Set Up a Single-Node MultiChain Network:

**multichain-util create mychain**

**multichaind mychain -daemon**

**A screen shot of a computer

AI-generated content may be incorrect.**

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**Create Three Addresses (Wallets)  
multichain-cli mychain getnewaddress**

**multichain-cli mychain getnewaddress**

**multichain-cli mychain getnewaddress  
A screenshot of a computer code

AI-generated content may be incorrect.**

**Name them:** addr1, addr2, addr3

**Grant them permissions:**

**multichain-cli mychain grant addr1 send,receive**

**multichain-cli mychain grant addr2 send,receive**

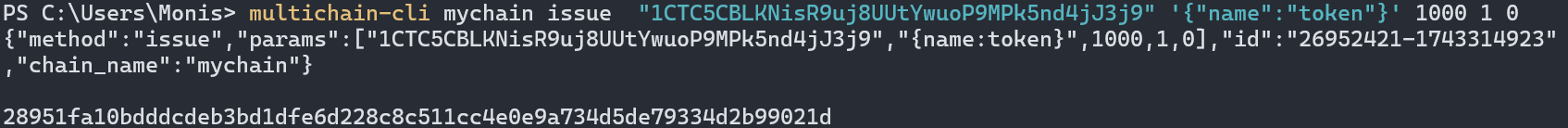
**multichain-cli mychain grant addr3 send,receive**

**A screenshot of a computer program

AI-generated content may be incorrect.**

**3. Create and Send an Asset**

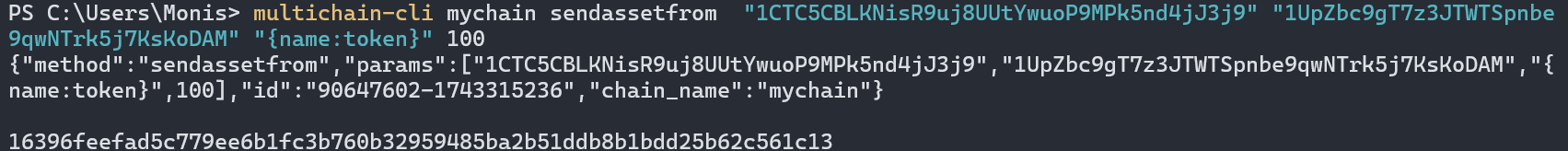
**multichain-cli mychain issue "1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9" '{"name":"token"}' 1000 1 0**

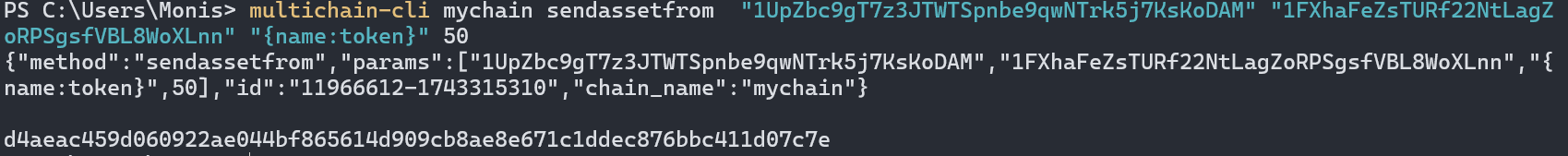
****

**Send transactions:**

**multichain-cli mychain sendassetfrom "1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9" "1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM" "{name:token}" 100**

**multichain-cli mychain sendassetfrom "1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM" "1FXhaFeZsTURf22NtLagZoRPSgsfVBL8WoXLnn" "{name:token}" 50**

****

****

**Private Ledgers for Each Address  
multichain-cli mychain listwallettransactions  
  
Its an entire snapshot of the command**

PS C:\Users\Monis> multichain-cli mychain listwallettransactions

{"method":"listwallettransactions","params":[],"id":"46272469-1743315415","chain\_name":"mychain"}

[

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8"

],

"addresses" : [

],

"permissions" : [

],

"items" : [

],

"data" : [

"53504b6246304402205af3aa1ee0b6f34b0bb521c853cf4d8febcd55d060d81000d9525101d18b008602205b431b9af2dfc7e31dcbc185d354f3e6903f7552b17f2d0faadda5679982282a0321030eb3f89e0c1548ebbb87c2b500dfddeaac63cce2674ab06c418de20dc2ce6608"

],

"confirmations" : 66,

"generated" : true,

"blockhash" : "00fd8c7df1a4da1931fae21a4c2228d459a5600da36297a8c9f3597e4c07d151",

