



OECD International Academy for Tax Crime Investigation

*Anti-Money Laundering: Current Trends, Prosecutions,
and the Challenges around Cryptocurrencies*



Discovering Tokens/Assets with Blockchain Explorers

Discovering Assets

- Law enforcement tracing tools like Chainalysis, CipherTrace identify many but not all tokens.
- There are close to 1000 different **ERC20** token projects (Cryptocurrencies). <https://etherscan.io/tokens>
- There are over 100,000 different **ERC721** token projects (NFT). <https://etherscan.io/tokens-nft>
- Thousands of **ERC1155** (configurable) tokens also now exist. <https://eips.ethereum.org/EIPS/eip-1155>
- If you only use tracing tools you may miss assets belonging to a suspect.
- **Solution: Use blockchain explorers.**

Useful blockchain explorers

- Token smart contracts can be created on several different blockchains: Ethereum, BNB Smart Chain, Polygon, Solana, etc.
- Ethereum represents the vast majority of tokens.
- Some useful blockchain explorers:
 - **Trezor Ethereum Explorer** (<https://eth1.bcfn.ca/>)
 - **Zerion** (<https://app.zerion.io/>)
 - **Etherscan** (<https://etherscan.io/>)

Trezor Ethereum Explorer

<https://eth1.bcfn.ca/>

- Allows you to search using:
 - Block numbers
 - Transaction IDs
 - **Addresses (Accounts)**
 - Extended Public Keys (xpub)
 - Deterministic wallet's root key
 - Can be exported from wallets

Trezor Ethereum Explorer: Useful to get a quick overview

- **Summary of the account's ERC20 (cryptocurrency) token transactions**
- Account ETH balance
- View all the transactions that a an account has conducted
- View transaction information for specific tokens
- **Does not show NFT (ERC721) information**
- **Does not allow you to export the information (although you can print the Web pages)**

Address 0 ETH

0x55A7286F243A44c45A566a6fF5503EeFD944F1FE

Account/Address

Confirmed

Balance

0 ETH

Ethereum balance

Transactions

2421

Total number of sending and receiving transactions

Non-contract Transactions

1568

Transactions conducted by an EOA

Nonce

1509

Number of transactions sent

ERC20 Tokens

Contract

Tokens

Transfers

Tether USD

0 USDT

2305

BadgerDAO.io

800000 BADGER

1

akSwap.io

250000 akSwap.io

1

FF9.io

300000 FF9.io

1

Trezor Ethereum Explorer - Exercise

Examine the following account:

0x50e00Ae08678EBd16b79B84439defa046F18eb76

1. Which ERC-20 tokens has it exchanged?
2. Does the account hold any Tether (USDT)?
3. Does the account hold any USDC?
4. What token does it still hold, how many does it hold, and how much are they worth?

<https://eth1.bcfn.ca/>

<https://bitinfocharts.com/>

<https://coinmarketcap.com/>

Trezor Ethereum Explorer - Exercise

Examine the following account:

0x736b78bD08095461B1de06F4Eec5B505e5C5f96F

1. Which ERC-20 tokens has it exchanged?
2. Has the account transacted any Tether (USDT)?
3. Has the account transacted any USDC?
4. How many ApeCoins does it hold and how much are they worth?

<https://eth1.bcfn.ca/>

<https://coinmarketcap.com/currencies/apecoin-ape/>

Zerion

The screenshot shows the Zerion website interface. At the top, there is a browser header with the URL app.zerion.io/connect-wallet. Below the header, a sidebar on the left displays the Ethereum Blockchain Explorer interface from etherscan.io. The main content area features a large heading "Connect to Zerion" and a grid of wallet connection icons. The icons are arranged in two rows: the first row includes Zerion Wallet (blue circle with a white 'Z'), MetaMask (orange circle with a fox head), WalletConnect (light blue circle with a white 'W'), and Coinbase Wallet (light blue circle with a white square). The second row includes Trust (light blue circle with a white shield), Encrypted Ink (red starburst), Ledger (purple circle with a white 'L'), and Fortmatic (blue circle with a white 'F'). Below the second row is a "Connect with email" button, which is a white circle with a black envelope icon. Further down, there is a "Track any wallet" section with a text input field containing the placeholder "Paste ENS, Ethereum, BSC or Polygon address" and a right-pointing arrow button.

