Cardano
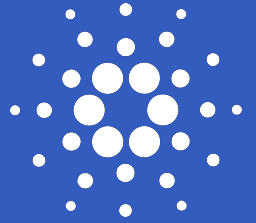
Wallets, Staking, & NFTs
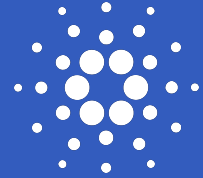
Presented By
@BigDrew369 & @rodg_drmz

What is Cardano

Cardano is a public **blockchain** that is **open-source**, **decentralized**, and uses a **proof of stake** (PoS) consensus mechanism
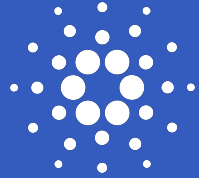
Blockchain - a secure digital ledger that is used to record transactions across many computers so that the records cannot be altered retroactively

Open-source - code that can been seen, modified, and used by anyone for free

Decentralized - controlled by several people/organizations rather than a single authority

Proof of stake - a consensus mechanism for processing valid transactions and agreeing on the state of the blockchain

What is Cardano

ADA - the name of the currency used on Cardano

Staking - ADA held on the Cardano network represents a "stake" in the network.
The ability to delegate or pledge your stake is fundamental to how Cardano works

Stake pool - a reliable server node (computer) that focuses on maintenance and holds the combined stake of various stakeholders in a single entity or pool. Stake pools are responsible for processing transactions and producing new blocks

Stake pools compete to produce blocks
The more blocks produced, the more rewards they receive

What is Cardano
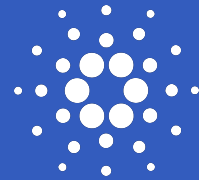
The Cardano platform runs on the **Ouroboros** proof of stake consensus protocol

The Ouroboros protocol was created specifically for Cardano and is a symbol of cyclical renewal

Transaction fees to run the network are redistributed to **stake pool operators** (SPOs) that maintain the network and process transactions

Users that **delegate** their ADA to these **stake pools** can earn ~4% rewards annually

What is Cardano
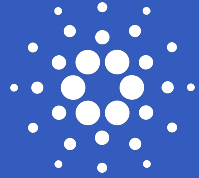
Transaction - an individual record; a transfer of value from one address to another

Slot - one second duration; contains a group of transactions; each slot has the ability to create a block

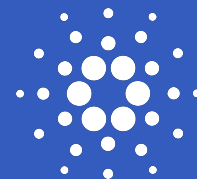**Block** - a group of transactions processed and added to the blockchain

Epochs (epics) - 432,000 slots (5 days); staking rewards are paid at the end of every epoch

Every few seconds a block is produced
The stake pool that produced the block receives rewards
Rewards are redistributed to delegators that stake to that pool

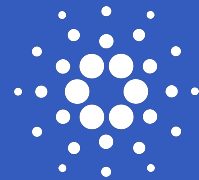# You can view blocks, epochs, slots, and transactions on CardanoScan

Wallets

Each Cardano wallet comes with a **payment address** and **staking address**

Payment address - used for receiving payment/ADA

Staking address - used for delegating to stake pools and receiving staking rewards

Wallets can have multiple payment addresses but only have one staking address
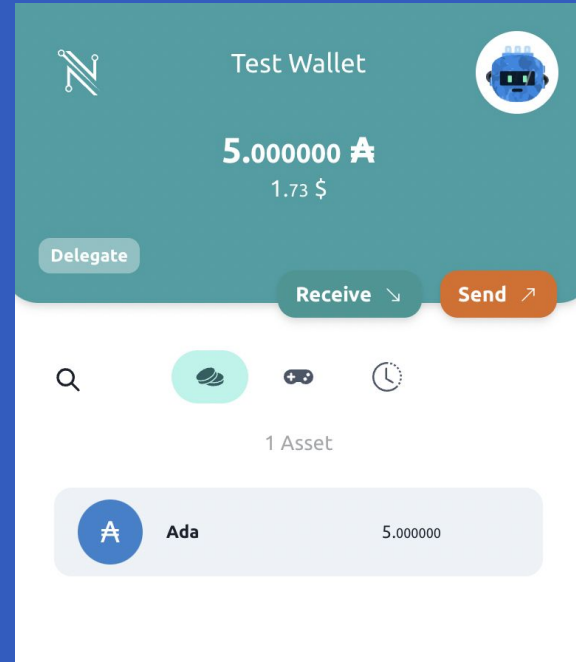
Types of Wallets

