



Web 2.0

Participatory, Centralized



🕜 🌃 sia

No Intermediaries, Decentralized



Web 1.0

"Read Only", Decentralized



#### **Web3 Careers**

Rohas Nagpal



Smart Contract Developer



Full Stack Developer



Front-end Developer



**Token Economist** 





Community Manager



Social Media Manager



Sales & Marketing Manager



Blockchain Lawyer



Crypto Crime Investigator



UI / UX Designer



Product Manager



Project Manager



# What is Ethereum?





- Ethereum was launched back in 2015 and is famous for being a decentralized and open-source proof-of-stake blockchain with smart contracts functionality.
- One of Ethereum's biggest strengths is its variety of use cases, and the list keeps on growing every year.
- As with Bitcoin, it is a large database of all the transactions conducted on the Ethereum Network.
- A database usually structures its data into tables, whereas a blockchain, as its name implies, structures its data into chunks (blocks) that are strung together.



## What is Ether (ETH)?





- Ether is the transactional token that facilitates operations on the Ethereum Blockchain network.
- While ether is the cryptocurrency of the Ethereum network, metaphorically speaking, it is more accurate to refer to it as the "fuel" of the network.
- Ether is the world's second-largest virtual currency by market capitalization; it is second only to Bitcoin (BTC) according to market value.
- ETH isn't just a speculative asset; it has actual value.



## Ethereum Base Units

Think of the smallest unit of ether — wei — as a penny. It takes a whole bunch of wei to make an ether. 10^18 wei, to be exact.

10^9 wei is a gwei. Gwei is most commonly used when talking about gas (network transaction fees). Rather than saying your gas cost is 0.000000001 ether you can say 1 gwei.

#### PWEI FOR THE PIGGY BANK

#### ETHER FOR THE BILLS

Most of those denominations aren't needed for the average enthusiast. The majority of transactions will use ether & gwei. Understand wei for technical cred and you should be set.









WEI

Basically imperceptible, digital dust. It's really only used for technical cases and writing code.

**GWEI** 

Most commonly used for Gas (network transaction fees). You need a lot to really be valuable.

**PWEI** 

Pocket change. More tangible than a Nano but not as valuable as an Ether.

**ETHER** 

The most common denomination. In most substantial transactions you'll think in terms of Eth.

Each denomination has its own slang. Nicknames based off influential figures from the world of cryptography. A nod to founding figures the same way a \$100 bill features Ben Franklin. Not mentioned below are Ada Lovelace (KWEI), Charles Babbage (MWEI), and Nick Szabo (TWEI).









#### (WEI)

Wei Dai. Formulated the concepts of all modern cryptocurrencies.

#### <SHANNON>

**GWEI** 

Claude Shannon. The Father of Information Theory. Codebreaker and crypto-analysis guru.

#### **<FINNEY>**

**PWEI** 

Hal Finney. Cypherpunk master and the first human to receive a Bitcoin from Satoshi.

#### <BUTERIN>

**ETHER** 

Vitalik Buterin. Wunderkind creator of Ethereum.





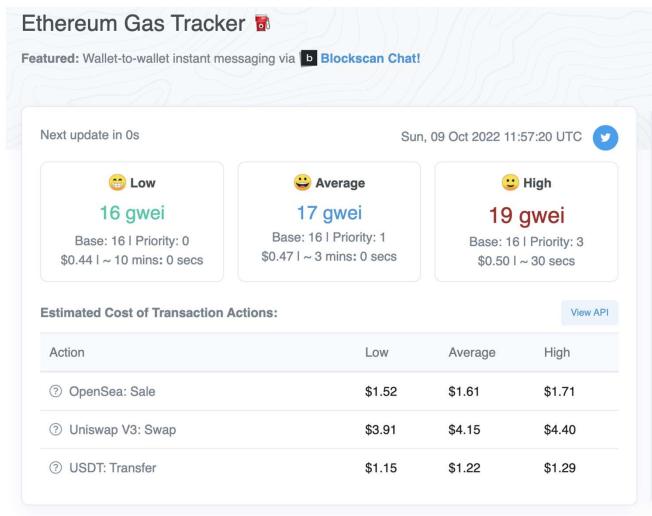
#### Ethereum Gas Fee

- Gas is essential to the Ethereum network. It is the fuel that allows it to operate, in the same way that a car needs gasoline to run.
- Gas refers to the unit that measures the amount of computational effort required to execute specific operations on the Ethereum network.
- Since each Ethereum transaction requires computational resources to execute, each transaction requires a fee. Gas refers to the fee required to conduct a transaction on Ethereum successfully.
- Gas fees are paid in Ethereum's native currency, ether (ETH). Gas prices are denoted in gwei, which itself is a denomination of ETH each gwei is equal to 0.000000001 ETH (10-9 ETH).

Vitalik Buterin, co-founder of Ethereum, believes Ethereum will be able to process close to 1,00,000 transactions per second. At present, it can do 25 per second.

The next stage is sharding, a process to reduce network congestion and increase transaction speed.

Sharding will create 64 different shards so that the information of the blockchain is split up.





# Ethereum for Applications

- Ethereum will completely transform applications of all shapes and sizes.
- With a built-in scripting language and distributed virtual machine, smart contracts can be built to carry out all sorts of functions without the need for a trusted third party or central authority.
- Using its internal cryptocurrency, ether, nodes can be paid for their processing power in running these decentralized apps, and entire decentralized autonomous organizations (DOAs) will exist in an ether economy.

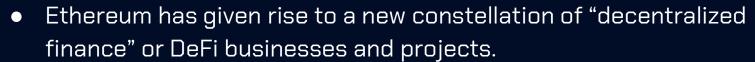


# What is a Dapp?

- A dapp has its backend code running on a decentralized peer-to-peer network. Contrast this with an app where the backend code is running on centralized servers.
- A decentralized application (dapp) is an application built on a decentralized network that combines a smart contract and a frontend user interface.
- On Ethereum, smart contracts are accessible and transparent – like open APIs – so your dapp can even include a smart contract that someone else has written.

