

A background network diagram consisting of numerous grey nodes connected by thin grey lines, creating a complex web-like structure.

nem CATAPULT

EPISODE #4

Catapult Command-line Interface-NEM2
in Slackware 14.2

slackware
linux



Introduction

This document contains procedures to help developers understand how to create a Namespace, how to create a mosaic and how to transfer XEM and Mosaics in Catapult Blockchain.

We use Linux / Slackware 14.2 as our default packaging and distribution system.

NOTE: The presented configuration is not intended to be used in the public network. These parameters are used for the **Catapult Testnet version (MIJIN-TEST)**.

Environment:

- Operating System: Slackware 14.2 (64 bits)
- Processor: 2 x 3 GHz
- Memory: 2048 MB
- Hard disk: 80 GB
- Bandwidth: 10 Mbps

Libraries:

Node Version Manager: <https://github.com/creationix/nvm>

Catapult NEM2-CLI:

The NEM2 command line interface (NEM2-CLI) is a unified tool for interacting with NEM Catapult's Blockchain.

This tool allows you to perform the most commonly used actions in the blockchain, such as:

Create accounts, create Namespaces, create Mosaics, check transactions, transfer XEM or any Mosaic created in Catapult, consult balance, consult blocks, etc.

NEM2-CLI is an open source tool built on top of the NEM2-SDK Typescript.

We will take as a working blockchain the one installed in the episodes [1](#), [2](#) and [3](#).

1. Installation of NEM2-CLI

```
groupadd catapult  
  
useradd -g catapult -d /home/catapult catapult  
  
chown -R catapult:catapult /home/catapult  
  
su - catapult  
touch ~/.bashrc  
  
curl -o- https://raw.githubusercontent.com/creationix/nvm/master/install.sh | bash  
  
source ~/.bashrc  
  
nvm ls-remote  
  
nvm install v10.6.0  
  
npm install nem2-cli -g
```

2. Create initial user profile (user-01), an account with funds.

```
export KEY=5768318A223BD547694246D60006ED5739D033DB42850B686D063492C2135DAC
nem2-cli profile create --privatekey $KEY --network MIJIN_TEST --url /
http://catapult.isarq.com:3000 --profile user-01
```

Note: this account contains the XEM generated in [Episode 2](#).

- **--privatekey:** sets the **PrivateKey** of one of the addresses created in Episode 2 and used to generate the Nemesis Block.
- **--network:** work network.
- **--url:** URL address of the Api-rest server of Catapult.
- **--profile:** profile name for the **user-01** of NEM2-CLI.

```
Profile stored correctly
user-01->
  Network:    MIJIN_TEST
  Url:       http://192.168.10.169:3000
  Address:   SCK74LPKEJJ54XLOKIUGN3U2IWUMJKDMMHKQPBG2
  PublicKey: 2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729
  PrivateKey: 5768318A223BD547694246D60006ED5739D033DB42850B686D063492C2135DAC
```

All user profiles are stored in ~/.nem2rc.json.

- Information about the initial user account.

```
nem2-cli account info --profile user-01

Account:      SCK74L-PKEJJ5-4XLOKI-UGN3U2-IWUMJK-DMMHKQ-PBG2
-----

Address:      SCK74L-PKEJJ5-4XLOKI-UGN3U2-IWUMJK-DMMHKQ-PBG2
at height:    1

PublicKey:    2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729
at height:    3

Importance:   409090909
at height:    359

Mosaics
nem:xem:      409090909
```

3. Create a new user (user-02), an account without funds.

```
nem2-cli account generate --network MIJIN_TEST
--url http://catapult.isarq.com:3000 --profile user-02

New Account:   SCWF36-DBPYFH-25DGGD-LF4XFL-BYEEY6E-MZKLQH-I34A
Public Key:    842ABDCB2DFE3C1723E056944CFA3423D8708A5BB855E7D538EA97D828D435DB
Private Key:   D3DA9C10CFBFD4B9FF5A23345E5C76C9B8F66AD67DDB4C38EB743FDEEEEC3BCFF
```

- Information on the user's account.

```
nem2-cli account info --profile user-02

Error {"code": "ResourceNotFound", "message": "no resource exists with id
'SCWF36DBPYFH25DGGDLF4XFLBYEEY6EMZKLQHI34A'}
```

Note: A message like this should appear, since there is still no information on this account in the Blockchain.