Nami

- Simple UI

- Browser based wallet extension

- Single payment address

- Recommended wallet for beginners

Types of Wallets
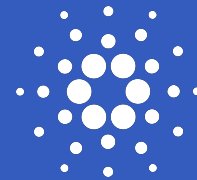
Eternl

- More advanced UI & features

- Browser based wallet extension

- Multiple payment addresses

- Great utxo management

- Mobile support

Types of Wallets

Daedalus

- official Cardano wallet built by IOHK

- Desktop wallet

- Installs and runs a full Cardano node
  Great for developers!

- Most secure wallet
  Doesn't connect to websites or apps
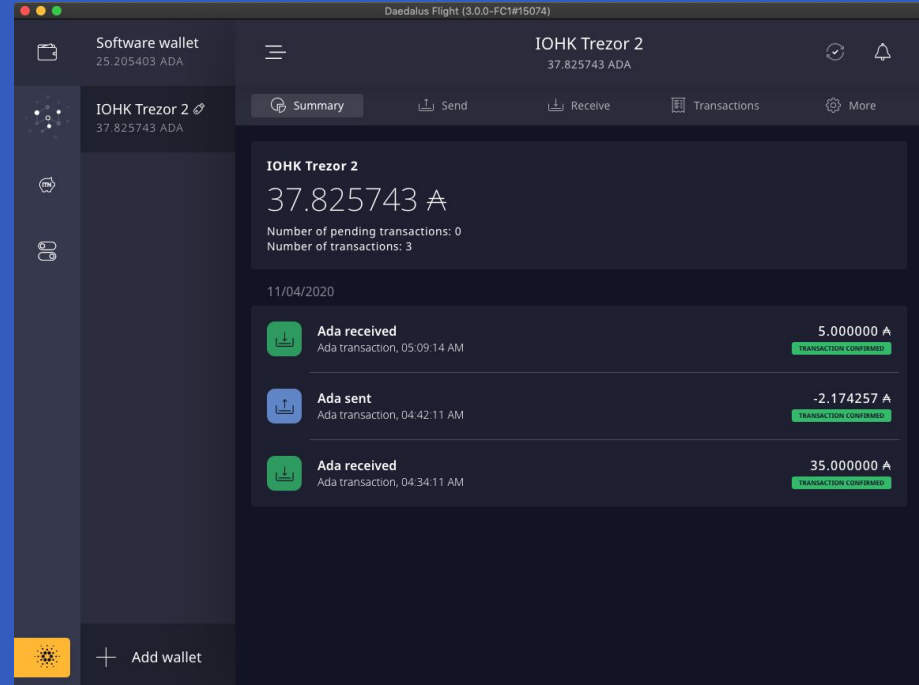
Types of Wallets

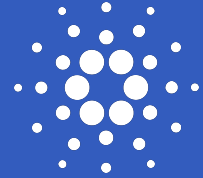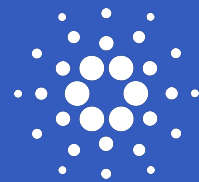Experiment with multiple wallets over time

The type of wallet you choose depends on what you are using it for

Hold majority of savings in a secure wallet (Daedalus)
Hold small amounts for trades in a **hot wallet** (Nami/Eternl)

Hot wallet - a wallet connected to the internet that is deemed less secure
Cold wallet/Hardware wallet - a way of holding crypto tokens offline (See **Ledger**)