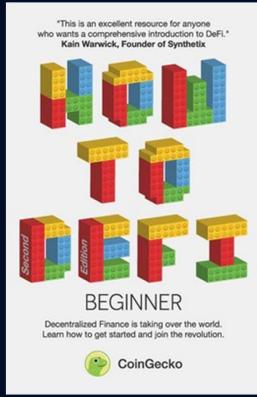


## Ethereum for DeFi



- Essentially the cryptocurrency version of Wall Street, DeFi aims to offer people access to financial services—borrowing, lending, and trading—without the need for legacy institutions such as banks and brokerages, which often take large commissions and other fees.
- Most DeFi apps are built on the Ethereum blockchain.
- Ethereum has a range of potential applications beyond cryptocurrency, experts say, such as facilitating real estate deals and international trade.

# Summary From 'How To Defi (Beginner)' Book

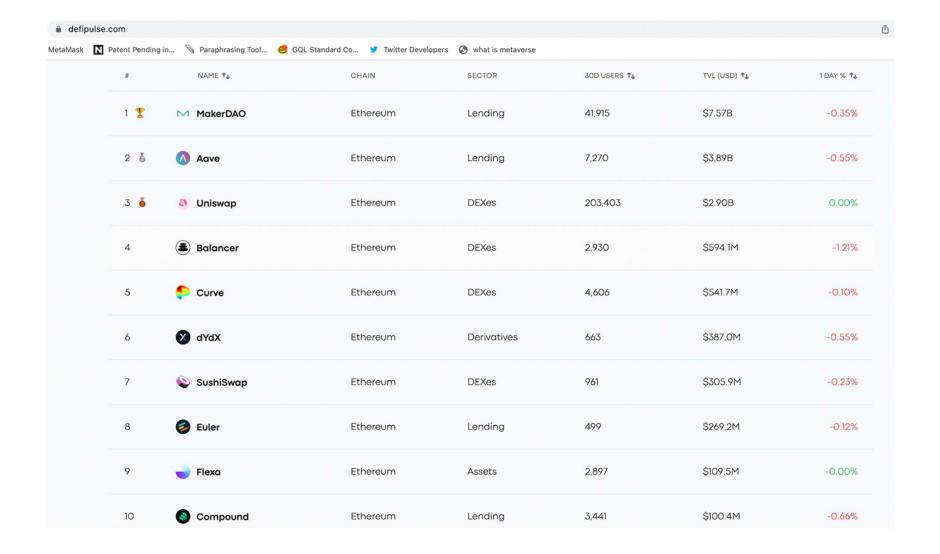


https://blog.cryptostars.is/su mmary-from-how-to-defibeginner-book-by-coingecko-23e0c001e0ad



# 8 Defi Key Categories

- 1. Stablecoins
- 2. Lending & Borrowing
- 3. Exchanges
- 4. Derivatives
- 5. Fund Management
- 6. Lottery
- 7. Payments
- 8. Insurance



# Ethereum for Global Trade and Commerce

- International trade is a \$16 trillion market that accounts for the exchange of capital, goods, and services across international borders or territories.
- Major trading companies around the world are recognizing the transformative impact of Ethereum blockchain technology in operating global supply chains, managing trade finance, and unlocking new business models.



- Real estate is the world's most significant store of wealth. The total value of all the world's real estate stands at USD 327 trillion, a record high. To put that into context, the value of all gold ever mined pales by comparison at
- Tokenization of commercial real estate transactions will reduce transaction costs from 30% to 2%, entry barriers for investors from \$200,000 to \$100 and reduce the time for conducting operations from 1 month to 1 click.
- Asset Fractionalisation is the simple process of dividing an asset into smaller denominations so that many users can buy its partial ownership.

USD 12.1 trillion — just 4% of the value of global property.

- We can apply to Assets such as art, precious metals, real estate, private equity or debt positions, etc.
- https://github.com/panacloud-modern-global-apps/defi-dapps-soliditysmart-contracts/tree/main/step20\_real\_estate\_tokenization

## What is a Crypto Wallet?



Crypto wallets keep your private keys – the passwords that give you access to your cryptocurrencies – safe and accessible, allowing you allow you to send, receive, and spend cryptocurrencies like Ethereum and ERC-20 Tokens.

## What is MetaMask?



MetaMask is a cryptocurrency wallet that enables users to access the Web 3 ecosystem of decentralized applications (dapps). It also enables users to store Ether and other ERC-20 tokens.

## **Goerli Testnet**

It is named after a train station in Berlin and is one of the largest and most active Ethereum test nets.



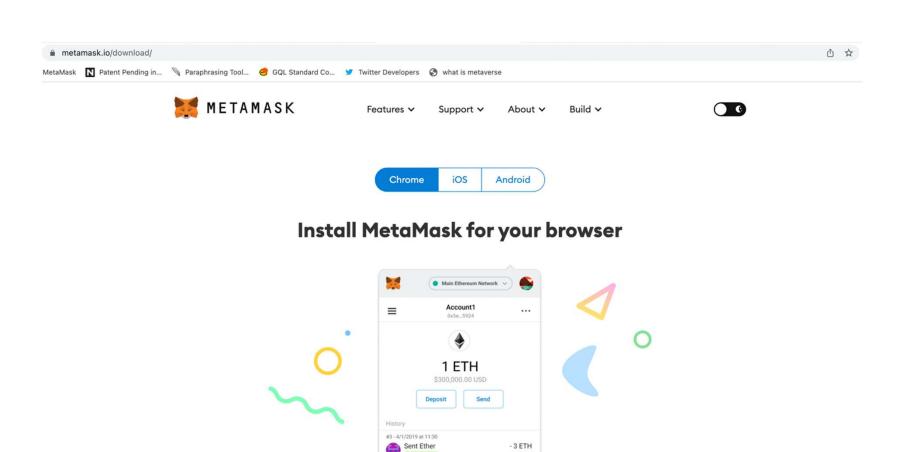


https://www.definitions.net/pronounce/Goerli



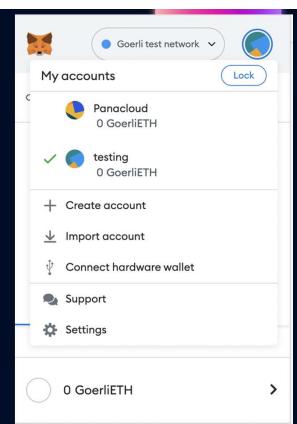
## What is a Faucet?

