mosaic Chain to Polkadot AssetHub
- Teleporting MOS, DOT, USDC or USDT from Polkadot AssetHub to Mosaic Chain

The user interface is the same in each case, but for teleporting from Polkadot AssetHub, you will need to have some DOT on your account to pay the transaction fee.

At cross-chain transfers fees are paid on both the source chain and the destination chain. The source chain fees are deducted from your balance above the teleported amount on the source chain. The destination chain fees are deducted from the assets being teleported.

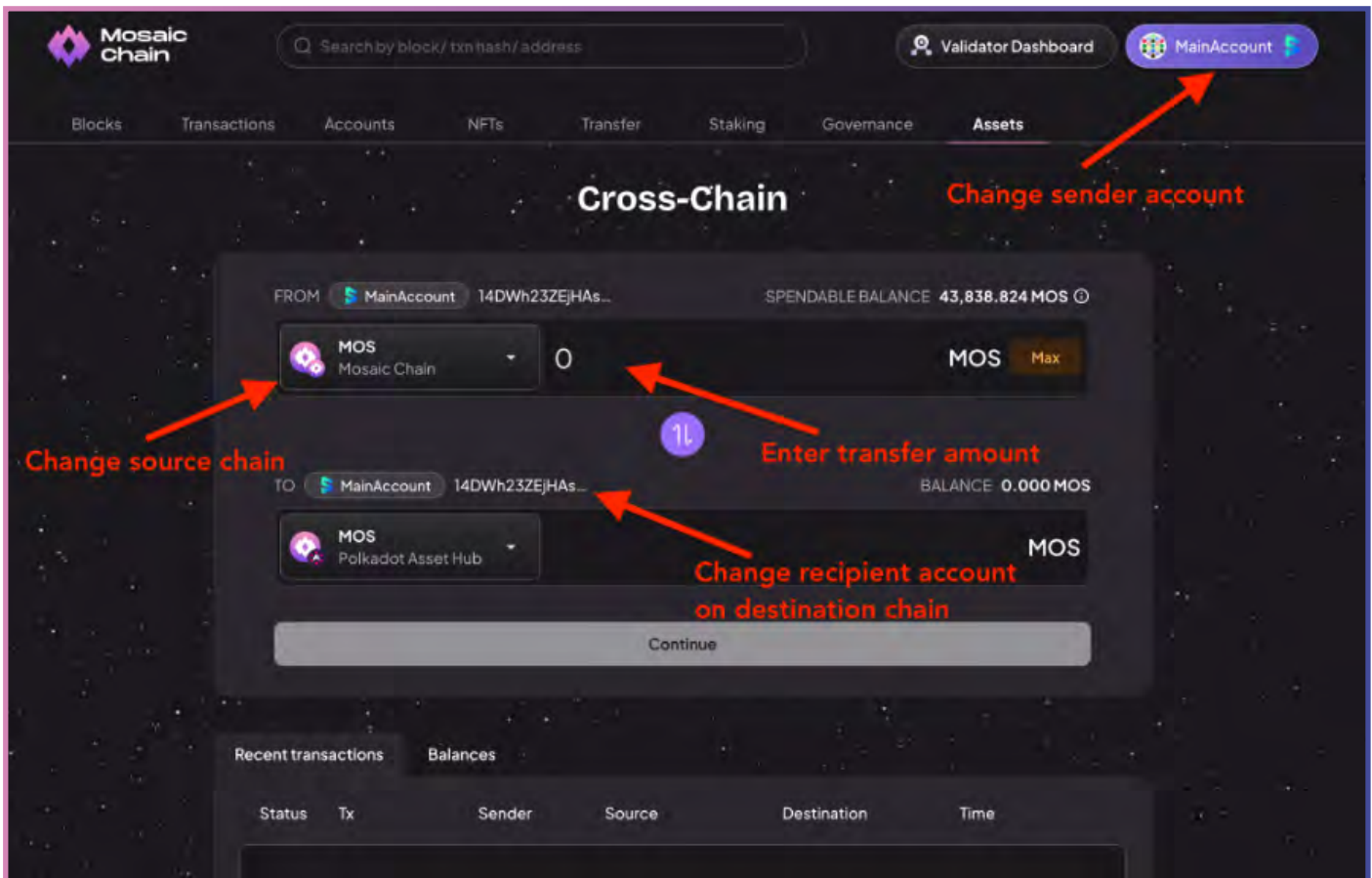
Since teleport is a method of transfer, for ease of understanding the term "transfer" will be used in this guide to refer to it.

The Cross-chain form

Open the Assets page on the Mosaic Explorer (mainnet-explorer.mosaicchain.io) by clicking on the Assets link in the top navbar. If no wallet is connected yet, click on the Connect Wallet button in the top right corner and connect your account from which you want to make the transfer.

You will only need to set 4 things on the cross-chain form:

- Sender account - the account you will transfer the tokens from
- Source chain - whether to transfer from Mosaic Chain to AssetHub or vice-versa
- Amount of transfer
- Recipient account - if you want to transfer the assets to a different account on the destination chain, other than the sender account



Source data (FROM):

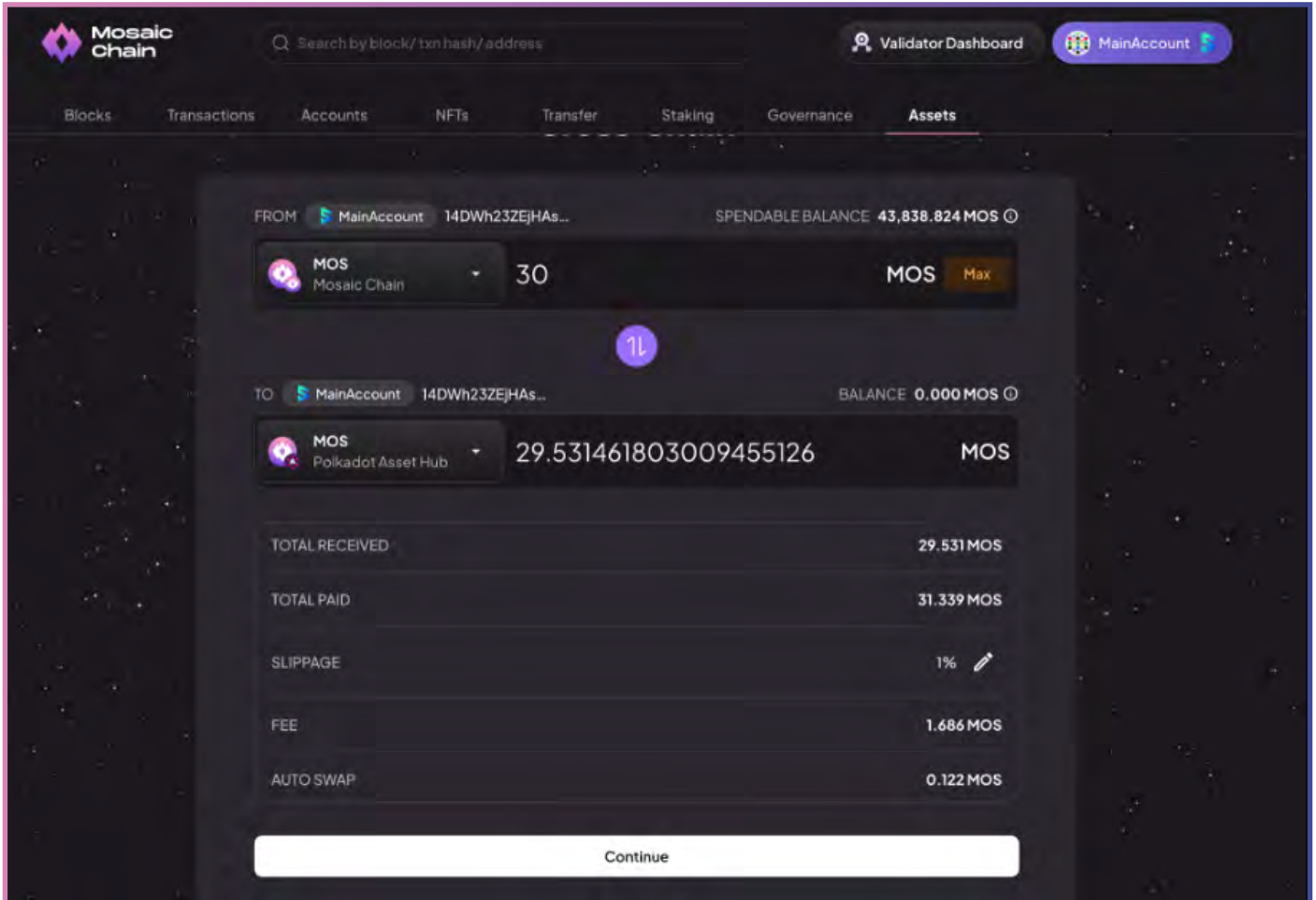
- **FROM account** - The account the transfer will be sent from, you can change it with the account menu (connect wallet) button in the top right corner.
- **SPENDABLE BALANCE** - The balance of the selected token on the source account on the source chain (Mosaic Chain by default) that is freely transferable.
- **Chain / Token selector** - Click on the MOS / Mosaic Chain box if you want to change the source chain from Mosaic Chain to AssetHub or the asset to be transferred. (In the popup modal, choose Polkadot AssetHub on the left, then the desired token on the right. The destination chain will adjust automatically.)
- **Amount field** - Type in the amount you would like to transfer to the destination chain
- **Max button** - Click this button if you would like to transfer all the available spendable balance. The possible maximum transferable amount will be calculated taking the deductible fees into account.