More on Cardano wallets

UTXO
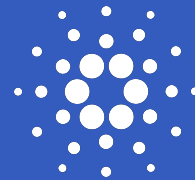
Cardano wallets are based on the UTXO model

UTXO stands for Unspent Transaction (TX) Outputs

In the UTXO model, a transaction has inputs and outputs, where the inputs are unspent outputs from previous transactions

Wallets are comprised of several UTXOs which are used to create transactions

UTXO Example

Summary   **UTXOs**   TokenMint (1)   Metadata (1)

From Addresses (Inputs) — Inputs

Address	Amount
addr1qxywrhuwvjy0ym5l2gksvr55kjagy8kw3q24n8sx2za4ftheke7eylgpw4x84frdg2fgh9juydtsevr6cxchuam7qtjql3svkf	50.0 ₳
284592c72d6b9f9bffaf6c162c83290185fc4e3acb33eb632fa308f2bc19c3e0	
addr1qx83e5l0z7pla0ed6wxxc6mhgyc43a4nrt5qx9dhz6gtu60eke7eylgpw4x84frdg2fgh9juydtsevr6cxchuam7qtjqwngmq0	34.559308 ₳
e1bb796d36d72a98b8cf26cc1d415b08ff902714c4cc65294f9684d4ae538f39	
DRRS0044 1 DRRS0050 1 HOSKYCashGrab000029436 1	

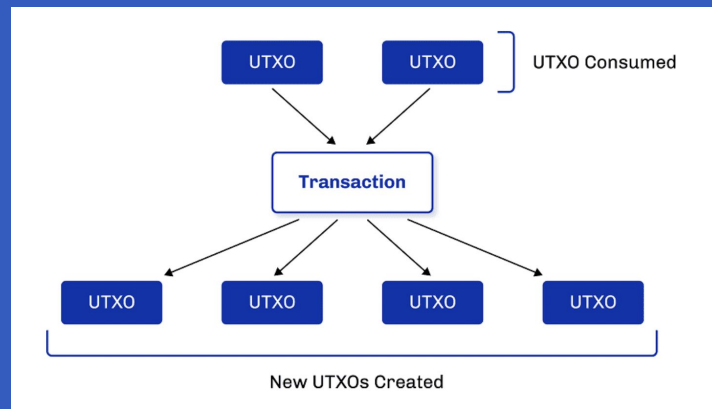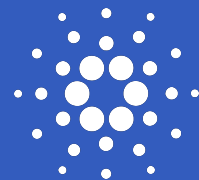**Total Input** 84.559308 ₳

To Addresses (Outputs)   Fees 0.248573 ₳ — Outputs

Address	Amount
addr1q9hyxr0wemghp3mlu8c7t23vfk8470t65ax6yuq3fe6d9ne7qy0gupkc78tmxslltp2wyz2lxusg5j3l34vmwv7fs6gqtr5y3y	56.0 ₳
addr1qx83e5l0z7pla0ed6wxxc6mhgyc43a4nrt5qx9dhz6gtu60eke7eylgpw4x84frdg2fgh9juydtsevr6cxchuam7qtjqwngmq0	28.310735 ₳
DRRS0044 1 DRRS0050 1 HOSKYCashGrab000029436 1 DRRS5166 1	

Total Output 84.310735 ₳

2 inputs from the same wallet used to pay 56 ADA to one of the output addresses

50 + 34 = 84 ADA input

2 outputs for 2 different wallets

84 - 56 = 28 ADA left on one of the utxos

Create a New Wallet

Go to https://namiwallet.io and follow the instructions to install the correct browser extension

Open the Nami extension and click "New Wallet"

The wallet will generate a **seed phrase** that is 24 words long

The seed phrase is your key to your wallet

Welcome

Let's get started with creating a wallet.