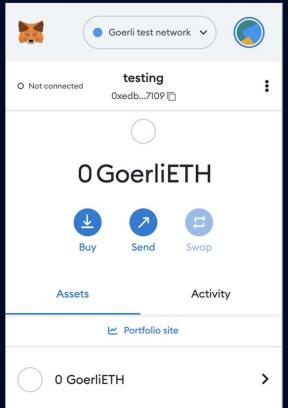
Few developers want to spend real money when testing or deploying smart contracts. That's why testnet faucets are the ideal solution – you get free cryptocurrencies you can use to pay gas when deploying or testing smart contracts.



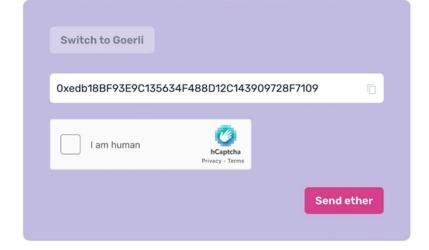
Install MetaMask for Chrome

Change to
 Goerli Test
 Network
 Create a
 testing account
 Copy Your
 Wallet Address



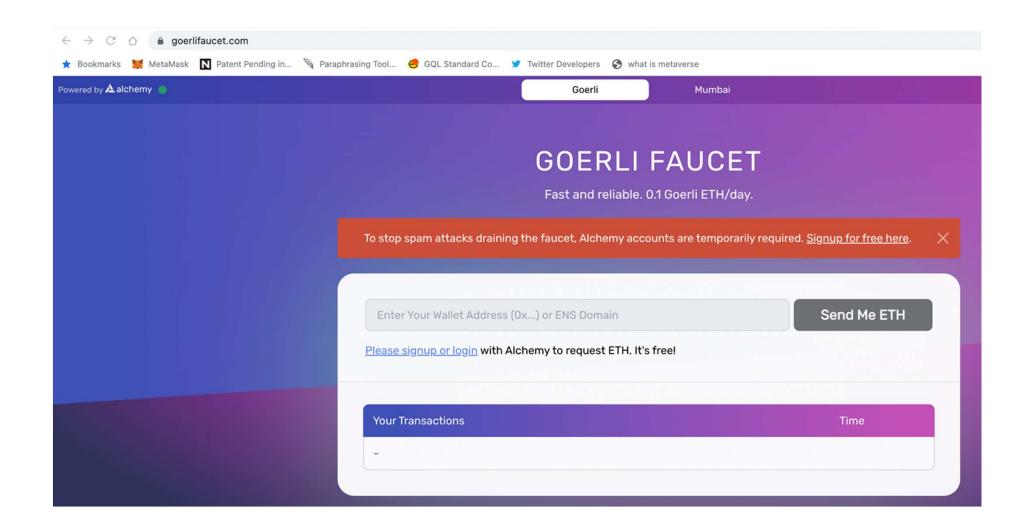


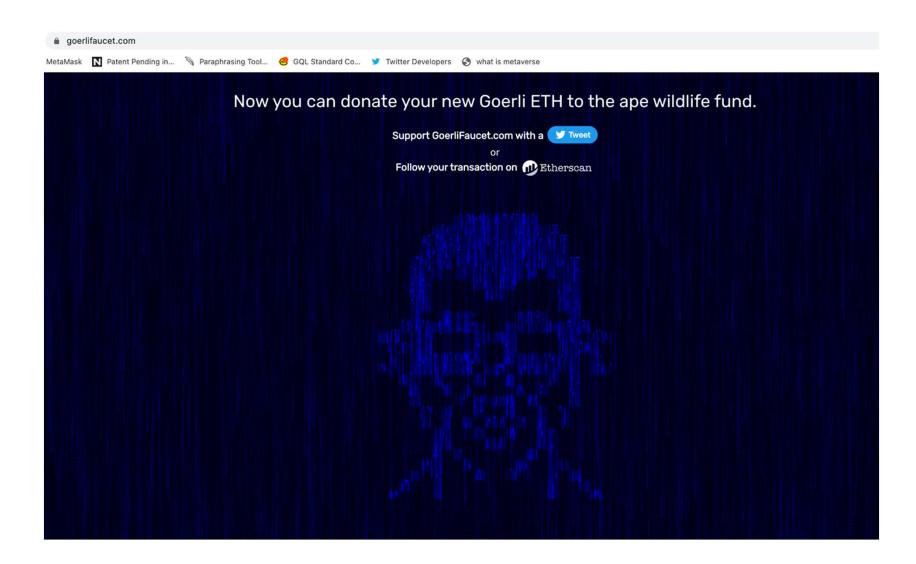


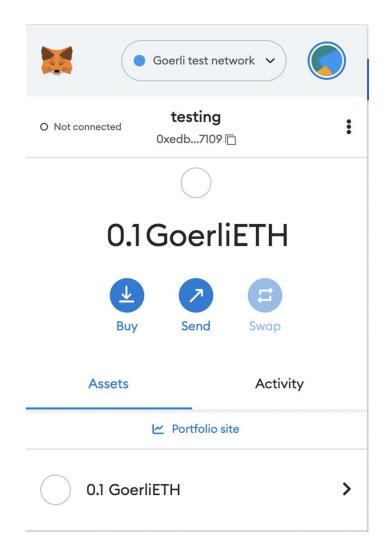


#### Rules:

- Connect to your wallet
- ✓ Choose Goerli Test Network
- X Access to only 1 request every 24h
- ✓ Wallet address balance must be lower than 0.5 GoerliETH