Destination data (TO):

- **TO account** - As in a same-chain transfer, the recipient account can be selected, if it is not the same as the sender. Click on the account address to change the destination account on the destination chain. In the popup modal you can choose from your own accounts or type in or paste a custom account address.
- **BALANCE** - The balance of the selected token on the account on the destination chain (on AssetHub by default).
- **Chain / Token selector** - Not enabled yet. The destination chain and asset is selected automatically with the change of the source chain.
- **Amount field** - filled in automatically.

Fees:

After filling in the amount field, the fees of the transfer and the estimated amount to be received will be calculated. The source chain fees consist of the transaction fee and the XCM delivery fee. The destination chain fees consist of the XCM execution fee and the auto swap fee for existential deposit, if the account does not yet exist on the destination chain.



The screenshot shows the Mosaic Chain interface for a transfer. The 'FROM' field is 'MainAccount' with address '14DWh23ZEjHAs...'. The 'SPENDABLE BALANCE' is 43,838.824 MOS. The 'TO' field is 'Polkadot Asset Hub' with address '14DWh23ZEjHAs...'. The 'BALANCE' is 0.000 MOS. The transfer amount is 30 MOS, with a multiplier of 1L. The interface shows the following breakdown:

Category	Amount (MOS)
TOTAL RECEIVED	29.531
TOTAL PAID	31.339
SLIPPAGE	1%
FEE	1.686
AUTO SWAP	0.122

A 'Continue' button is at the bottom.

Auto-calculated amounts:

- **Total received:** the estimated amount that will be credited to the destination account. It equals the specified transferred amount minus the destination chain fees.
- **Total paid:** the total amount that will be deducted from your source chain balance. It is the specified amount plus the source chain fees.
- **Auto swap:** If the account does not yet exist on the destination chain, a so-called existential deposit needs to be reserved on it in the chain's native token (MOS on Mosaic Chain, DOT on Polkadot AssetHub). A small portion of the transferred asset is automatically swapped into the native token so your account can meet the minimum balance requirement. Applied only if the account does not yet exist on the destination chain and the transferred asset is not the destination chain's native token.
- **Slippage:** The maximum allowed difference between the estimated and actual swap rate for the auto-swap. At the time the swap is executed, the market price can change and the final amount received may differ slightly from the estimated amount. The difference between the expected and actual outcome is the slippage. Higher slippage tolerance increases the chance of a successful swap but may result in receiving fewer tokens than estimated. The default 1% is an optimal value.
- **Fee:** The total amount of the source chain and destination chain fees (not including auto swap fee).

Recent Transactions table

You can see your recent transactions here. This is currently stored in the browser, so you see it only on the device from which you made the transaction.

Balances table

You can see the connected account's spendable balances of the given assets on the different chains.

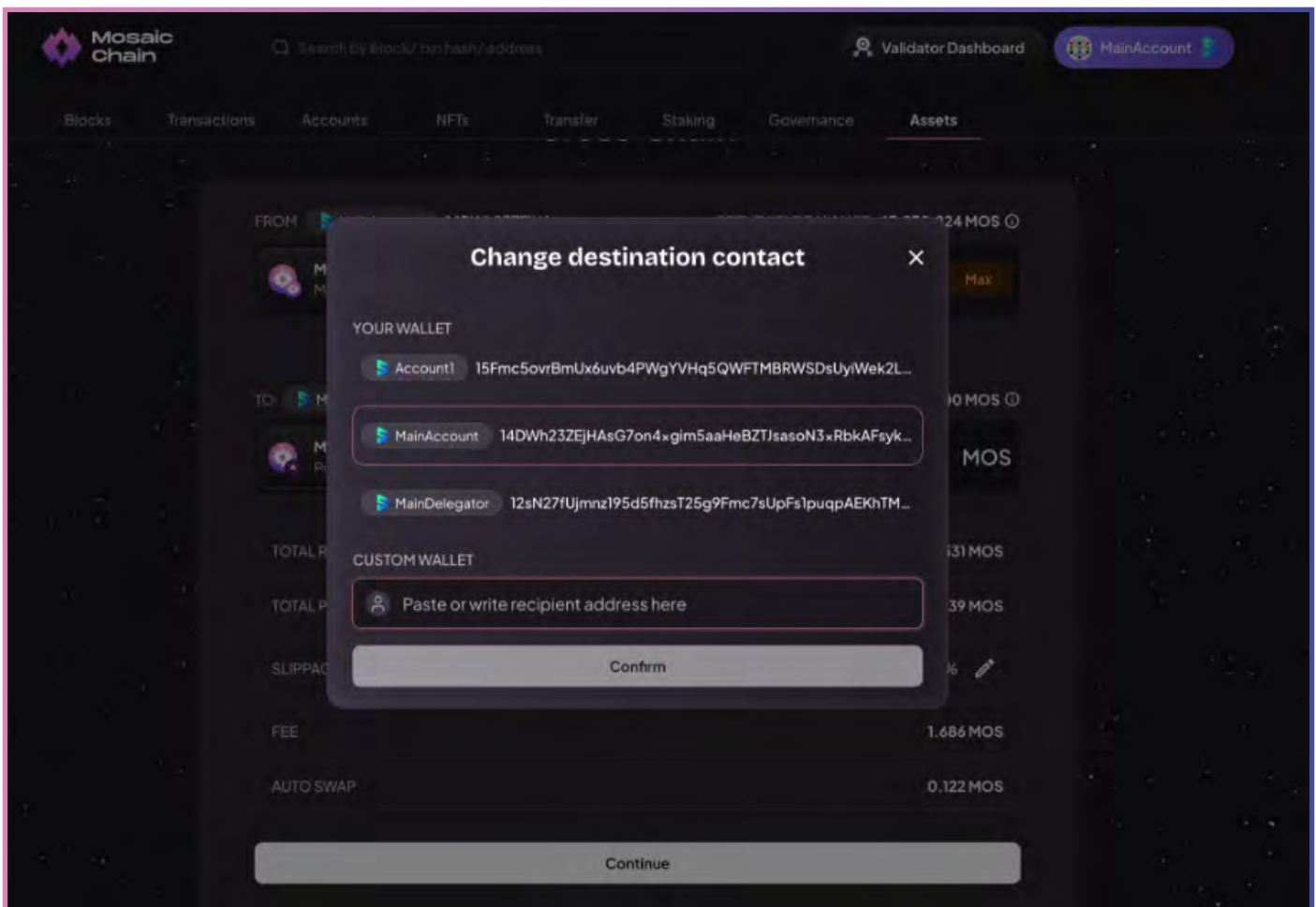
Steps of teleporting MOS from Mosaic Chain to AssetHub