"blockheight" : 1,

"blockindex" : 0,

"blocktime" : 1743314433,

"txid" : "228cf893a6c525294cc787cb0966aac18e13d56b352b4556dd9d1fc29558ccd5",

"valid" : true,

"time" : 1743314432,

"timereceived" : 1743314432

},

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8",

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

],

"addresses" : [

],

"permissions" : [

{

"for" : null,

"connect" : false,

"send" : true,

"receive" : true,

"create" : false,

"issue" : false,

"mine" : false,

"admin" : false,

"activate" : false,

"custom" : [

],

"startblock" : 0,

"endblock" : 4294967295,

"timestamp" : 1743314725,

"addresses" : [

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

]

}

],

"items" : [

],

"data" : [

],

"confirmations" : 45,

"blockhash" : "00388bbb49933d93b234ff72a3dd71fe7a08e113ac56fb304175159d58b7b37a",

"blockheight" : 22,

"blockindex" : 1,

"blocktime" : 1743314748,

"txid" : "098d32e6adf9928fc832207adbb00e182ae59de67102f8357211b8b64c59378d",

"valid" : true,

"time" : 1743314725,

"timereceived" : 1743314725

},

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8",

"1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM"

],

"addresses" : [

],

"permissions" : [

{

"for" : null,

"connect" : false,

"send" : true,

"receive" : true,

"create" : false,

"issue" : false,

"mine" : false,

"admin" : false,

"activate" : false,

"custom" : [

],

"startblock" : 0,

"endblock" : 4294967295,

"timestamp" : 1743314741,

"addresses" : [

"1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM"

]

}

],

"items" : [

],

"data" : [

],

"confirmations" : 45,

"blockhash" : "00388bbb49933d93b234ff72a3dd71fe7a08e113ac56fb304175159d58b7b37a",

"blockheight" : 22,

"blockindex" : 2,

"blocktime" : 1743314748,

"txid" : "3a3c353a4e08f77e036ff984856f0ec87467c6c69b3ee688eea0a937c8a14da7",

"valid" : true,

"time" : 1743314741,

"timereceived" : 1743314741

},

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1FXhaFeZsTURf22NtLagZoRPSgsfVBL8WoXLnn",

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8"

],

"addresses" : [

],

"permissions" : [

{

"for" : null,

"connect" : false,

"send" : true,

"receive" : true,

"create" : false,

"issue" : false,

"mine" : false,

"admin" : false,

"activate" : false,

"custom" : [

],

"startblock" : 0,

"endblock" : 4294967295,

"timestamp" : 1743314755,

"addresses" : [

"1FXhaFeZsTURf22NtLagZoRPSgsfVBL8WoXLnn"

]

}

],

"items" : [

],

"data" : [

],

"confirmations" : 43,

"blockhash" : "0011aaa527b9f67b3e39ac8e393f24ecb4742ab15f8ad929b52e651aa12e182e",

"blockheight" : 24,

"blockindex" : 1,

"blocktime" : 1743314760,

"txid" : "a7c90ba2d4f8efde7a73406d75a0aa20a36c19f09152c57d32d91e449953af91",

"valid" : true,

"time" : 1743314755,

"timereceived" : 1743314755

},

{

"balance" : {

"amount" : 0,

"assets" : [

{

"name" : "{Linus:token}",

"assetref" : "29-265-23810",

"qty" : 1000

}

]

},

"myaddresses" : [

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8",

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

],

"addresses" : [

],

"permissions" : [

],

"issue" : {

"name" : "{Linus:token}",

"assetref" : "29-265-23810",

"multiple" : 1,

"units" : 1,

"open" : false,

"restrict" : {

"send" : false,

"receive" : false,

"issue" : true

},

"fungible" : true,

"canopen" : false,

"canclose" : false,

"totallimit" : null,

"issuelimit" : null,

"details" : {

},

"qty" : 1000,

"raw" : 1000,

"addresses" : [

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

]

},

"items" : [

],

"data" : [

],

"confirmations" : 38,

"blockhash" : "009abce9e5d9919d8bb5b700e4e64e0d8ba6f79457576d3709a5c411de8b5be6",

"blockheight" : 29,

"blockindex" : 1,

"blocktime" : 1743314839,

"txid" : "025d67350743f3abf00d88b48c1934626afb17ab173088736842ebb59fe0d176",

"valid" : true,

"time" : 1743314829,

"timereceived" : 1743314829

},

{

"balance" : {

"amount" : 0,

"assets" : [

{

"name" : "{name:token}",

"assetref" : "35-266-38184",

"qty" : 1000

}

]