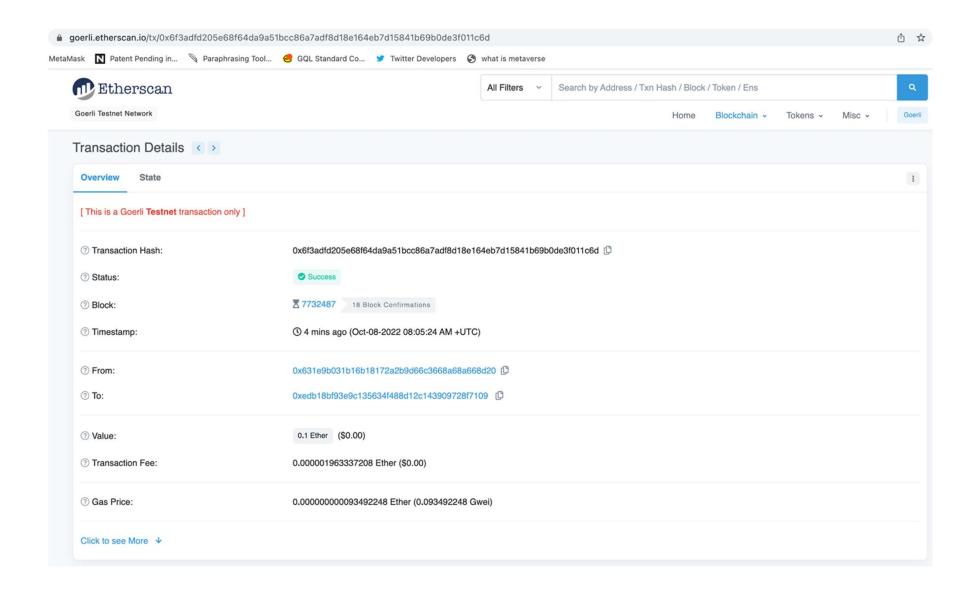




#### What is a Etherscan?

Etherscan, an Ethereum blockchain explorer, allows you to search the Ethereum blockchain for free.

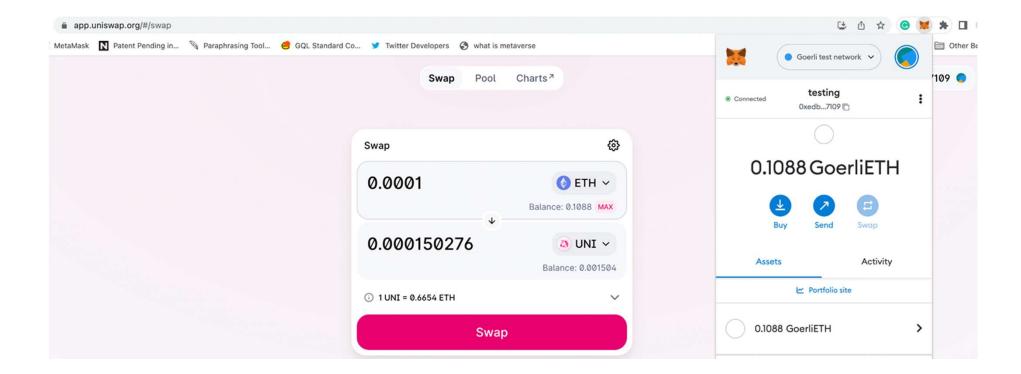
Through the tool, you can see records of past transactions, smart contracts, wallets, gas fees, and other information related to the Ethereum network.

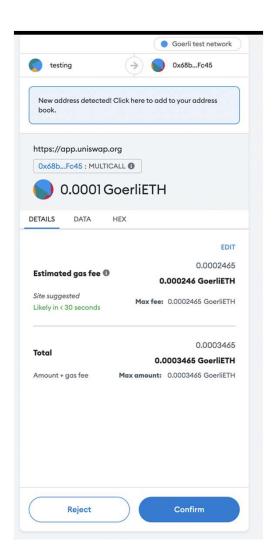


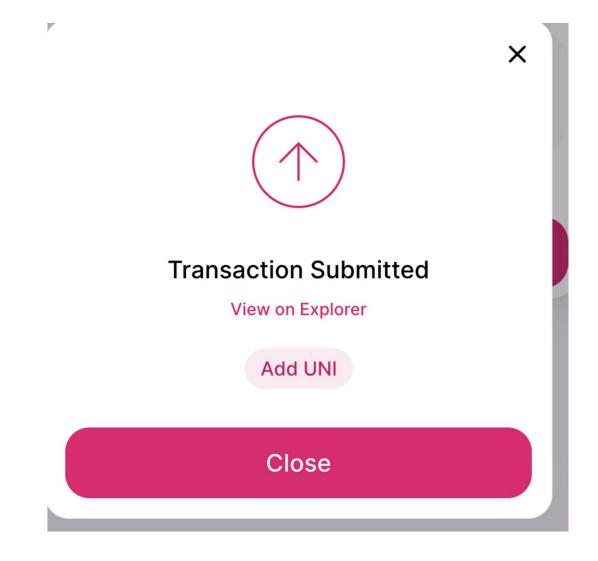
# What is Uniswap?