New Wallet

Import

Create a New Wallet

The seed phrase is your key to your wallet

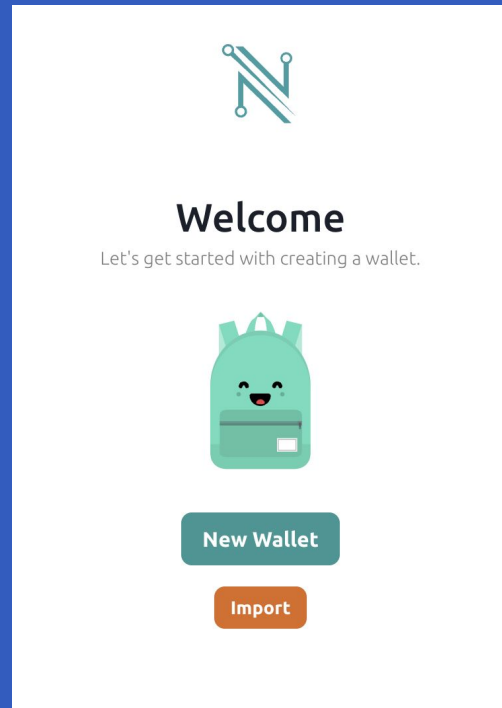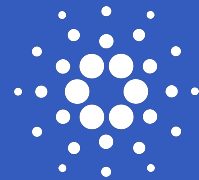WRITE DOWN the seed phrase and keep it in a safe place

DO NOT keep digital copies (screenshots)
DO NOT share your seed phrase with anyone

If your phone or computer dies, the seed phrase is how you recreate and access the wallet

If someone steals your seed phrase, they can use it to recreate/access your wallet and steal all your funds
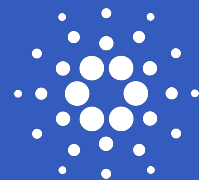
Seed Phrase

#		#	
1	rug	13	barrel
2	rotate	14	blast
3	post	15	turn
4	plunge	16	message
5	picture	17	island
6	shiver	18	remove
7	idle	19	crouch
8	upon	20	skull
9	box	21	expose
10	garment	22	hazard
11	cruise	23	scrap
12	random	24	print

☐ I've stored the seed phrase in a secure place.

Next ›

Create a New Wallet

After you write down the seed phrase, the wallet will prompt you for a **spending password**

The **spending password** is the password used when you sign transactions to spend money

The spending password is only for that specific wallet

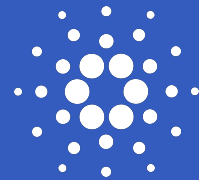If you recreate/import a new wallet using the seed phrase, you will set up a new spending password for the new wallet

Create Account

Enter account name

Enter password | Show

Confirm password | Show

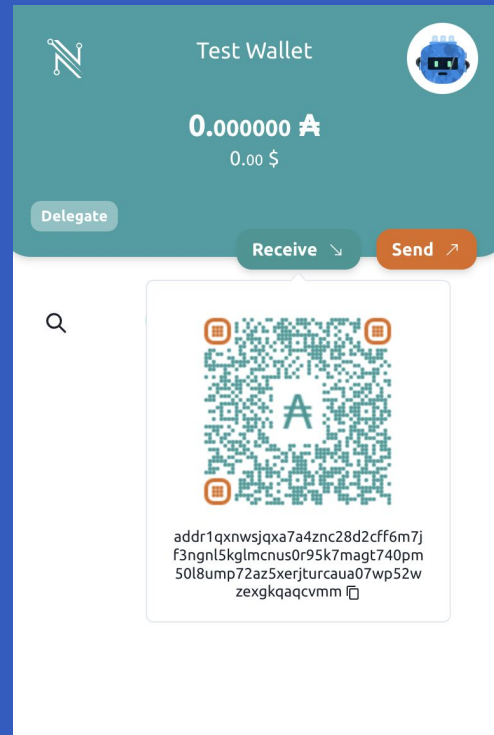Create ›

How to Receive Money

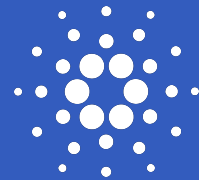At this point you will have a wallet with 0 ADA in it so we need to fund the wallet