1. On the Assets page connect your account with the Connect Wallet button.

By default the source chain of the cross-chain transfer is the Mosaic Chain, the destination chain is the Polkadot AssetHub and the recipient account is the same as the sender account.

2. If you want to transfer MOS to the same account on AssetHub, skip this step.

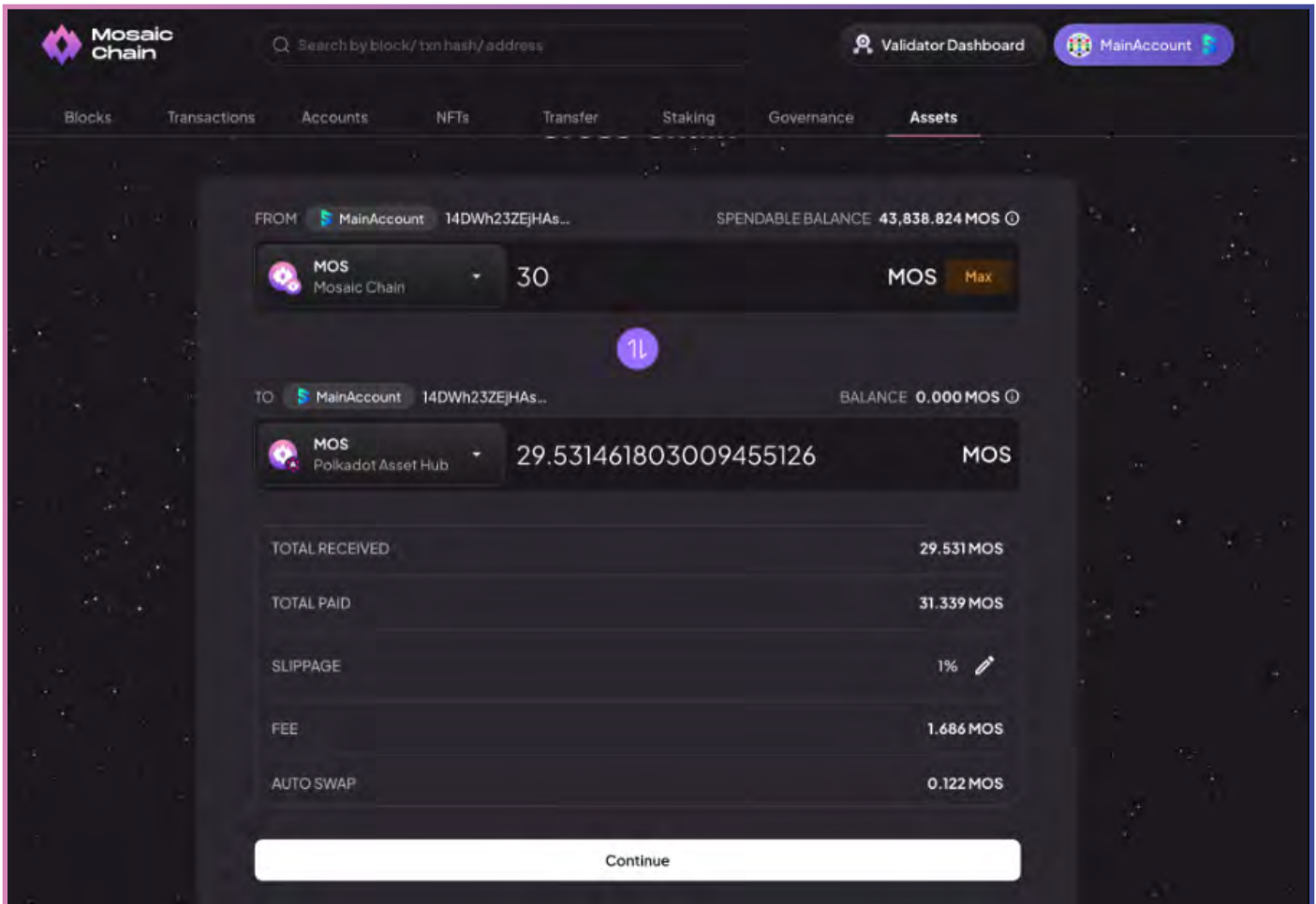
If you want to transfer MOS to a different account on AssetHub than the sender, click on the account address at the "TO" section of the form. In the opening modal, choose an account from your connected wallet or type or paste an account address into the input field at the bottom of the modal. After inserting the address, click Confirm.



3. Enter the desired amount in the amount field.

After you have entered the amount to be transferred, the auto-calculation of the fees will happen.

In the “TO” part of the form you will see the estimated amount you will receive after the deduction of the fees. Below it you will see more details of the calculation. (See the detailed description above at the form details.)