},

"myaddresses" : [

"1RfwYaoyFchzSgSB124ec6F3SZ9qGceU41AT8",

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

],

"addresses" : [

],

"permissions" : [

],

"issue" : {

"name" : "{name:token}",

"assetref" : "35-266-38184",

"multiple" : 1,

"units" : 1,

"open" : false,

"restrict" : {

"send" : false,

"receive" : false,

"issue" : true

},

"fungible" : true,

"canopen" : false,

"canclose" : false,

"totallimit" : null,

"issuelimit" : null,

"details" : {

},

"qty" : 1000,

"raw" : 1000,

"addresses" : [

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

]

},

"items" : [

],

"data" : [

],

"confirmations" : 32,

"blockhash" : "00d9f151480ddb56b6a1c049ef40342a0708188b1de1fd4a9757767364fa0cee",

"blockheight" : 35,

"blockindex" : 1,

"blocktime" : 1743314927,

"txid" : "28951fa10bdddcdeb3bd1dfe6d228c8c511cc4e0e9a734d5de79334d2b99021d",

"valid" : true,

"time" : 1743314923,

"timereceived" : 1743314923

},

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM",

"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"

],

"addresses" : [

],

"permissions" : [

],

"items" : [

],

"data" : [

],

"confirmations" : 12,

"blockhash" : "0088ca4cbb478fe9720dcaf9b2c2368fc5504ebc5cf09ded5fb50afc16db3f8f",

"blockheight" : 55,

"blockindex" : 1,

"blocktime" : 1743315254,

"txid" : "16396feefad5c779ee6b1fc3b760b32959485ba2b51ddb8b1bdd25b62c561c13",

"valid" : true,

"time" : 1743315236,

"timereceived" : 1743315236

},

{

"balance" : {

"amount" : 0,

"assets" : [

]

},

"myaddresses" : [

"1FXhaFeZsTURf22NtLagZoRPSgsfVBL8WoXLnn",

"1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM"

],

"addresses" : [

],

"permissions" : [

],

"items" : [

],

"data" : [

],

"confirmations" : 6,

"blockhash" : "004ef46b44f2c1f1ac89416856c50512e5d4db36c30567934b52a788d8bd41bc",

"blockheight" : 61,

"blockindex" : 1,

"blocktime" : 1743315327,

"txid" : "d4aeac459d060922ae044bf865614d909cb8ae8e671c1ddec876bbc411d07c7e",

"valid" : true,

"time" : 1743315310,

"timereceived" : 1743315310

}

]

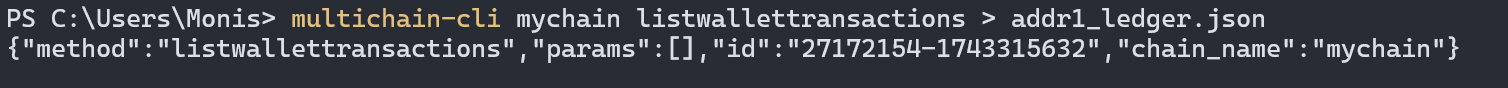
To fetch only its own transactions.