<https://app.zerion.io/>

Connect to Zerion

Zerion Wallet

MetaMask

WalletConnect

Coinbase Wallet

Trust

Encrypted Ink

Ledger

Fortmatic

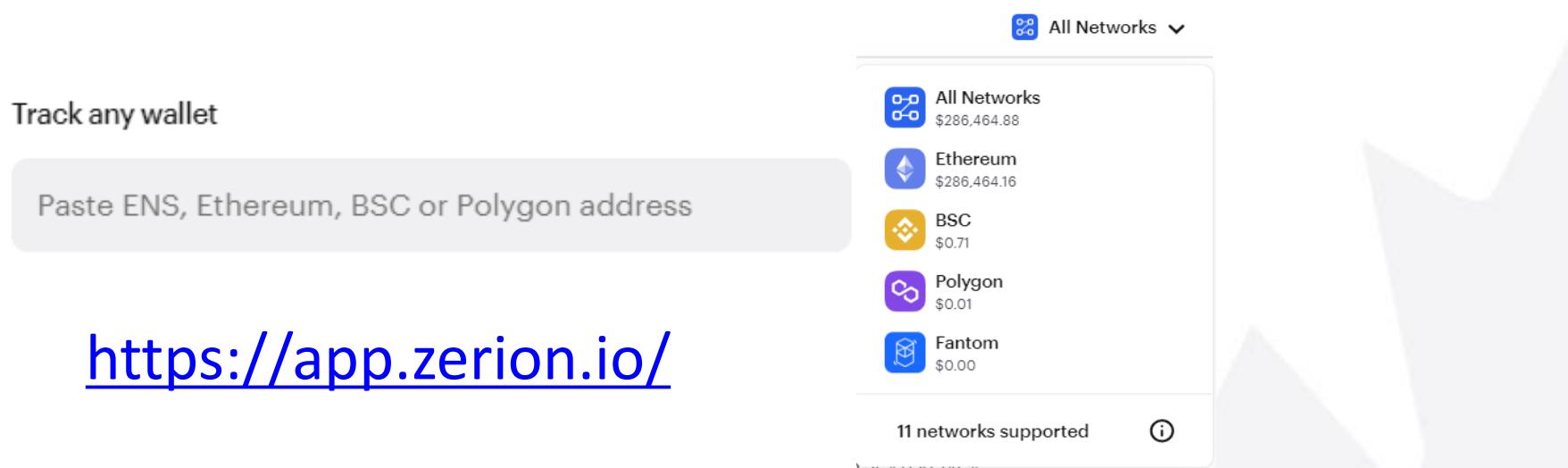
Connect with email

Track any wallet

Paste ENS, Ethereum, BSC or Polygon address

Zerion

- More comprehensive than Trezor Ethereum Explorer
- Shows NFTs
- Supports 11 different blockchains/networks



The screenshot shows the Zerion app interface. At the top, there is a button labeled "All Networks" with a dropdown arrow. Below this, a section titled "Track any wallet" has a text input field with the placeholder "Paste ENS, Ethereum, BSC or Polygon address". To the right, a list of supported networks is displayed with their logos and current balance in USD:

Network	Balance (\$)
All Networks	\$286,464.88
Ethereum	\$286,464.16
BSC	\$0.71
Polygon	\$0.01
Fantom	\$0.00

At the bottom of the list, it says "11 networks supported" and there is an information icon (a circle with an 'i').