Mosaic Chain Search by block/txn hash/address ValidatorDashboard MainAccount

Blocks Transactions Accounts NFTs Transfer Staking Governance **Assets**

FROM **MainAccount** 14DWh23ZEjHAs... SPENDABLE BALANCE 43,838.824 MOS

MOS Mosaic Chain 30 MOS Max

1L

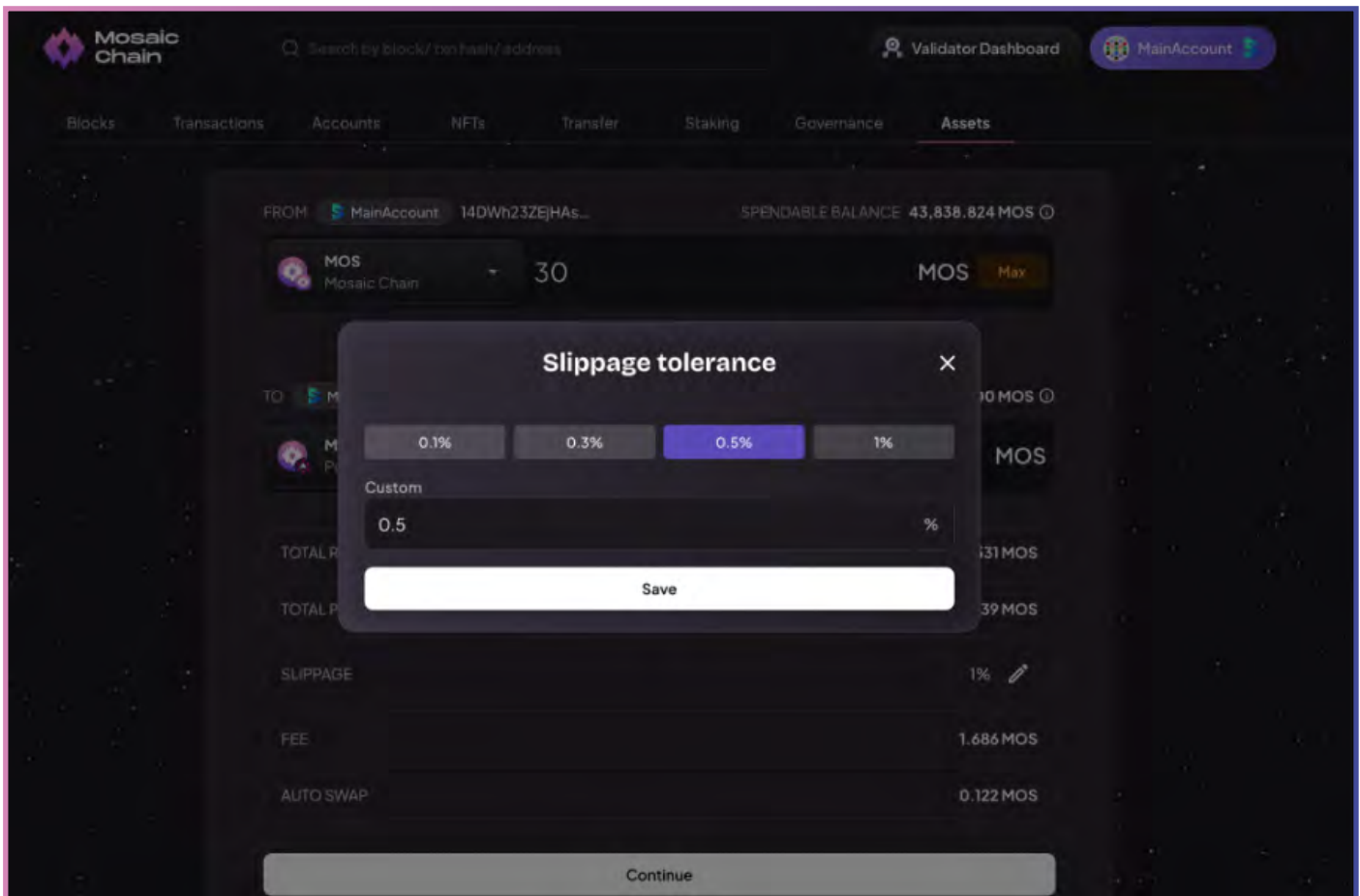
TO **MainAccount** 14DWh23ZEjHAs... BALANCE 0.000 MOS

MOS Polkadot Asset Hub 29.531461803009455126 MOS

TOTAL RECEIVED	29.531 MOS
TOTAL PAID	31.339 MOS
SLIPPAGE	1% 
FEE	1.686 MOS
AUTO SWAP	0.122 MOS

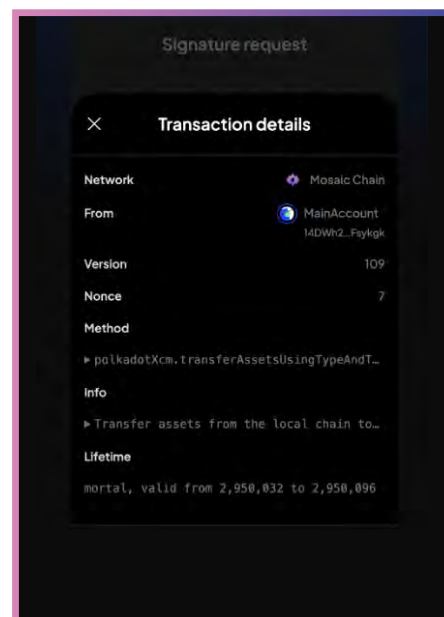
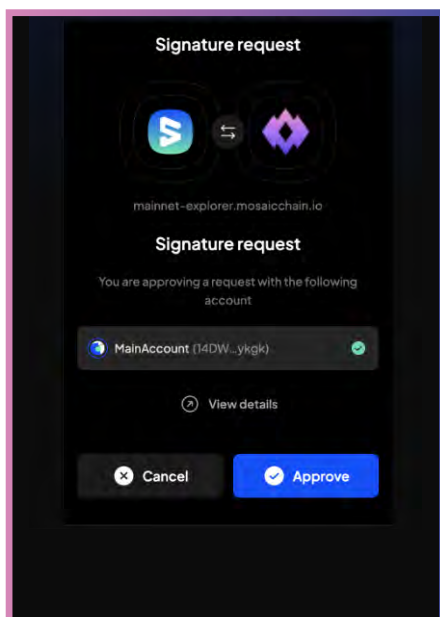
Continue

If an auto-swap is needed, you can change the slippage tolerance by clicking on the pencil icon next to the slippage value. You can choose one of the predefined values or you can enter a custom percentage into the input field.