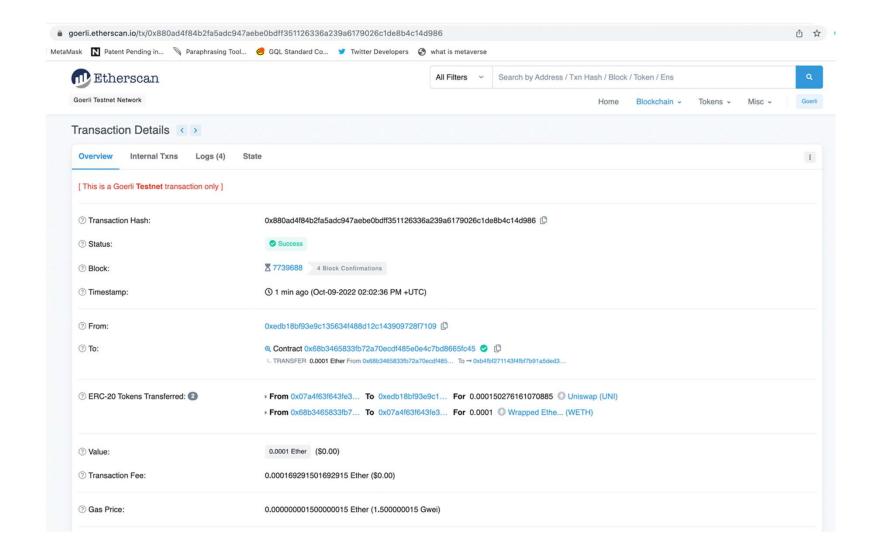


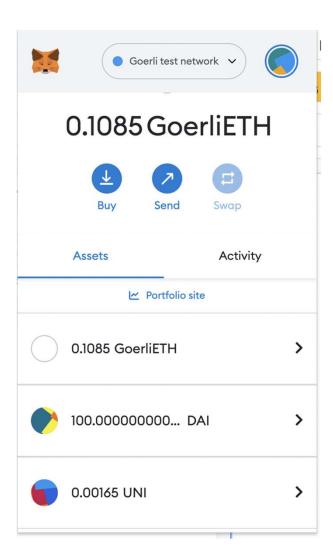
- Uniswap is the largest decentralized exchange (or DEX) operating on the Ethereum blockchain.
- It allows users anywhere in the world to trade crypto without an intermediary.
- UNI, the governance token that allows users to vote on key protocol changes.
- Uniswap was one of the first decentralized finance (or DeFi) applications to gain significant traction on Ethereum launching in November 2018.
- Numerous other decentralized exchanges have launched (including Curve, SushiSwap, and Balancer), but Uniswap is currently the most popular by a significant margin.
- Uniswap pioneered the Automated Market Maker model, in which users supply
  Ethereum tokens to Uniswap "liquidity pools" and algorithms set market prices (as
  opposed to order books, which match bids and asks on a centralized exchange like
  Coinbase) based on supply and demand.
- By supplying tokens to Uniswap liquidity pools, users can earn rewards while enabling peer-to-peer trading.
- Anyone, anywhere, can supply tokens to liquidity pools, trade tokens, or even create and list their own tokens (using Ethereum's ERC-20 protocol).











## What is Binance?



- Binance is an online exchange where users can trade cryptocurrencies.
   It supports most commonly traded cryptocurrencies.
- Binance is a cryptocurrency exchange with the highest liquidity, and Uniswap can be considered its decentralized equivalent.
- Binance provides a crypto wallet for traders to store their electronic funds.
- The exchange also has supporting services for users to earn interest or transact using cryptocurrencies.
- Users can buy, sell, and trade crypto, choose options and futures trading, apply for crypto loans, earn passive income and more with a single login. These centralized products are easy-to-use and comprehend, and can be accessed using a web browser, desktop or mobile app.



- Uniswap v3 is the the largest decentralized exchange by trading volume, with more than \$1.7 billion worth of assets changing hands in 24 hours, according to data from Coingecko.
- However, Binance is the largest centralized crypto exchange with \$22.2 billion in trading volume over the same period. Coinbase, meanwhile, logged \$3.1 billion.
- Uniswap has four fee tiers: 0.01%, 0.05%, 0.30% and 1.00%. Depending on the pair you trade, you could be charged as low as a 0.01% fee or as high as a 1% fee.
- Stablecoin pairs like USDC/USDT on Uniswap have usually low fees while altcoin pairs tend to have higher fees, which you can check out on Uniswap's overview page.
- Binance, on the other hand, has very low trading fees starting from 0.10%.
- The research used a metric called market depth to compare liquidity across Uniswap v3 and the centralized exchanges. Market depth, a common method used to measure liquidity on exchanges, shows how much of one asset can be traded for another at a given price level. For an Ether/USD trading pair, a trader who executes a single \$5-million trade can save about \$24,000 on Uniswap v3 compared with Coinbase, according the research.



https://www.techjuice.pk/how-to-buy-ethereum-in-pakistan/

## Compare crypto exchanges for October 2022

Exchange	Fees	Minimum Trade	Cryptos
Crypto.com	Maker: 0.04%-0.4%; Taker: 0.1%-0.4%	\$2	240+
FTX.US	Maker: 0%-0.1%; Taker: 0.05%-0.2%	None	20+
Binance.US	Maker: 0%-0.1%; Taker: 0.02%-0.1%	\$10	100+
Gemini	\$0.99 to \$2.99 under \$200 or 1.49% over \$200, and a 0.50% convenience fee	Varies	75+
Cash App	1.5% to 2.3%	\$1	1 (Bitcoin)
Coinbase	Maker: 0%-0.4%; Taker: 0.05%-0.6%	\$1	100+
Robinhood	0%	\$1	11
eToro	1%	\$10	20+
UniSwap	0.05%-1.0% + ETH gas fees	Varies	50,000+ pairs
Kraken	0.9% for buying stablecoins and 1.5% for any other coin. 3.75% + \$0.25 for card and digital wallet payment processing. 0.5% for online banking/ACH processing. 0.01% to 0.02% for margin. 0.01% to 0.05% for futures.	\$1	100+ BTC, ETH, AVAX, IDEX, MATIC, SOL, USDC, USDT, and many others.