4. Transfer 100 XEM from user-01 to user-02.

```
nem2-cli transaction transfer --recipient SCWF36DBPYFH25DGGDLF4XFLBYEY6EMZKLQHI34A /  
--message "Mis primeros 100 xem" --mosaics nem:xem::1000000 --profile user-01  
  
Transaction announced correctly  
Hash: 5AEE6B042287CEA6EF7A033D9A80CF65E380F77942D2B35E16DB2A10DEAE3E5F  
Signer: 2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729
```

- Check Hash of the transaction.

```
nem2-cli transaction info -h 5AEE6B042287CEA6EF7A033D9A80CF65E380F77942D2B35E16DB2A10DEAE3E5F /  
--profile user-01  
  
TransferTransaction: Recipient:SCWF36-DBPYFH-25DGGD-LF4XFL-BYEY6E-MZKLQH-I34A Message:" Mis primeros 100  
xem" Mosaics: d525ad41d95cf29:100000000 Signer:SCK74L-PKEJJ5-4XLOKI-UGN3U2-IWUMJK-DMMHKQ-PBG2  
Deadline:2018-07-12 Hash:5AEE6B042287CEA6EF7A033D9A80CF65E380F77942D2B35E16DB2A10DEAE3E5F
```

- Check information of the user's account (user-02).

```
nem2-cli account info --profile user-02  
  
Account: SCWF36-DBPYFH-25DGGD-LF4XFL-BYEY6E-MZKLQH-I34A  
-----  
Address: SCWF36-DBPYFH-25DGGD-LF4XFL-BYEY6E-MZKLQH-I34A  
at height: 420  
PublicKey: 0000000000000000000000000000000000000000000000000000000000000000  
at height: 0  
Importance: 0  
at height: 0  
Mosaics  
nem:xem: 100
```

5. Create Namespace.

```
nem2-cli transaction namespace --rootnamespace --duration 100000 --name isarq --profile user-01
```

Transaction announced correctly

Hash: 832171458A5B867BF1C6B5BCC29370232CAB7105FC7898E354DA95DE965C9820

Signer: 2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729

6. Create Mosaic.

```
nem2-cli transaction mosaic --mosaicname 01coin --namespace isarq --amount 10000000000000 /  
--transferable --supplymutable --divisibility 6 --duration 100000 --profile user-01
```

- -m, --mosaicname <mosaicname> - Mosaic name
- -n, --namespace <namespace> - Name of the principal Namespace
- -a, --amount <amount> - Amount of tokens
- -t, --transferable - Transferable Mosaic
- -s, --supplymutable - Mutable account
- -l, --levymutable - Mutable Levy
- -d, --divisibility <divisibility> - Mosaic divisibility, from 0 to 6
- -u, --duration <duration> - Mosaic duration in number of blocks

Transaction announced correctly

Hash: 303BB1FEA9EE8BB53BD887BA64157A7157DEE5E7B1BF397349199B6F34F4FB37

Signer: 2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729

- Consult Mosaic.

```
nem2-cli account info --profile user-01

Account:      SCK74L-PKEJJ5-4XLOKI-UGN3U2-IWUMJK-DMMHKQ-PBG2
-----

Address:      SCK74L-PKEJJ5-4XLOKI-UGN3U2-IWUMJK-DMMHKQ-PBG2
at height:    1

PublicKey:    2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729
at height:    3

Importance:   409090909
at height:    359

Mosaics
nem:xem:      409090909
isarq:01coin: 100000000
```

7. Transfer 100 ISARQ "01coin" from user-01 to user-02.

```
nem2-cli transaction transfer --recipient SCWF36DBPYFH25DGGDLF4XFLBYEY6EMZKLQHI34A /
--message "Mis primeros mosaicos" --mosaics isarq:01coin::10000000 --profile user-01

Transaction announced correctly
Hash: 427F373E92FD41E70606A511F45ED6731452D6C9E5EE7B24FAA32CA776205E0F
Signer: 2BC2A7B5C08B171D8288439177A1B07FFD30D6F78918A1E4917E04591B137729
```


- Check information of the user's account (user-02).

```
nem2-cli account info --profile user-02
```

```
Account:      SCWF36-DBPYFH-25DGGD-LF4XFL-BYFY6E-MZKLQH-I34A
-----
```

Address:	SCWF36-DBPYFH-25DGGD-LF4XFL-BYFY6E-MZKLQH-I34A
at height:	420
PublicKey:	00
at height:	0
Importance:	0
at height:	0
Mosaics	
nem:xem:	100
isarq:01coin:	10

- See also:

[EPISODE #1](#) [Compilation in Slackware](#)

[EPISODE #2](#) [Creation of the Nemesis Block](#)

[EPISODE #3](#) [Execution of the Core and Rest API](#)

- Coming soon:

EPISODE #5

Writing the first application in NEM Catapult

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