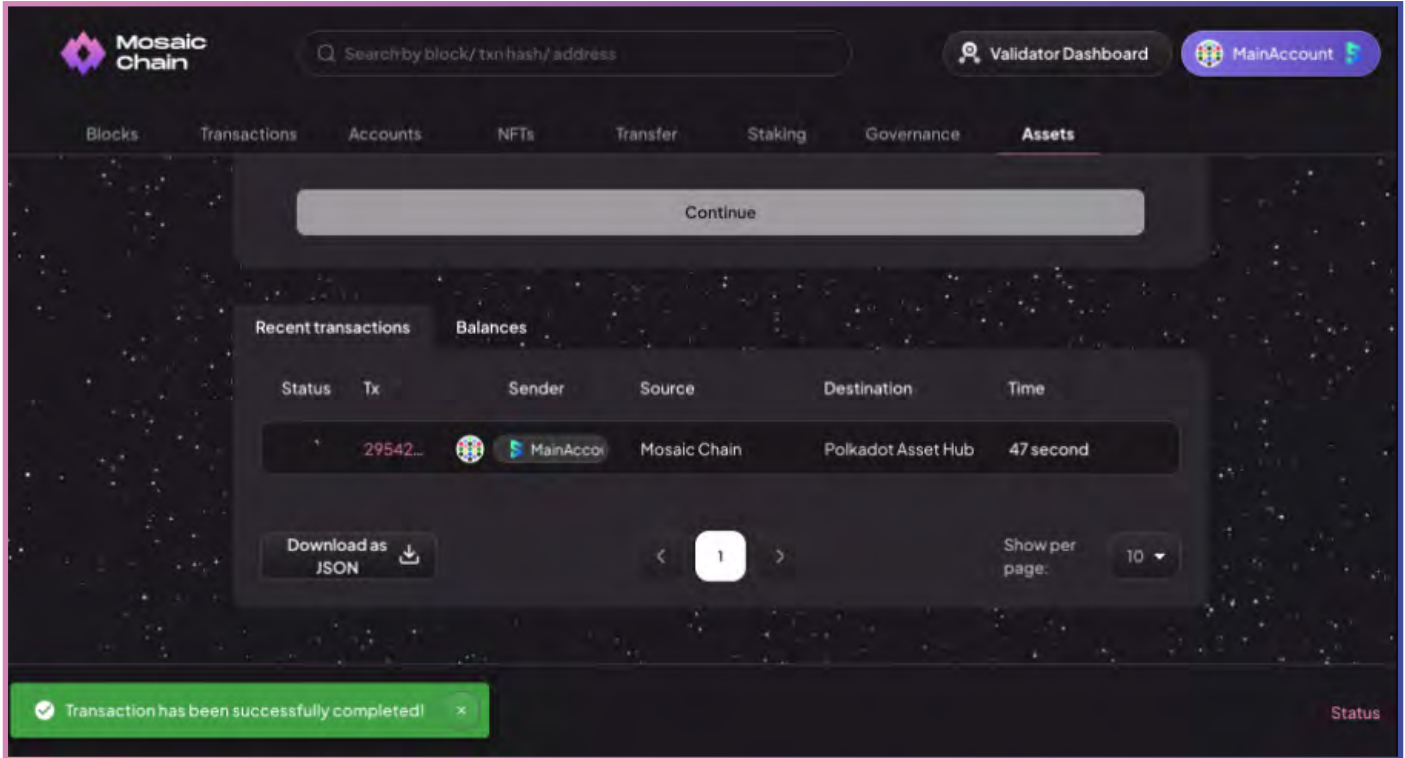


4. After you set the amount, the destination account and slippage if needed, click on the Continue button.

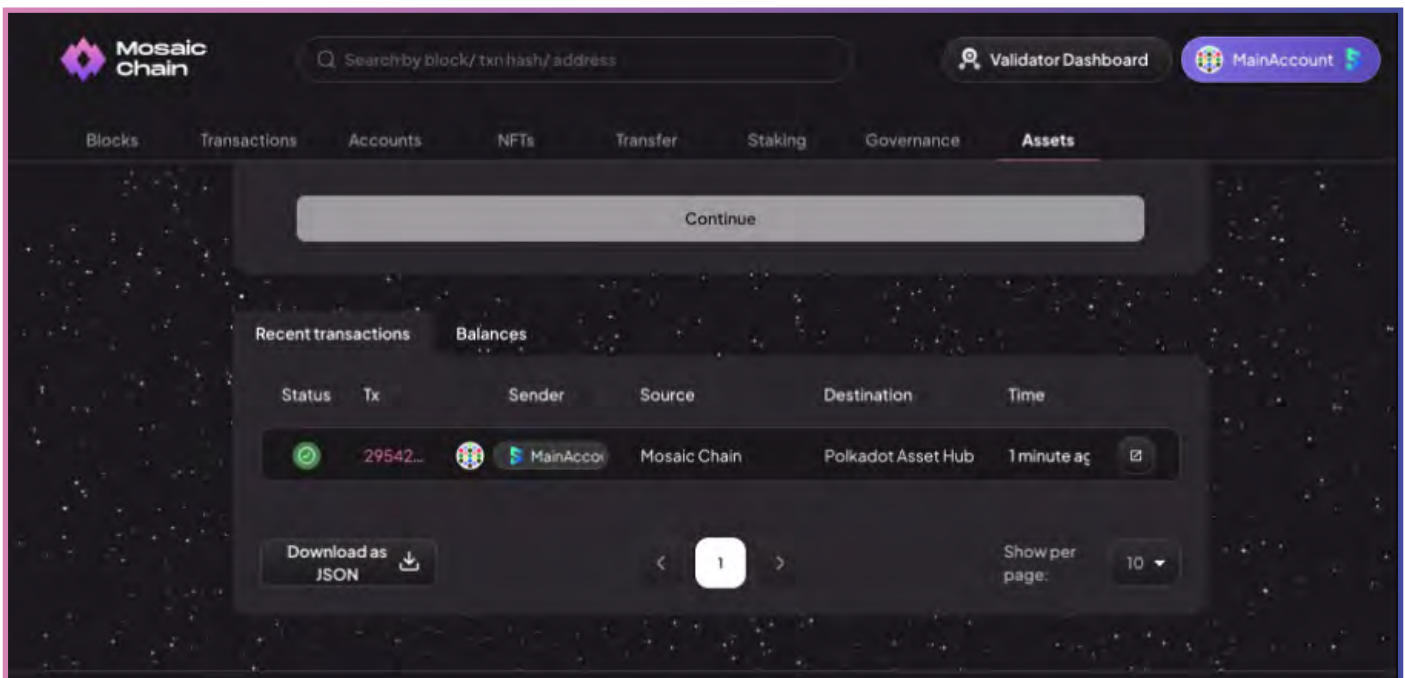
5. The SubWallet window appears. You can check the transaction details with the View details button. On the top you will see the Network (chain) where the transaction will be sent to. If the details are correct, click on the Approve button.



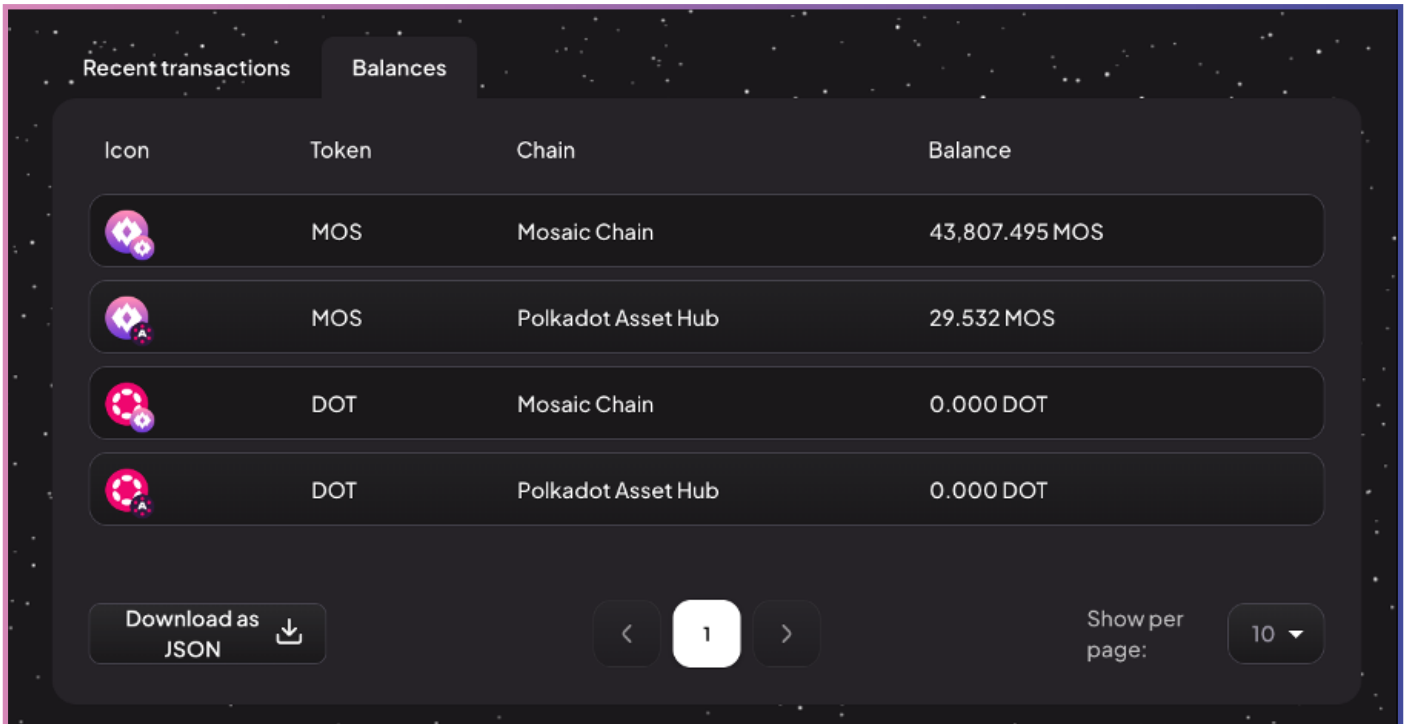
After signing the transaction in SubWallet, the status of the transaction on the source chain will be shown in the bottom left corner of the Explorer on notifications. The green transaction success notification in this case means that the Mosaic chain part of the XCM transaction was successful. You still have to wait a bit for the execution of the XCM transaction on Polkadot AssetHub.