## What is ERC-20?

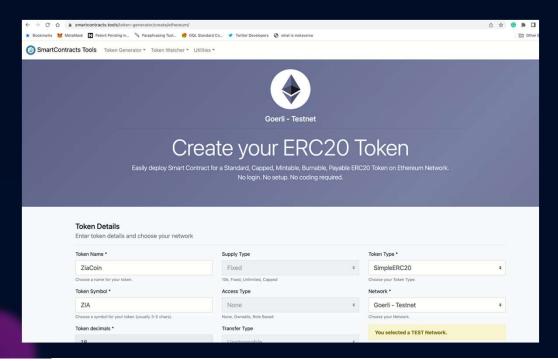
- Ethereum Request for Comment 20 (ERC-20) is the implemented standard for fungible tokens created using the Ethereum blockchain. It is the technical standard used in many new tokens created using the Ethereum ecosystem.
- A fungible token is one that is interchangeable with another token—where the well-known non-fungible tokens (NFTs) are not interchangeable.
- It guides the creation of new tokens on the Ethereum blockchain so that they are interchangeable with other tokens used within smart contracts.
- Smart contracts were becoming more popular in 2015, but several issues needed to be addressed. Because anyone could make a token, many were being created. However, there wasn't a way to ensure that all of the different tokens could be created, used, or exchanged.
- Without a standardized methodology for tokens, every application would need its own token, and users would need to find a way to convert them back and forth between the hundreds of apps being developed.

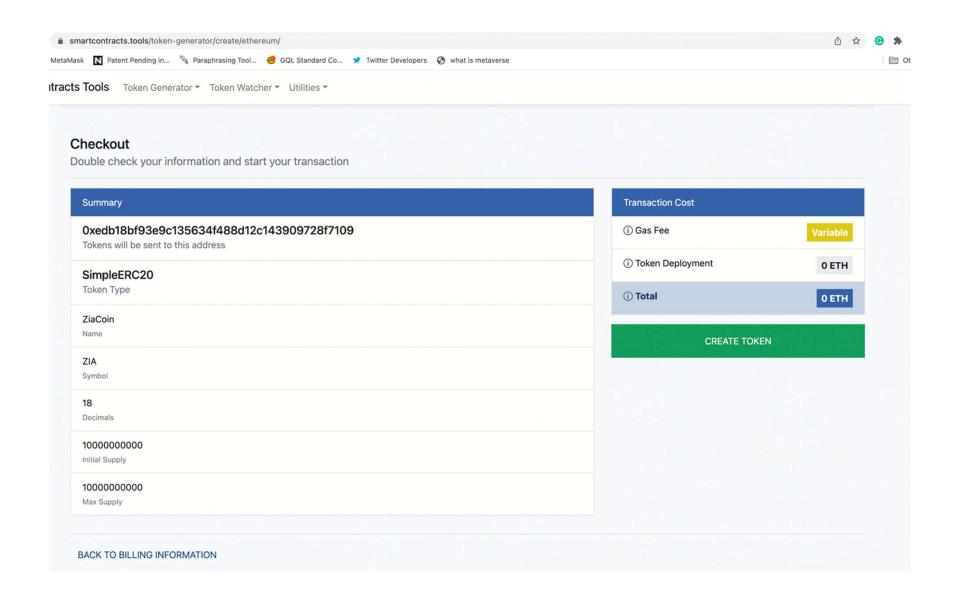


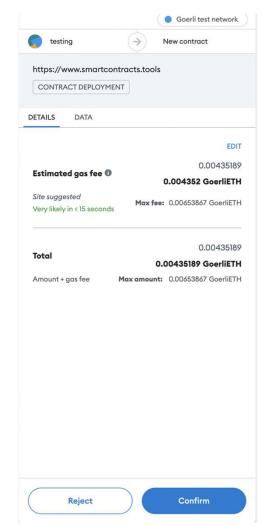
## Create Your ERC20 Token

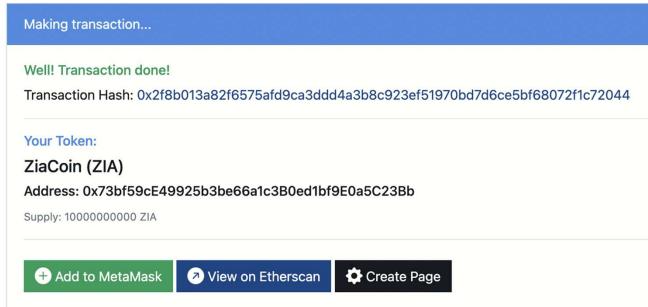


Create your own ERC-20 token using your name on Goerli Testnet e.g. ZiaCoin <a href="https://www.smartcontracts.tools/token-generator/create/ethereum/">https://www.smartcontracts.tools/token-generator/create/ethereum/</a>







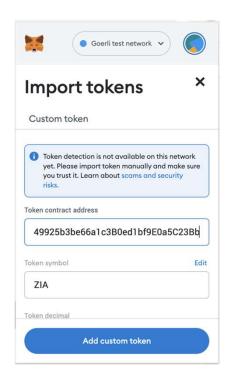


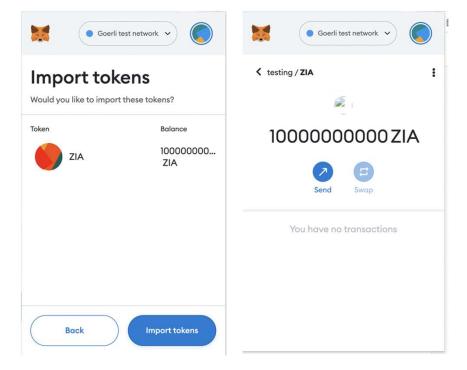
### ZiaCoin (ZIA)

