

LIST OF SOME POPULAR CRYPTOCURRENCY

Ethereum (ETH)

Cardano (ADA)

Stellar (XLM)

DogeCoin

CARDANO (ADA)

Cardano is third generation, proof-of-stake, decentralized platform for ADA crypto currency.

Cardano platform is written in Haskell functional programming language.

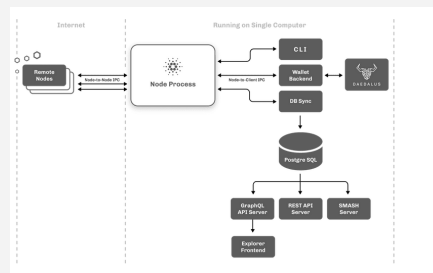
Uses Ouroboros, a peer-reviewed, verifiable, secure blockchain protocol.

Ouroboros enables the network's decentralization in Cardano.

Setting Up Cardano Node Using Docker

Download Cardano Image	<code>docker image pull inputoutput/cardano-node:<TAG></code>
Create local cardano-node-data and cardano-node-ipc volumes:	<code>docker volume create cardano-node-data</code> <code>docker volume create cardano-node-ipc</code>
Run the Cardano Node	<code>docker run -v cardano-node-ipc:/ipc -v cardano-node-data:/data inputoutput/cardano-node run --help</code>

Cardano Architecture Overview



Cardano Architecture Components : NODES

A blockchain system consists of a set of nodes distributed across a network that communicate with each other to achieve consensus about the system's state.

Nodes are responsible for:

Executing the Ouroboros protocol

Validating and relaying blocks

Producing blocks (some nodes)

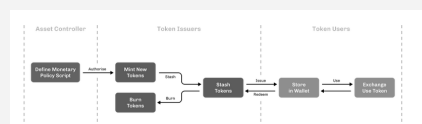
Providing information about the state of the blockchain to other local clients

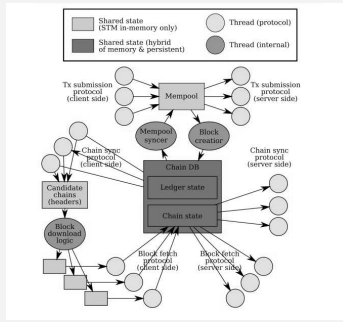
Cardano Architecture Components : DAEDALUS WALLET

Daedalus is a full node wallet that helps users to manage their ada, and can send and receive payments on the Cardano blockchain

Daedalus consists of a wallet frontend and a backend. The frontend is the graphical application that users see and interact with. The backend is a service process that monitors the state of the user's wallet

CARDANO (ADA) TOKEN LIFECYCLE





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MINTING A NEW COIN

1. Download the node config files

```
wget https://hydra.iohk.io/build/5266641/download/1/cardano-node-1.24.2-linux.tar.gz
tar xzvf cardano-node-1.24.2-linux.tar.gz
mkdir lpconfig && cd lpconfig
wget https://hydra.iohk.io/build/5102327/download/1/launchpad-config.json
wget https://hydra.iohk.io/build/5102327/download/1/launchpad-byron-genesis.json
wget https://hydra.iohk.io/build/5102327/download/1/launchpad-shelley-genesis.json
wget https://hydra.iohk.io/build/5102327/download/1/launchpad-topology.json
cd ..
```

2. Run the Cardano Node

```
./cardano-node run --topology ./lpconfig/launchpad-topology.json --database-path ./state-lp --port 3001
--config ./lpconfig/launchpad-config.json --socket-path ~/cardano-lp.socket
export CARDANO_NODE_SOCKET_PATH=~/cardano-lp.socket
```

3. Generate a verification key and a signing key:

```
cardano-cli address key-gen \
  --verification-key-file pay.vkey \
  --signing-key-file pay.skey
```

4. Generate the payment address:

```
./cardano-cli address build \
--payment-verification-key-file pay.vkey \
--out-file pay.addr \
--testnet-magic 3
```

5. Check the balance of the payment address:

```
./cardano-cli query utxo --address addr_test1vqvlku0ytscqg32rpv660uu4sgxlje25s5xrpz7zjqsva3c8pfckz --
testnet-magic 3 --mary-era
```

6. Fund the address and check again:

```
./cardano-cli query utxo --address addr_test1vqvlku0ytscqg32rpv660uu4sgxlje25s5xrpz7zjqsva3c8pfckz --
testnet-magic 3 --mary-era
```

7. Export the protocol parameters to a file for later use:

```
cardano-cli query protocol-parameters \
--mainnet \
--out-file protocol.json
```