- Allows you to export the **Transaction History** as a CSV

Zerion – Tokens Tab (ERC20)

The screenshot displays the Zerion Tokens Tab (ERC20) interface. At the top, a wallet summary shows a balance of **\$2,900,029** with a **+0.06% (\$1,739.80)** change. Below this, a navigation bar includes **Tokens** (underlined), **NFTs**, and **History**, with a **All Networks** dropdown. The main area is divided into two sections: **Performance** and **History**.

Performance: Shows a balance of **\$2,900,029** and a **+0.06% (\$1,739.80)** change. A line chart tracks the value over the last 10 days, showing a general upward trend with some fluctuations. Time filters include 1H, 1D (selected), 1W, 1M, and 1Y.

History: Lists recent transactions: **Receive** on Aug 30 (+0.006 ETH), **Receive** on Aug 30 (+2,500 OWLT), **Receive** on Aug 29 (+0.00044 ETH), **Receive** on Aug 29 (+0.1 ETH), and **Receive** on Aug 29 (+0.0034 ETH). A **See all** button is available.

Assets: Shows the total asset value of **\$2,900,588** in the **Wallet**. The table details the following assets:

ASSET	PRICE	BALANCE	VALUE
Ethereum	\$1,529.69	788.76 ETH	\$1,206,559 +0.54% (\$6,530.93)
Tether USD	\$1.00	670,755.994 USDT	\$671,146.48 +0.01% (\$99.66)

Zerion – NFTs Tab

 0x165c...5e14 ⏺
\$2,900,029 ⏺
+0.06% (\$1,739.80)

[Add wallet](#)

[Tokens](#) [NFTs](#) [History](#)

[Ethereum](#)

Total value by floor price ⏺ **\$76.30**

[Price: high to low](#) [Collections](#)

[Collection](#) [List](#)

 Art Blocks Flowers #1754 \$76.46	 OpenSea Collection Fish EYE	 OpenSea Collection GuitarFaces #0073	 OpenSea Collection Justin
 OpenSea Collection Слава Україні!	 OpenSea Collection How many pigeons are ...	 MoonCollective MOON COLLECTIVE #163	 Sushimi #9662

Zerion – Transaction History Tab

0x165c...5e14

\$2,901,498 ...

+0.1% (\$3,042.25)

Add wallet

Tokens NFTs History

Ethereum

Transaction All Assets

Filter by Address, Protocol, Asset, Type

Download CSV

August 30, 2022

Receive 09:05 AM	+0.006 ETH \$9.43	From 0x0000...e581
Receive 01:44 AM	+2,500 owl ^t N/A	From 0x090d...256e

August 29, 2022

Receive 05:35 PM	+0.00044 ETH \$0.69	From 0x0000...e581
Receive 06:27 AM	+0.1 ETH \$145.20	From 0xe4e7...614c

Zerion – CSV File (Ethereum)



0xe21dc18513e3e68a52f9fcdaacf56948d43a11c6 transactions 08_31_2022 12_51 from Zerion

A	B	C	D	E	F	G	H			
1	Date	Time	Transaction Type	Status	Application	Accounting Type	Buy Amount	Buy Currency		
2	08/28/2022	3:52	Receive	Confirmed		Income	2	nbayc		
3	08/23/2022	18:32	Receive	Confirmed		Income	182	r.a.c		
4	08/23/2022	4:49	Receive	Confirmed		Income	2	hellfire	Buy Currency Address	Buy Fiat Amount
5	08/18/2022	1:29	Receive	Confirmed		Income	3882	bloc	0x9433ce3371ccc5d5e51668ae9915639c32752764	Buy Fiat Currency
6	08/12/2022	8:22	Receive	Confirmed		Income	293	homelessfriends	0xf61913ef7dfaece26d85647583ca48349d6c6d53	USD
7	08/11/2022	5:31	Receive	Confirmed		Income	1	blacklisteth.com	0x39d1ce0ed423c56c262ef025e0619e91ae31e8b7	USD
8	08/07/2022	22:45	Receive	Confirmed		Income	0.054395	ETH	0x3776804b6f26a98b8f263c1b6164336c14b0de2e	USD
									0x59591675e0c85258a917e80c572131a3c257a953	USD