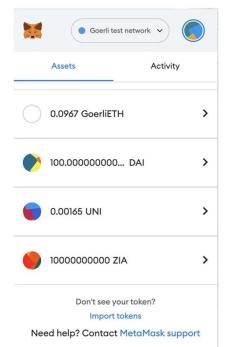
Contract Address: 0x73bf59cE49925b3be66a1c3B0ed1bf9E0a5C23Bb

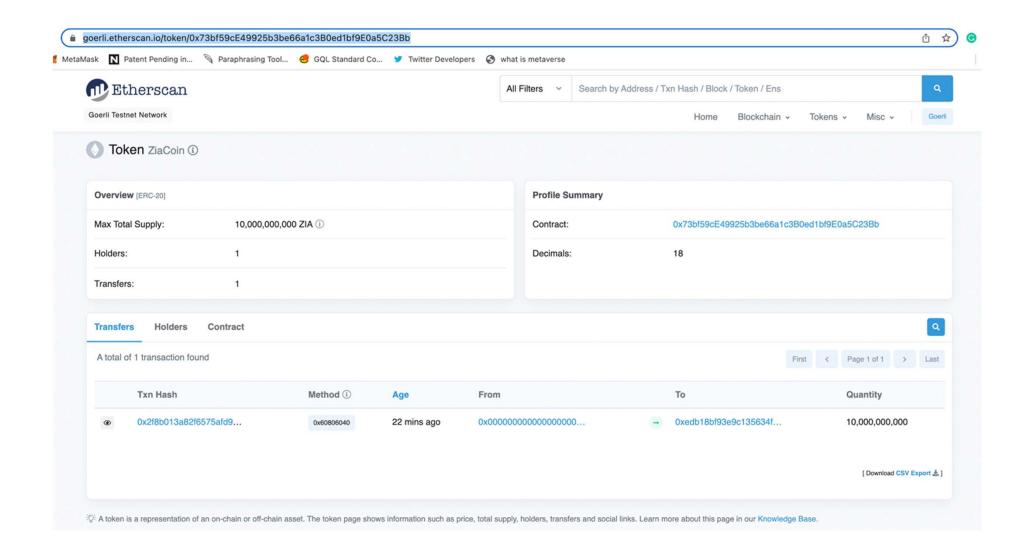
Transaction Hash:

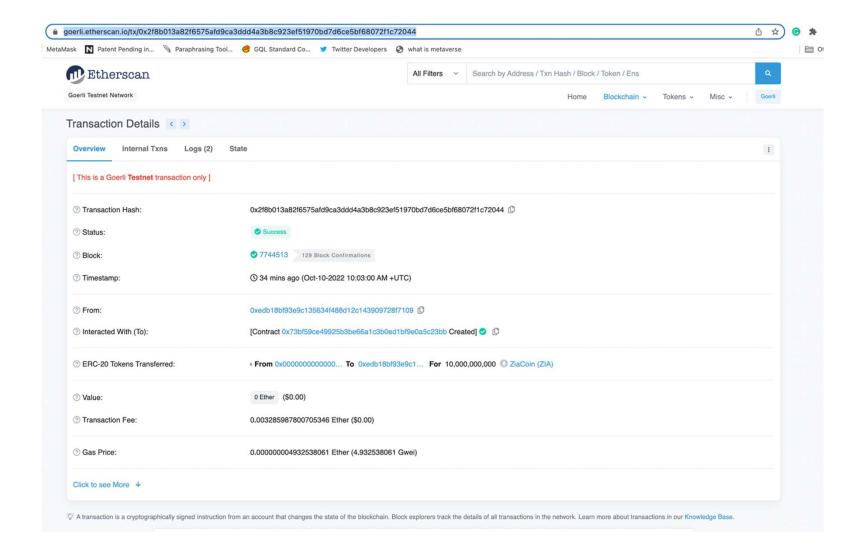
## Importing Token in the Metamask Wallet











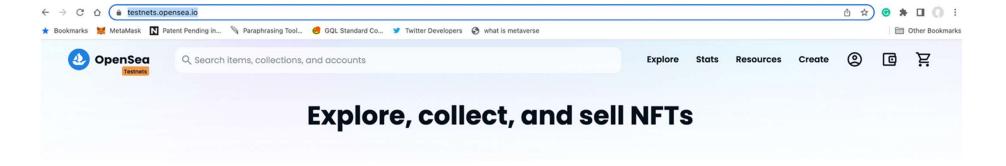
## What are NFTs?

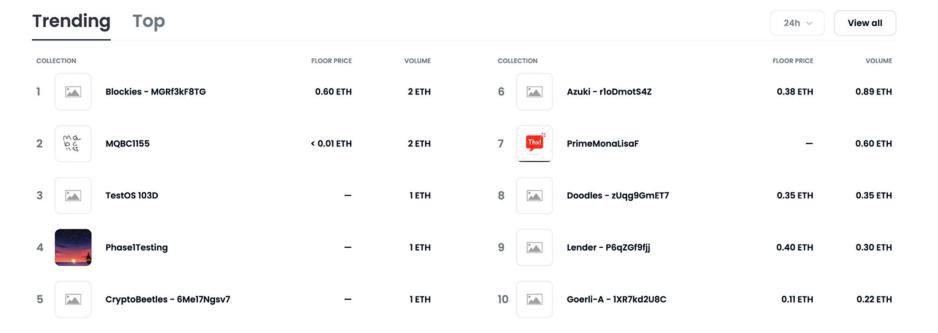
- Non-fungible tokens (NFTs) are cryptographic assets on a blockchain with unique identification codes and metadata that distinguish them from each other.
- Unlike cryptocurrencies, they cannot be traded or exchanged at equivalency.
   This differs from fungible tokens like cryptocurrencies, which are identical to each other and, therefore, can serve as a medium for commercial transactions.
- NFTs (non-fungible tokens) are unique cryptographic tokens that exist on a blockchain and cannot be replicated.
- NFTs can represent real-world items like artwork and real estate.
- "Tokenizing" these real-world tangible assets makes buying, selling, and trading them more efficient while reducing the probability of fraud.
- NFTs can also function to represent individuals' identities, property rights, and more.
- Collectors have sought NFTs as their value initially soared, but has since moderated.