To receive ADA, click on the Receive button and that will allow you to copy your payment address

Share the payment address with a friend or buy ADA on an exchange and send it to your address

Coinbase is my preferred exchange to buy ADA
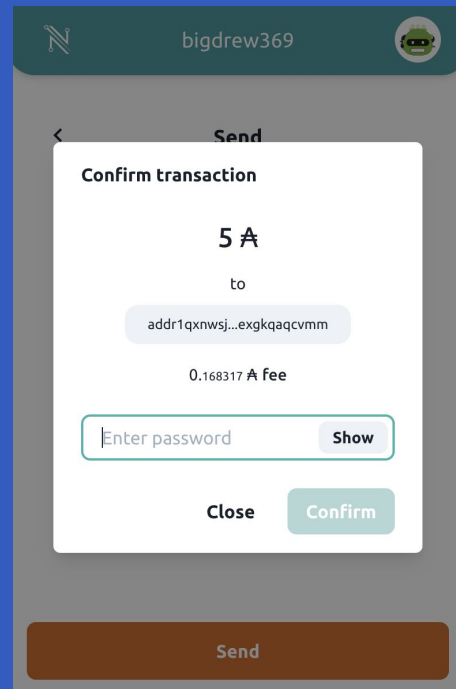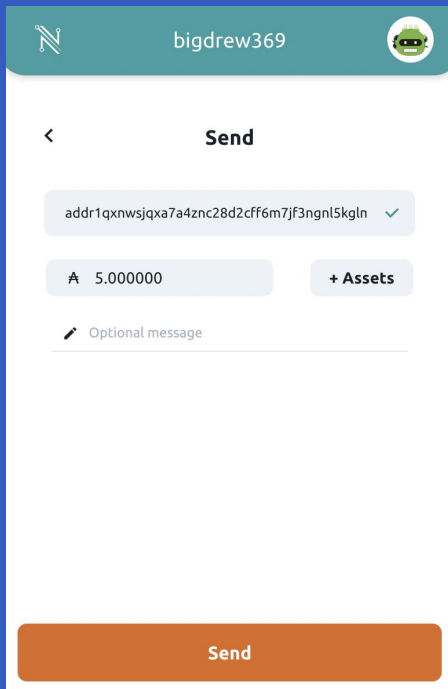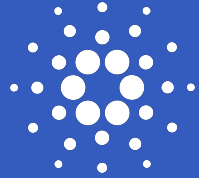
How to Send Money

Click the Send button

Copy/paste the address you want to send to and set the amount of ADA

Click send, sign the transaction with your spending password, and click confirm

The transaction should be confirmed and sent within a few seconds to a minute

Staking

Staking is a form of participation in a proof-of-stake (PoS) system where your tokens serve as a validator for the blockchain and can receive rewards

Cardano wallets are expected to delegate/pledge their ADA/"stake" to trustworthy stake pools that process blocks and maintain the Cardano network

Staking rewards for delegated wallets are ~4% APY paid every 5 days (every epoch)
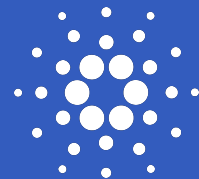
Cardano has **liquid staking**
This means the ADA never leaves your wallet
It is never locked up. You can spend it at any time
There is no penalty for spending ADA or re-delegating to a new stake pool

How to Choose a Stake Pool

Choosing a stake pool is based on a few criteria

Does the stake pool stay on and maintain the network correctly?
If the pool turned off or not operating properly, it will not produce blocks
If the pool isn't producing blocks, there are no rewards for delegators

Is the stake pool saturated?
Stake pools become saturated around 64M ADA and have diminishing rewards to enforce decentralization. If a pool is saturated the rewards fall off and delegators receive less ADA.