u	v	vv
Sender	Receiver	Tx Hash
0x41aa67c4250306b14a969995e1799eaf274194c0	0x00000000006c3852cbef3e08e8df289169ede581	0x3b759186ab364b9f078742b65906898e958e942b20aa9e2c546ae1d1119e3657
0x6d60a512c52a699e07ca2dc86fba08dbd9caee2a	0xf61913ef7dfaece26d85647583ca48349d6c6d53	0x62285b4fac2e22d484b71f4b28621b241f5ae2dede622ad3c81762f9d4c5d622
0xe506849f6e0951aa9cb73f7d259f0c68ac7e9e14	0x00000000006c3852cbef3e08e8df289169ede581	0x415778c6689adb7dc484e030fce52998383aef611f89812e25b51859b5738449
0x87a3b9ddf88e78891ccaef8d031543c358c308df	0x744cb7dfd307d09d00a6e2b536ee616f3f897bdd	0x4d41f242178f5e8810e4132a190966fccf1e552df642bec15c59e5e8acdc425
0x761640e9592032bc325a6e6a5a1280492db3fc76	0x3776804b6f26a98b8f263c1b6164336c14b0de2e	0xa6af5ba357f612629c957431dc9fd13e0867779487cec4ad2340d1ae562f3d24
0x1072fc40557c44a193da9e6ab008c3b33bdcda43	0x59591675e0c85258a917e80c572131a3c257a953	0x0e744bb5f2bec05cb3ef7d7c415905a7907f499e9e74852b729eaf9842cca68b
0xe29c725ab483f38368778a9b9af571179b59f99f	0xe21dc18513e3e68a52f9fcdaacf56948d43a11c6	0x52593d654db858caa7a356855b31df975fe2e250674d7a975b05498efcbf5fb1
0xe506849f6e0951aa9cb73f7d259f0c68ac7e9e14	0x00000000006c3852cbef3e08e8df289169ede581	0xb485195ccc9135265a235ed8de2b3fe68c8402c88e8cd37d630ad737f1faf4e
0xf5d4138bb24115e2b5803f12711572333f7511dd	0x59d1e836f7b7210a978b25a855085cc46fd090b5	0x0666187e98eae55cda88c2547db274d85e68b19db54af78800b7f79b6893e896

Link	Timestamp	Changes JSON
https://etherscan.io/tx/0x3b759186ab364b9f078742b65906898e958e942b20aa9e2c546ae1d1119e3657	2022-08-28T07:52:51.000Z	[{"type": "in", "address_from": "0x6d9"}]
https://etherscan.io/tx/0x62285b4fac2e22d484b71f4b28621b241f5ae2dede622ad3c81762f9d4c5d622	2022-08-23T22:32:41.000Z	[{"type": "in", "address_from": "0x6d6"}]
https://etherscan.io/tx/0x415778c6689adb7dc484e030fce52998383aef611f89812e25b51859b5738449	2022-08-23T08:49:21.000Z	[{"type": "in", "address_from": "0x948"}]
https://etherscan.io/tx/0x4d41f242178f5e8810e4132a190966fccf1e552df642bec15c59e5e8acdc425	2022-08-18T05:29:10.000Z	[{"type": "in", "address_from": "0x87a"}]
https://etherscan.io/tx/0xa6af5ba357f612629c957431dc9fd13e0867779487cec4ad2340d1ae562f3d24	2022-08-12T12:22:26.000Z	[{"type": "in", "address_from": "0x761"}]
https://etherscan.io/tx/0x0e744bb5f2bec05cb3ef7d7c415905a7907f499e9e74852b729eaf9842cca68b	2022-08-11T09:31:58.000Z	[{"type": "in", "address_from": "0x595"}]
https://etherscan.io/tx/0x52593d654db858caa7a356855b31df975fe2e250674d7a975b05498efcbf5fb1	2022-08-08T02:45:48.000Z	[{"type": "in", "address_from": "0xe29"}]
https://etherscan.io/tx/0xb485195ccc9135265a235ed8de2b3fe68c8402c88e8cd37d630ad737f1faf4e	2022-08-07T20:40:48.000Z	[{"type": "in", "address_from": "0x948"}]