When the XCM transaction is executed and finalized successfully on both the source chain and the destination chain, you will see a green checkmark next to it in the “Recent transactions” list and a link to the transaction on the Polkadot AssetHub appears on the right side. If you can only see the loader for a few minutes, refresh the page.



In the balances table you can now see the changed balances of the account. If you transferred to the same account, you will see the transferred amount appearing on the Polkadot AssetHub balance.



Icon	Token	Chain	Balance
	MOS	Mosaic Chain	43,807.495 MOS
	MOS	Polkadot Asset Hub	29.532 MOS
	DOT	Mosaic Chain	0.000 DOT
	DOT	Polkadot Asset Hub	0.000 DOT

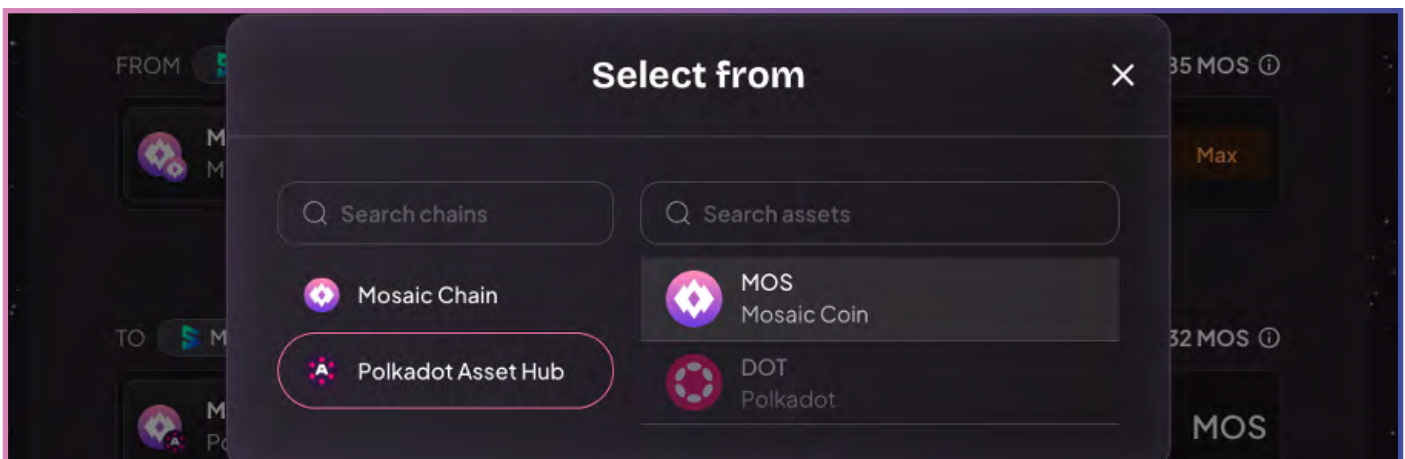
Download as JSON  < 1 > Show per page: 10 ▾

If something went wrong with the XCM transaction on the destination chain, and there is a red cross beside the transaction instead of the green checkmark, contact the Mosaic Chain support with the Mosaic Chain transaction ID and the AssetHub link.

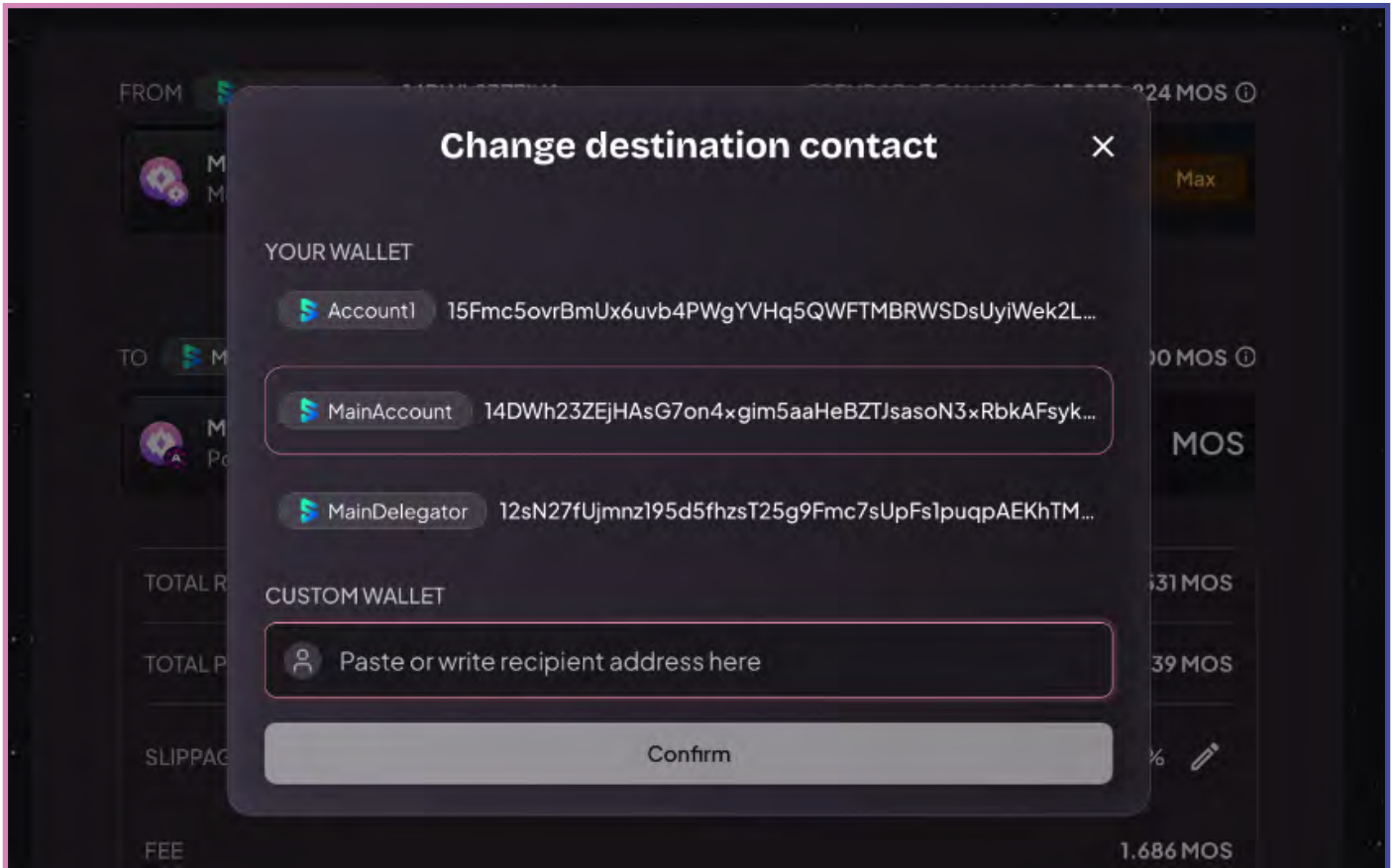
Steps of teleporting MOS from Polkadot AssetHub to Mosaic Chain

Attention! To transfer from Polkadot AssetHub, you need to have enough DOT for the transaction fee on your account on Polkadot AssetHub.

1. On the Mosaic Explorer Assets page connect your account with the Connect Wallet button!
2. Click on the MOS / Mosaic Chain chain - token selector box to change the source chain from Mosaic Chain to AssetHub. In the popup modal, choose Polkadot AssetHub on the left, then MOS token on the right. The destination chain will change automatically to Mosaic Chain.