Does the pool align with your values or have any benefits?
It's common for NFT projects to run stake pools that have extra benefits for holders
For example, receive a free NFT or token for staking to their pool for a number of epochs
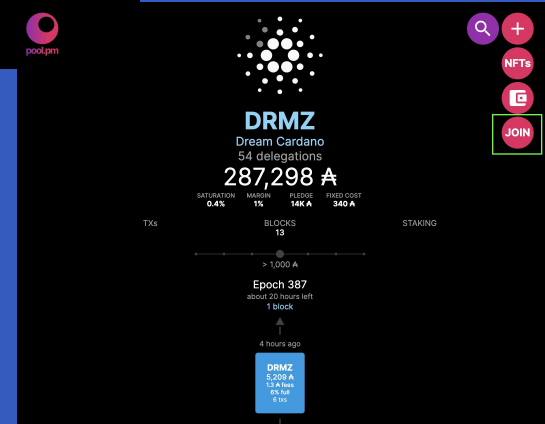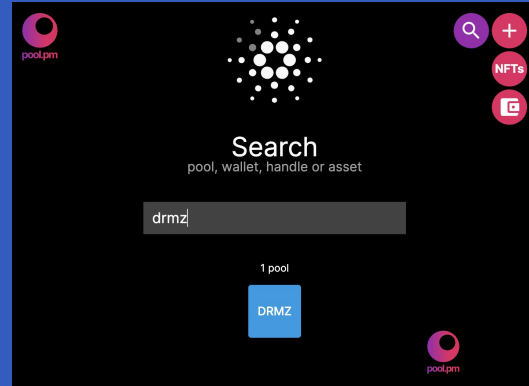
How to Delegate to a Stake Pool
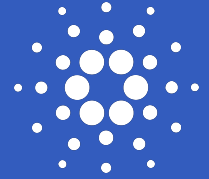
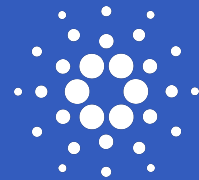Go to Pool.pm and search for the stake pool you have chosen

Recommend DRMZ

Click on the pool and click "JOIN"

Select the wallet you want to delegate with (Nami)
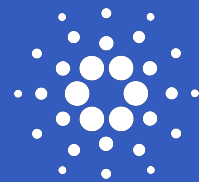
How to Delegate to a Stake Pool

Then allow pool.pm to access your wallet and sign the transaction

You will be given a loading screen until the delegation transaction is confirmed

Upon a successful transaction, you will see that you are now delegated to the stake pool and will start earning rewards in about 15 days (3 epochs)
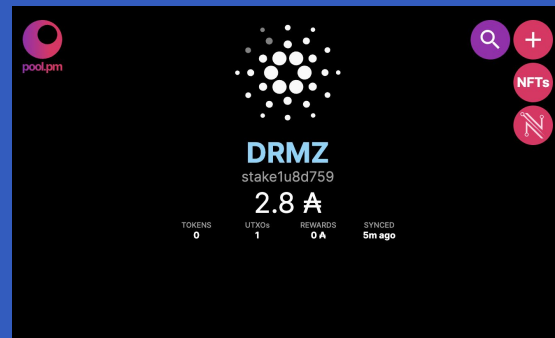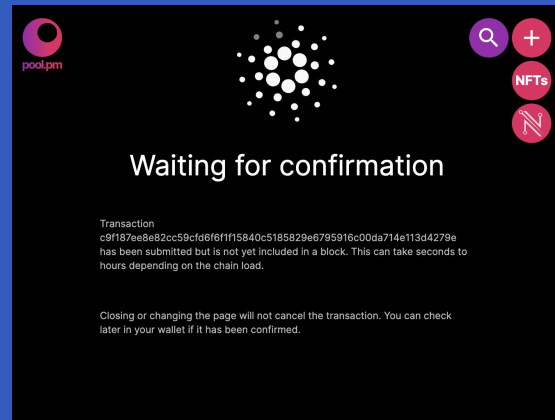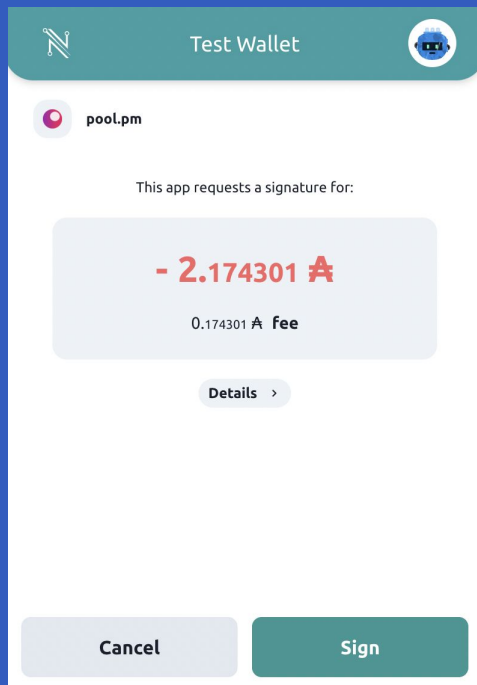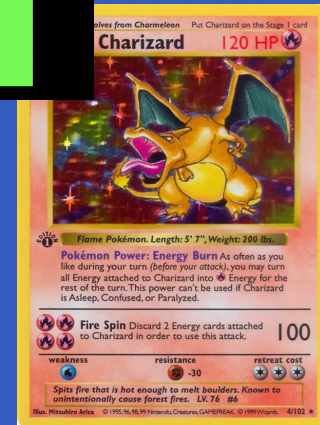
NFTs