Zerion – Exercise

<https://app.zerion.io/>

Examine the following account:

0x50e00Ae08678EBd16b79B84439defa046F18eb76

1. What is the account's ETH balance?
2. Can you see any ERC-20 token (Assets) information?
3. How many NFTs does the account hold?
4. Which NFT is worth the most?
5. Explore one of the Mutant Cartel tokens. What is its purpose?

Mutant Cartel #75



Description

Take mutant stamp at <https://mutantstamp.xyz> and receive wears.

Mutant Stamp is a collection granting members-only access and benefits to the Mutant Cartel. Take your seat at the Cartel's table and rise as a Made Mutant.

[Visit site] (<https://mutantstamp.xyz>) and do what should do.

Zerion – Exercise

<https://app.zerion.io/>

Examine the following account:

0x736b78bD08095461B1de06F4Eec5B505e5C5f96F

1. How many Bored Ape NFTs does it hold?
2. How much are they worth?
3. How many Mutant Ape NFTs does it hold?
4. How much are they worth?
5. What is the listed price of Bored Ape 4508?
6. What platform is it being listed on?



Tokens NFTs History

Ethereum

Total value by floor price

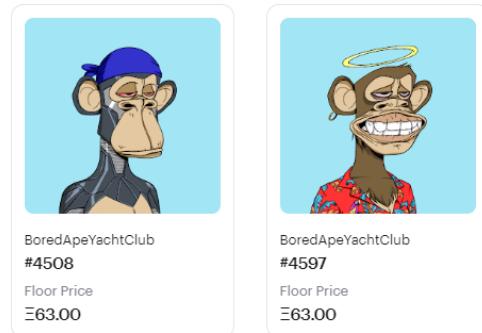
\$226,302.71

Price: low to high

Collections

Collection List

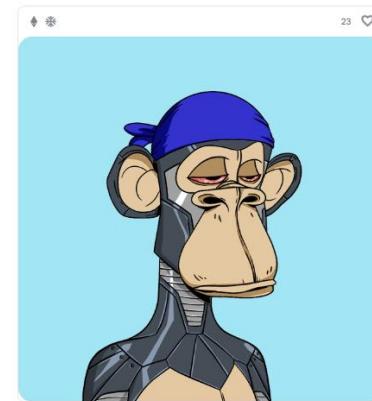
BoredApeYachtClub X Reset



OpenSea

Search items, collections, and accounts

Explore ...



Description

By BoredApeYachtClub •

Properties

Bored Ape Yacht Club •

#4508

Owned by [lamsad_cold](#)

