## Upload Images to IPFS

cd **local\_file\_path\_to\_images**

curl "https://ipfs.blockfrost.io/api/v0/ipfs/add" \

-X POST \

-H "project\_id:**api\_key**" \

-F "file=@./**file\_name**"

curl "https://ipfs.blockfrost.io/api/v0/ipfs/pin/add/**ipfs\_hash**" \

-X POST \

-H "project\_id:**api\_key**"

> confirm images are pinned

[https://ipfs.blockfrost.dev/ipfs/**ipfs\_hash**](https://ipfs.blockfrost.dev/ipfs/ipfs_hash)

> Update meta.json files for images

## Create & Fund Wallet

cd priv

mkdir demo-wallet

cd demo-wallet

cardano-cli address key-gen \

--verification-key-file payment.vkey \

--signing-key-file payment.skey

cardano-cli address build \

--payment-verification-key-file payment.vkey \

--out-file payment.addr \

--mainnet

cat payment.addr

> Send funds to address from another wallet

cat payment.addr

cardano-cli query utxo \

--address $(cat payment.addr) \

--mainnet

## Create Token Policy

mkdir policy

cardano-cli address key-gen \

--verification-key-file policy/policy.vkey \

--signing-key-file policy/policy.skey

cardano-cli address key-hash --payment-verification-key-file policy/policy.vkey

> **policy\_vkey\_hash**

mkdir policy/tokens

touch policy/tokens/token\_policy.script

nano policy/tokens/token\_policy.script

{

"type": "all",

"scripts": [

{

"keyHash": "**policy\_vkey\_hash**",

"type": "sig"

}

]

}

cardano-cli transaction policyid --script-file ./policy/tokens/token\_policy.script > ./policy/tokens/policy.id

cat policy/tokens/policy.id

> Paste policy\_id into local tokens\_meta.json file

touch policy/tokens/token\_meta.json

nano policy/tokens/token\_meta.json

> Verify meta on <https://pool.pm/test/metadata>

> Paste local meta into tokens\_meta.json on cardano node

## Mint Tokens

cardano-cli query utxo \

--address $(cat payment.addr) \

--mainnet

> **100e49228b36be2c14e1f92de1326382061815c75ce559ea5a0b4650d6fb1520**

cardano-cli transaction build-raw \

--fee 188865 \

--tx-in **100e49228b36be2c14e1f92de1326382061815c75ce559ea5a0b4650d6fb1520**#0 \

--tx-out $(cat payment.addr)+4811135+"1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--mint="1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--minting-script-file policy/tokens/token\_policy.script \

--metadata-json-file policy/tokens/token\_meta.json \

--out-file token\_tx.raw

cardano-cli query protocol-parameters \

--mainnet \

--out-file protocol.json

cardano-cli transaction calculate-min-fee \

--tx-body-file token\_tx.raw \

--tx-in-count 1 \

--tx-out-count 1 \

--witness-count 1 \

--byron-witness-count 0 \

--mainnet \

--protocol-params-file protocol.json

fee > 188865

expr 5000000 - 188865

change > 4811135

cardano-cli transaction build-raw \

--fee 188865 \

--tx-in **100e49228b36be2c14e1f92de1326382061815c75ce559ea5a0b4650d6fb1520**#0 \

--tx-out $(cat payment.addr)+4811135+"1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--mint="1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--minting-script-file policy/tokens/token\_policy.script \

--metadata-json-file policy/tokens/token\_meta.json \

--out-file token\_tx.raw

cardano-cli transaction sign \

--signing-key-file payment.skey \

--signing-key-file policy/policy.skey \

--mainnet \

--tx-body-file token\_tx.raw \

--out-file token\_tx.signed

cardano-cli transaction submit \

--tx-file token\_tx.signed \

--mainnet

## Create NFT Policy

------------------**IF KEYS NOT ALREADY CREATED**-------------------

*mkdir policy*

*cardano-cli address key-gen \*

*--verification-key-file policy/policy.vkey \*

*--signing-key-file policy/policy.skey*

----------------------------------------------------------------

cardano-cli address key-hash --payment-verification-key-file policy/policy.vkey

> **policy\_vkey\_hash**

cardano-cli query tip \

--mainnet

expr **current\_slot** + 1800

> **invalid\_thereafter\_slot**

mkdir policy/nft

touch policy/nft/nft\_policy.script

nano policy/nft/nft\_policy.script

{

"type": "all",

"scripts": [

{

"keyHash": "**policy\_vkey\_hash**",

"type": "sig"