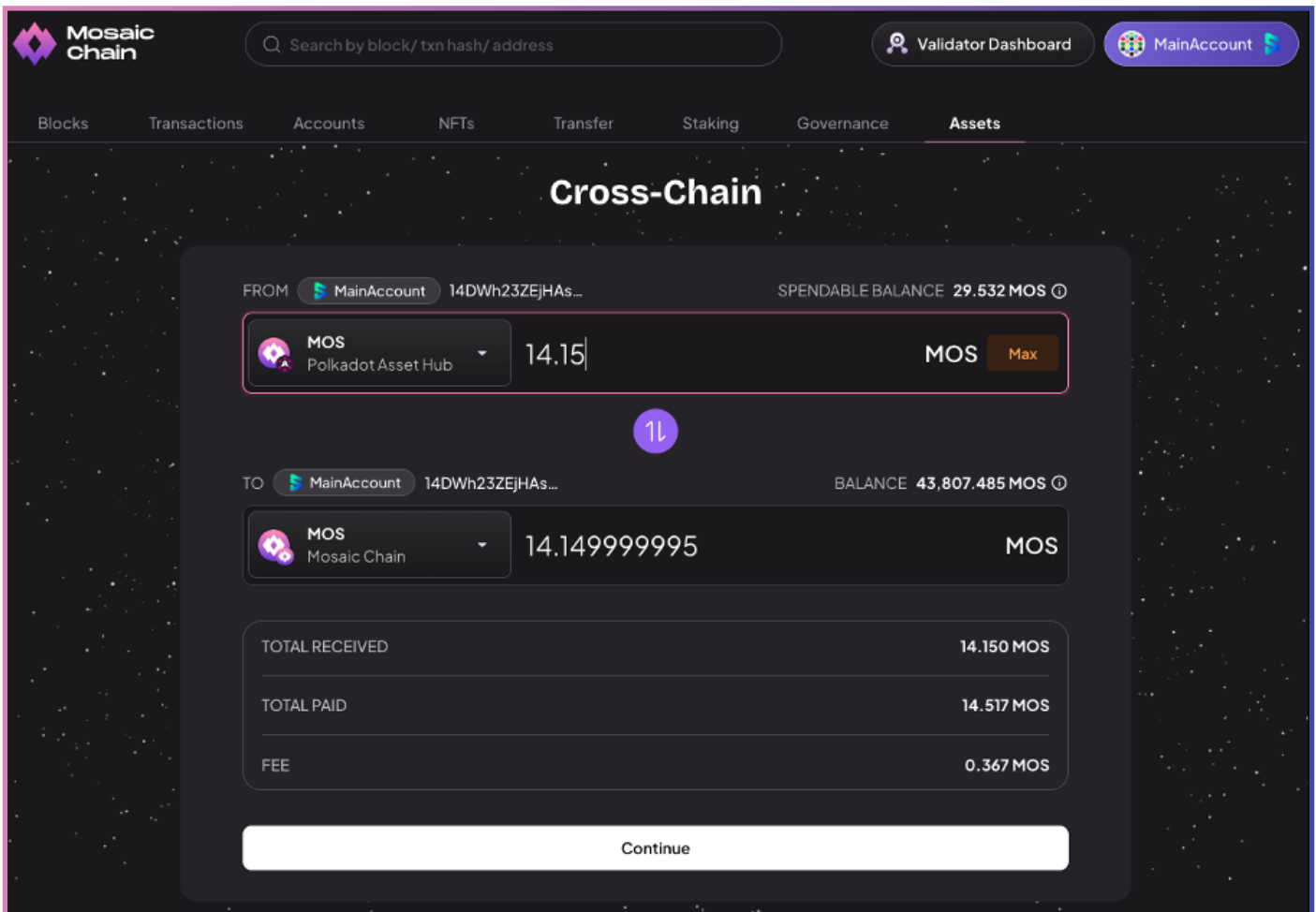


3. If you want to transfer MOS to the same account on Mosaic Chain, skip this step. If you want to transfer MOS to a different account on Mosaic Chain than the sender, click on the account address at the “TO” section of the form. In the opening modal, choose an account from your connected wallet or type or paste an account address into the input field at the bottom of the modal. After inserting the address, click Confirm.



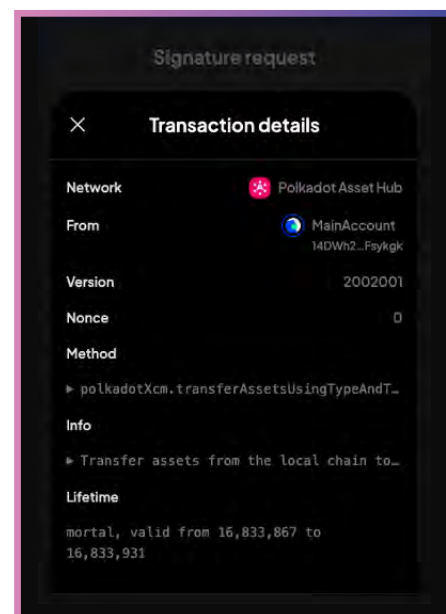
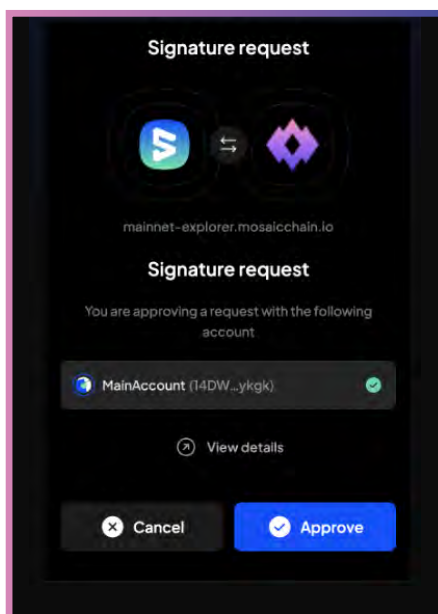
4. Enter the desired amount in the amount field.

After you have entered the amount, the auto-calculation of the fees will happen. In the “TO” part of the form you will see the estimated amount you will receive after the deduction of the fees. Below it you will see more details of the calculation. (See the detailed description above at the form details.