NFT (Non-Fungible Token) is a unique digital asset on a blockchain

Non-fungible means there is only one of that asset on the blockchain (GoatTribe06956)

Fungible means there are multiple of the same token and you can use them interchangeably (Bitcoin, ADA)

NFTs are used to represent ownership of a digital asset. They can reference images, videos, audio, pdfs, or other digital files.

NFTs are like Pokemon cards that you can't fake
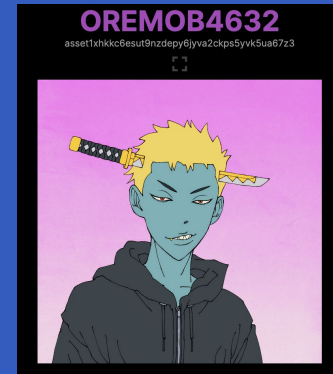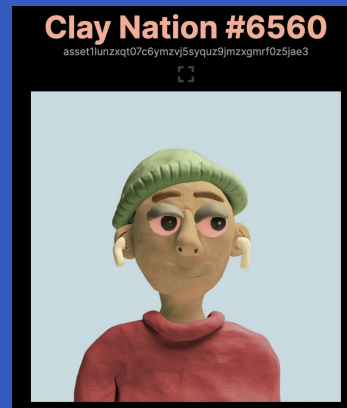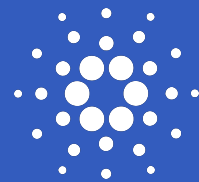If the policy for a NFT is correct, it is guaranteed to be real

Cardano NFTs

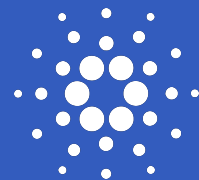There are many benefits to Cardano NFTs

- Art/asset never deteriorates
- Guaranteed it is real
- Network & community for fun or business
- No leverage trading (1 for 1 assets)
- Limited supply. Locked policies can't create more
- Cheap tx fees make it easy to trade lots of NFTs

NFTs on Cardano are **native tokens**, meaning they do not require a smart contract or extra tooling to support them on the blockchain

This is helpful for security and for staking. NFTs and other tokens are "baked in" to how Cardano works

GOAT Tribe 09835
asset14qnvgxv5ue8nc4fk6gmneh724w4f02lx6amxlf

SpaceBud #2211
asset19pjw4tj7luae7spp6w982evqlamxstyu74m0dr

Clay Nation #6560
asset1lunzxqt07c6ymzvj5syquz9jmzxgmrf0z5jae3

OREMOB4632
asset1xhkkc6esut9nzdepy6jyva2ckps5yvk5ua67z3

Cardano NFTs

All Cardano NFTs have a **policy** which governs which wallet(s) can edit the token & metadata (the image, attributes, etc)