},

{

"type": "before",

"slot": **invalid\_thereafter\_slot**

}

]

}

cardano-cli transaction policyid --script-file ./policy/nft/nft\_policy.script > ./policy/nft/policy.id

> Paste policy\_id into local nft\_meta.json file

touch policy/nft/nft\_meta.json

nano policy/nft/nft\_meta.json

> Verify meta on <https://pool.pm/test/metadata>

> Paste local meta into nft\_meta.json on cardano node

## 

## Mint NFT

cardano-cli query utxo \

--address $(cat payment.addr) \

--mainnet

> **7c2222071a1fda3d554d36b6ce333f400c9edd4693da5eec104ba90278b3762d**

cardano-cli transaction build-raw \

--fee 193749 \

--tx-in **7c2222071a1fda3d554d36b6ce333f400c9edd4693da5eec104ba90278b3762d**#0 \

--tx-out $(cat payment.addr)+4617386+"1 $(cat policy/nft/policy.id).NewNFT"+"1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--mint="1 $(cat policy/nft/policy.id).NewNFT" \

--minting-script-file policy/nft/nft\_policy.script \

--metadata-json-file policy/nft/nft\_meta.json \

--invalid-hereafter=**invalid\_thereafter\_slot** \

--out-file nft\_tx.raw

*cardano-cli query protocol-parameters \*

*--mainnet \*

*--out-file protocol.json*

cardano-cli transaction calculate-min-fee \

--tx-body-file nft\_tx.raw \

--tx-in-count 1 \

--tx-out-count 1 \

--witness-count 2 \

--byron-witness-count 0 \

--mainnet \

--protocol-params-file protocol.json

fee > 190361

expr 4811135 - 190361

change > 4620774

cardano-cli transaction build-raw \

--fee 196357 \

--tx-in **7c2222071a1fda3d554d36b6ce333f400c9edd4693da5eec104ba90278b3762d**#0 \

--tx-out $(cat payment.addr)+4620774+"1 $(cat policy/nft/policy.id).NewNFT"+"1000 $(cat policy/tokens/policy.id).SilverCoin"+"1000 $(cat policy/tokens/policy.id).GoldCoin" \

--mint="1 $(cat policy/nft/policy.id).NewNFT" \

--minting-script-file policy/nft/nft\_policy.script \

--metadata-json-file policy/nft/nft\_meta.json \

--invalid-hereafter=**invalid\_thereafter\_slot** \

--out-file nft\_tx.raw

cardano-cli transaction sign \

--signing-key-file payment.skey \

--signing-key-file policy/policy.skey \

--mainnet \

--tx-body-file nft\_tx.raw \

--out-file nft\_tx.signed

cardano-cli transaction submit \

--tx-file nft\_tx.signed \

--mainnet

cardano-cli query utxo \

--address $(cat payment.addr) \

--mainnet

cardano-cli transaction build-raw \

--fee 180000 \

--tx-in 422b1dcd3386fed96949968c9a01bdffec22bcd397ef909a7e5889d7aa5730d1#0 \

--tx-out **ADDRESS**+**AMOUNT** \

--tx-out $(cat payment.addr)+**CHANGE** \

--out-file **alien\_babies\_tx**.raw

cardano-cli query protocol-parameters \

--mainnet \

--out-file protocol.json

cardano-cli transaction calculate-min-fee \

--tx-body-file **alien\_babies\_tx**.raw \

--tx-in-count 1 \

--tx-out-count 2 \

--witness-count 1 \

--byron-witness-count 0 \

--mainnet \

--protocol-params-file protocol.json

expr 49168049 - **AMOUNT** - 180000

cardano-cli transaction sign \

--signing-key-file payment.skey \

--mainnet \

--tx-body-file **alien\_babies\_tx**.raw \

--out-file **alien\_babies\_tx**.signed

cardano-cli transaction submit \

--tx-file **alien\_babies\_tx**.signed \

--mainnet