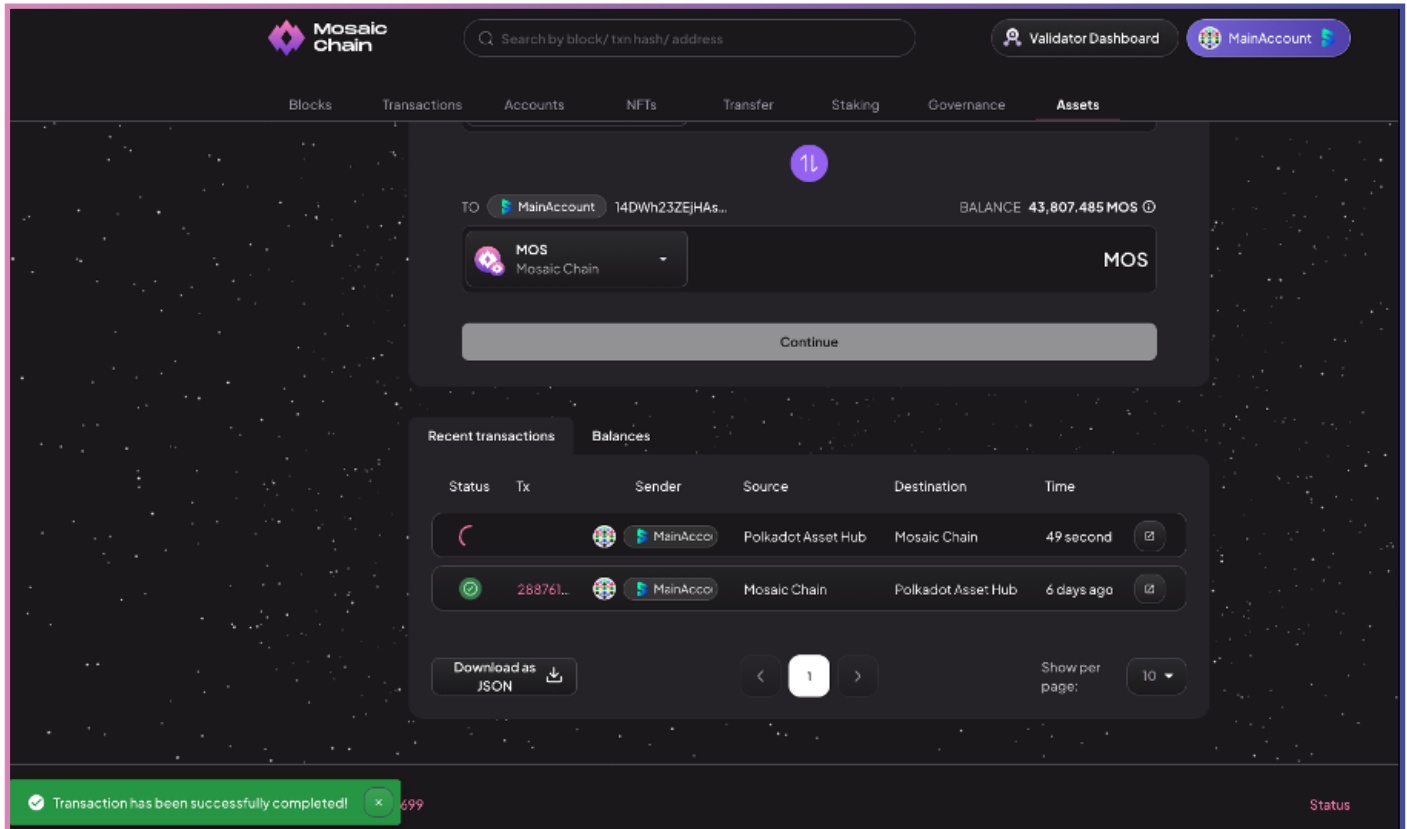


5. After you set the source chain, the amount and the destination account if needed, click on the Continue button.

6. The SubWallet window appears. You can check the transaction details with the View details button. On the top you will see the Network (chain) where the transaction will be sent to. If the details are correct, click on the Approve button.



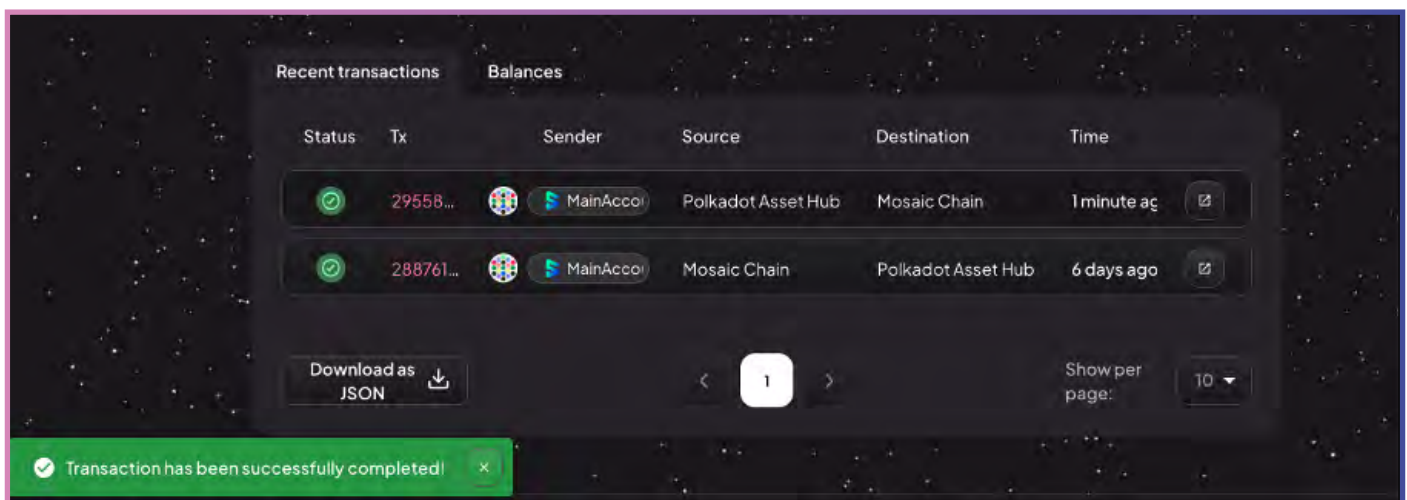
After signing the transaction in SubWallet, the status of the transaction on the source chain will be shown in the bottom left corner of the Explorer on notifications. The green transaction success notification in this case means that the Polkadot AssetHub as source chain part of the XCM transaction was successful. You still have to wait a bit for the execution of the XCM transaction on the Mosaic Chain.



The screenshot shows the Mosaic Chain Explorer interface. At the top, there's a search bar and navigation tabs. The main area displays a transaction confirmation screen for the 'MainAccount' (14DWh23ZEJHAs...). The balance is 43,807,485 MOS. Below this, there's a 'Continue' button. At the bottom, a green notification bar states 'Transaction has been successfully completed!'. Below the notification, there's a table of recent transactions.

Status	Tx	Sender	Source	Destination	Time
		MainAccount	Polkadot Asset Hub	Mosaic Chain	49 second
	288761...	MainAccount	Mosaic Chain	Polkadot Asset Hub	6 days ago

When the XCM transaction is executed and finalized successfully on both the source chain and the destination chain, you will see a green checkmark next to it in the “Recent transactions” list. If you can only see the loader for minutes, refresh the page.



The screenshot shows the Mosaic Chain Explorer interface with the 'Recent transactions' tab selected. The table now shows two transactions, both with green checkmarks indicating success.

Status	Tx	Sender	Source	Destination	Time
	29558...	MainAccount	Polkadot Asset Hub	Mosaic Chain	1 minute ago
	288761...	MainAccount	Mosaic Chain	Polkadot Asset Hub	6 days ago

In the balances table you can now see the changed balances of the account. If you transferred to the same account, you will see the transferred amount appearing on the Mosaic Chain balance.

Recent transactions		Balances	
Icon	Token	Chain	Balance
	MOS	Mosaic Chain	43,821.635 MOS
	MOS	Polkadot Asset Hub	15.368 MOS
	DOT	Mosaic Chain	0.000 DOT
	DOT	Polkadot Asset Hub	2.969 DOT

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If something went wrong with the XCM transaction on the destination chain, and there is a red cross beside the transaction instead of the green checkmark, contact the Mosaic Chain support with the Mosaic Chain transaction ID and the AssetHub link, that opens by clicking on the open link icon on the right of the transaction.

Teleporting foreign assets

The steps of foreign asset teleport are the same as described at the above chapters, with the addition that you select the desired asset in the chain / token selector dialog. Click on the MOS / Mosaic Chain chain - token selector box, then in the popup modal, choose the source chain on the left, then the token to be transferred on the right. The destination chain and asset will change automatically.