1.8K views 23 favorites

Sale ends November 16, 2022 at 6:50 PM GMT-5

07 Hours 51 Minutes 31 Seconds

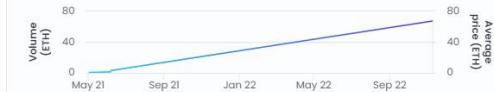
Current price

81.5 ETH \$98,371.32

Add to cart

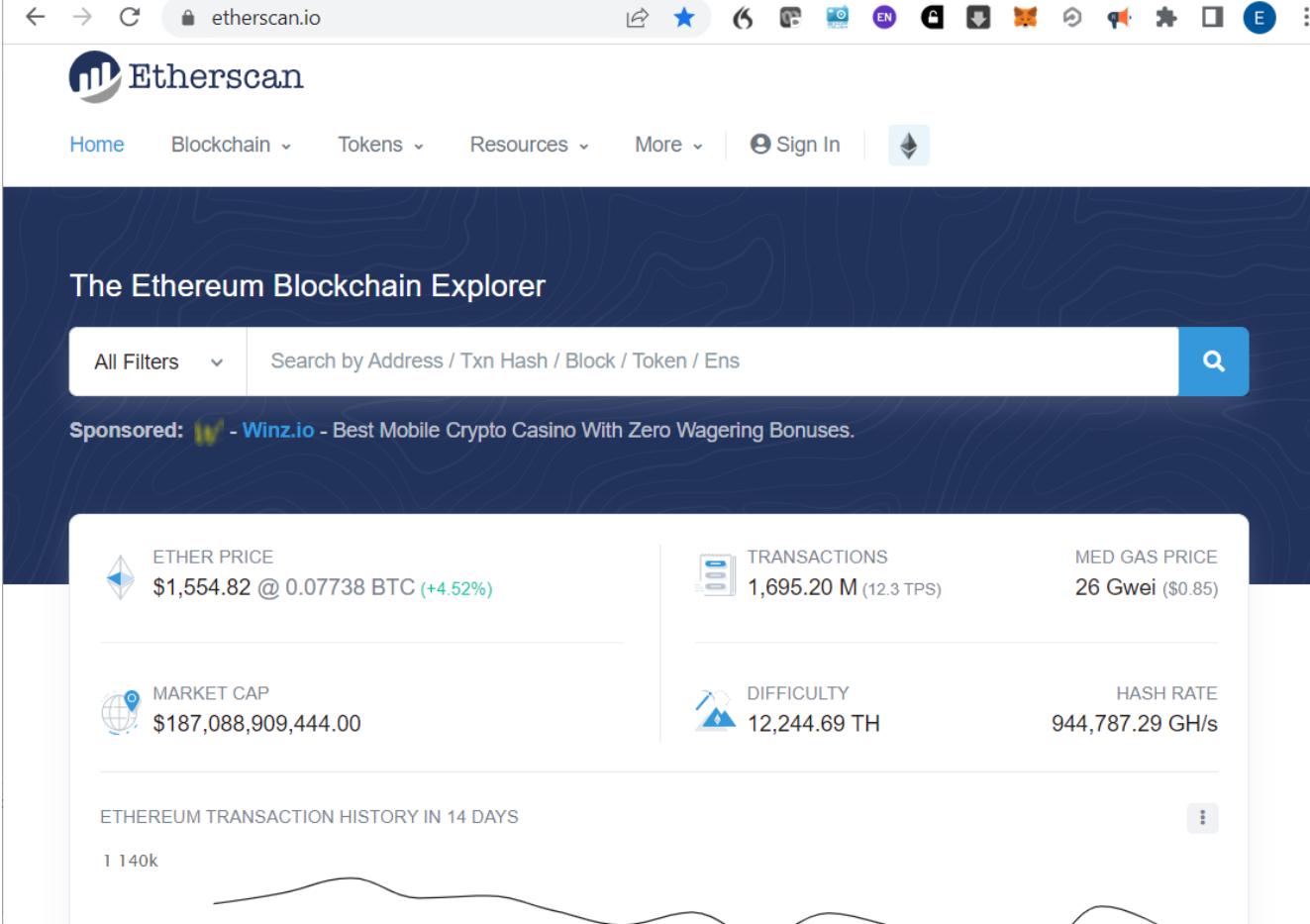
Make offer

Price History



Etherscan

<https://etherscan.io/>



The screenshot shows the Etherscan homepage with a dark blue header and a light blue footer. The header features the Etherscan logo, a navigation bar with Home, Blockchain, Tokens, Resources, More, and a Sign In button, and a search bar with a magnifying glass icon. A sponsored banner for Winz.io is visible. The main content area displays real-time metrics: Ether Price (\$1,554.82), Market Cap (\$187,088,909,444.00), Transactions (1,695.20 M), Median Gas Price (26 Gwei), Difficulty (12,244.69 TH), and Hash Rate (944,787.29 GH/s). Below these metrics is a chart titled "ETHEREUM TRANSACTION HISTORY IN 14 DAYS" showing a line graph with data points 1, 140k, and 1.