If a policy is "locked" then it can no longer edit NFTs, mint (create) new NFTs, or burn (destroy) NFTs

Buying & Selling NFTs
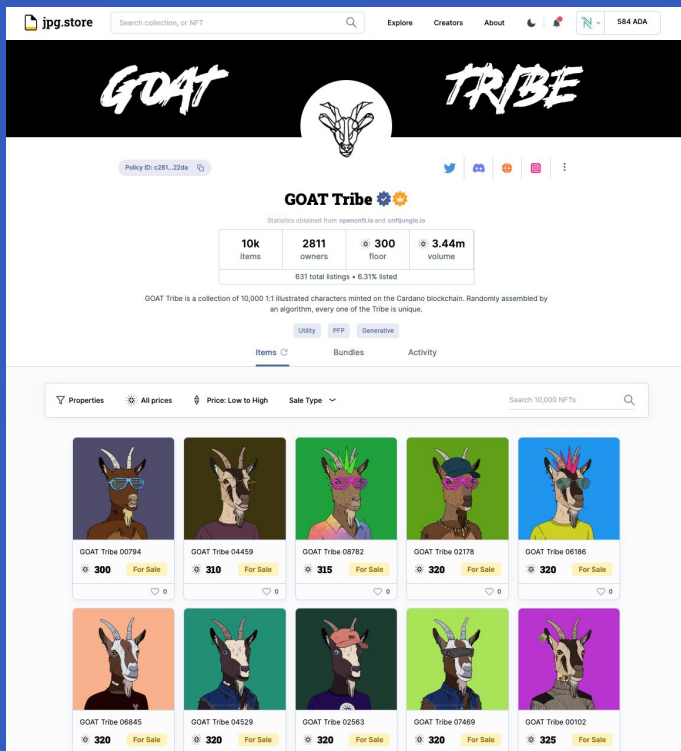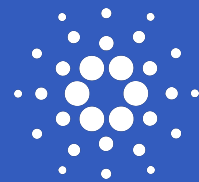
NFTs can be easily bought and sold on NFT marketplaces (**jpg.store**)

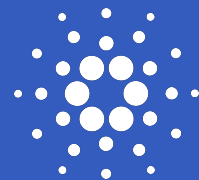Marketplaces use <u>**smart contracts**</u> to automatically send you the NFT once you have paid

When buying a NFT, you want to evaluate the growth potential of the asset

Good NFTs have founders that are active, great artists/developers/marketing, and a large community on social media

"Sell when it's hot. Buy when it's not"

NFT Glossary

Floor - the cheapest listings/price for a collection

Rug/rug pull - a project that raises funds & promises development but quickly abandons it

Airdrop - a free reward (NFT or token) sent to your wallet for holding a certain NFT
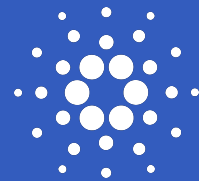
DYOR - do your own research

WAGMI - we all gonna make it

NGMI - not gonna make it

GM - Good morning

NFA - Not Financial Advice

NFA!

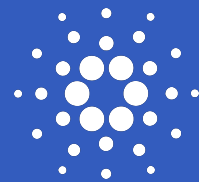These are just projects we enjoy and have had a proven track record

This presentation is for educational purposes

None of this is financial advice

DYOR!

WAGMI!!!

Extra Resources

Cardano Official Docs - a site to learn more about specifics of Cardano

CardanoScan - a website to inspect transactions, policies, wallets, utxos, etc

Pool.pm - ran by SMAUG pool to easily view NFTs and on-chain activity

CNFT Tools - a site to check the rarity of your NFTs and find good deals

Lucid Github - a library for developers to build apps and interact with Cardano using JavaScript