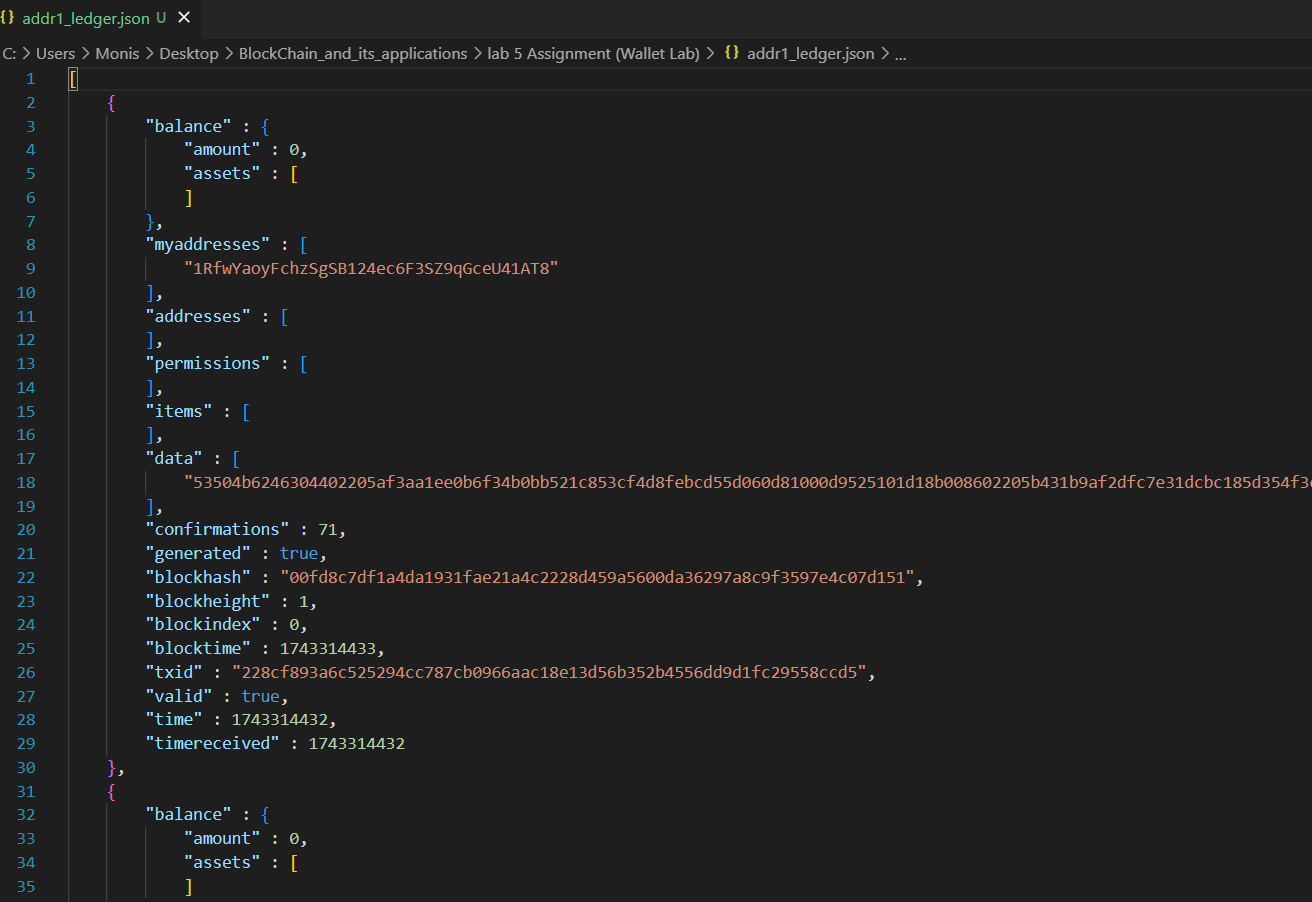
To store it privately:

* Export transactions to local JSON files (per wallet).

Example:

multichain-cli mychain listwallettransactions > addr1\_ledger.json





**Global Ledger with Summarized Data:**

Create a stream for the global ledger:

**multichain-cli mychain create stream global\_ledger true**

**multichain-cli mychain subscribe global\_ledger**

**A computer screen with white text

AI-generated content may be incorrect.**

Use publish to add summaries:

**multichain-cli mychain publish global\_ledger tx001 '{"json":{"sender":"1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9","receiver":"1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM","amount":100,"timestamp":"2025-03-30T10:00:00Z"}}'**

**Automated Script:**

#!/bin/bash

LAST\_TX\_ID=""

while true; do

TXS=$(multichain-cli mychain listwallettransactions | jq -c '.[]')

for TX in $TXS; do

TXID=$(echo $TX | jq -r '.txid')

if [[ "$TXID" != "$LAST\_TX\_ID" ]]; then

SENDER=$(echo $TX | jq -r '.details[0].address')

RECEIVER=$(echo $TX | jq -r '.details[1].address')

AMOUNT=$(echo $TX | jq -r '.details[1].amount')

TIME=$(date -u +"%Y-%m-%dT%H:%M:%SZ")

multichain-cli mychain publish global\_ledger "$TXID" \

"{\"json\":{\"sender\":\"$SENDER\",\"receiver\":\"$RECEIVER\",\"amount\":$AMOUNT,\"timestamp\":\"$TIME\"}}"

LAST\_TX\_ID=$TXID

fi

done

sleep 5

done

**Granting permissions and executing it:**

chmod +x update\_global\_ledger.sh

./update\_global\_ledger.sh

**Query Global Ledger Without Revealing Private Info**

**multichain-cli mychain liststreamitems global\_ledger**

**Output**

**{**

**"sender": "1CTC5CBLKNisR9uj8UUtYwuoP9MPk5nd4jJ3j9"**

**"receiver": "1UpZbc9gT7z3JTWTSpnbe9qwNTrk5j7KsKoDAM",**

**"amount": 100,**

**"timestamp": "2025-03-30T10:00:00Z"**

**}**