ETHER PRICE
\$1,554.82 @ 0.07738 BTC (+4.52%)

MARKET CAP
\$187,088,909,444.00

TRANSACTIONS
1,695.20 M (12.3 TPS)

MED GAS PRICE
26 Gwei (\$0.85)

DIFFICULTY
12,244.69 TH

HASH RATE
944,787.29 GH/s

ETHEREUM TRANSACTION HISTORY IN 14 DAYS

1 140k

Etherscan

- Most extensively used Ethereum blockchain explorer.
- Provides extensive transaction details
- Exports transaction CSV files (within specific date ranges)
- Has tabs listing:
 - **ERC 20** token transactions
 - **ERC 721** token transactions
 - **ERC 1155** token transactions
- Indicates whether the ETH address is used on other blockchains.

[[Download CSV Export](#) ]





Eth: \$1,549.94 (+4.06%) | 44 Gwei

AI

Click to view address on 9 other chains.



Address 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6



Address 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6 found in 10 different chains. (0.006 secs)

Etherscan

https://etherscan.io > address > 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6

Ethereum

BscScan

https://bscscan.com > address > 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6

Binance Smart Chain

PolygonScan

https://polygonscan.com > address > 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6

Polygon (Matic)

FtmScan

https://ftmscan.com > address > 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6

Fantom

Transactions	Erc20 Token Txns	Erc721 Token Txns	Erc1155 Token Txns
↓ Latest 25 from a total of 49 transactions			
Txn Hash	Method	Block	Date Time (UTC)
0x52593d654db858caa7...	Transfer	15299032	2022-08-08 2:45

GnosisScan

https://gnosisscan.io > address > 0xE21DC18513e3e68a52f9fcDaCfD56948d43a11c6

Gnosis Chain

Some Known Accounts

Vitalik Buterin:

0xAb5801a7D398351b8bE11C439e05C5B3259aeC9B

Snoop Dog:

0xce90a7949bb78892f159f428d0dc23a8e3584d75

Justin Bieber:

0xE21DC18513e3e68a52F9fcDaCfD56948d43a11c6

Madona:

0x8ea95Bdc5cDddC0b7EbAd841F0c1f2cA6168b6a9

Ukraine Govt. Crypto Donation Address:

0x165CD37b4C644C2921454429E7F9358d18A45e14

Etherscan – Exercise

<https://etherscan.io/>
<https://app.zerion.io/>

1. How many blockchains is **Vitalik Buterin**'s address active on?

0xAb5801a7D398351b8bE11C439e05C5B3259aeC9B

2. What NFT was sent to **Madonna** at 2022-09-17 3:13:47 – and what does it look like (follow the links)?

0x8ea95Bdc5cDddC0b7EbAd841F0c1f2cA6168b6a9

3. Examine one of the two addresses on Zerion as well as Etherscan. What differences do you see between Zerion and Etherscan when it comes to information about the address' NFTs?

Eth: \$1,190.87 (-5.73%) | 24 Gwei

Click to view address on 21 other chains.

 Address 0xAb5801a7D398351b8bE11C439e05C5B3259aeC9B

0xb531577878604cd035...

2022-09-17 3:13:47

Null Address: 0x000...000

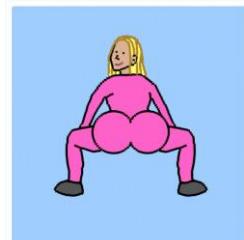
IN

0x8ea95bdc5cddd0b7e...

133

ERC-721: Boo...ers

View NFT >



Booty Bouncers #133

Min. Price: N/A

La
N/A

Details

- Owner:
- Contract Address:
- Creator:
- Classification:
- Token ID:
- Token Standard:

Description