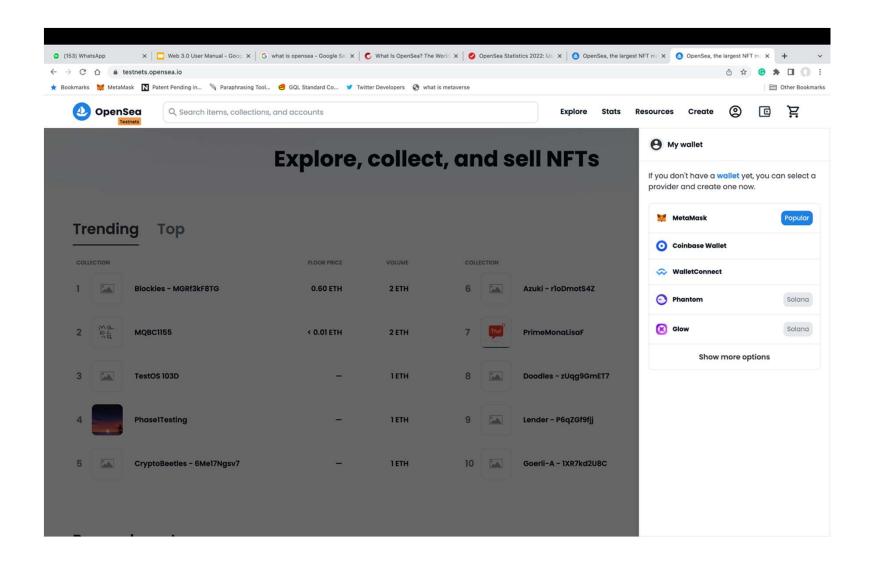
# What is OpenSea?

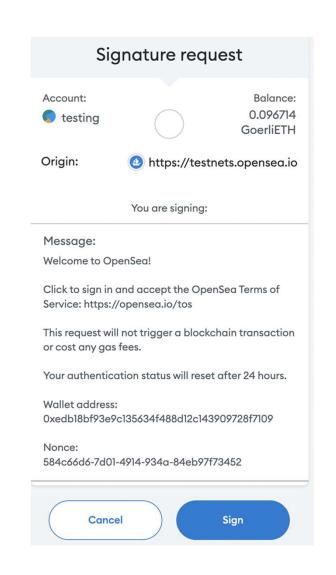


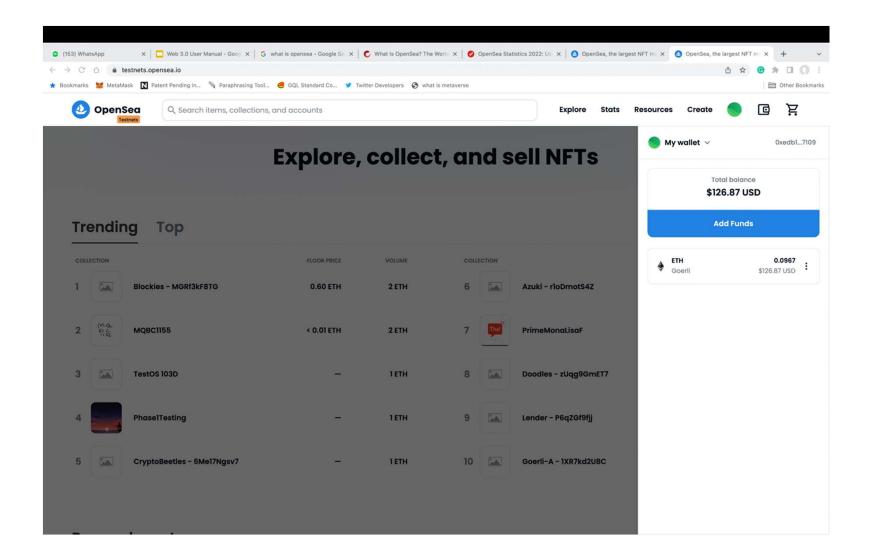
- The world's first and largest digital marketplace for crypto collectibles and nonfungible tokens (NFTs). Buy, sell, and discover exclusive digital items.
- Is the first ever decentralized NFT marketplace built on the Ethereum blockchain and is currently the largest.
- OpenSea is a regionalized peer-based marketplace for trading rare and unique digital assets.
- Whether it's collectibles, arts, or gaming items developed on NFT (non-fungible token) technology and flow on the blockchain of Ethereum, an investor can buy, sell, and trade these on OpenSea.
- platform has over 1 million users in 2022.
- It has recently entered the Alexa 500 Most Visited Websites, with a total of 121.7 million views.
- Over 80 million different types of NFTs are available for trade on OpenSea.
- Over 80% of the free NFTs created on OpenSea are either fraudulent or spam.

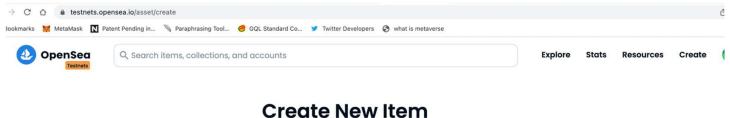


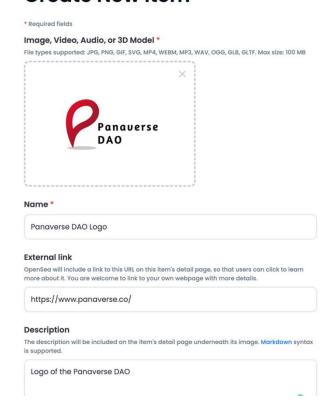


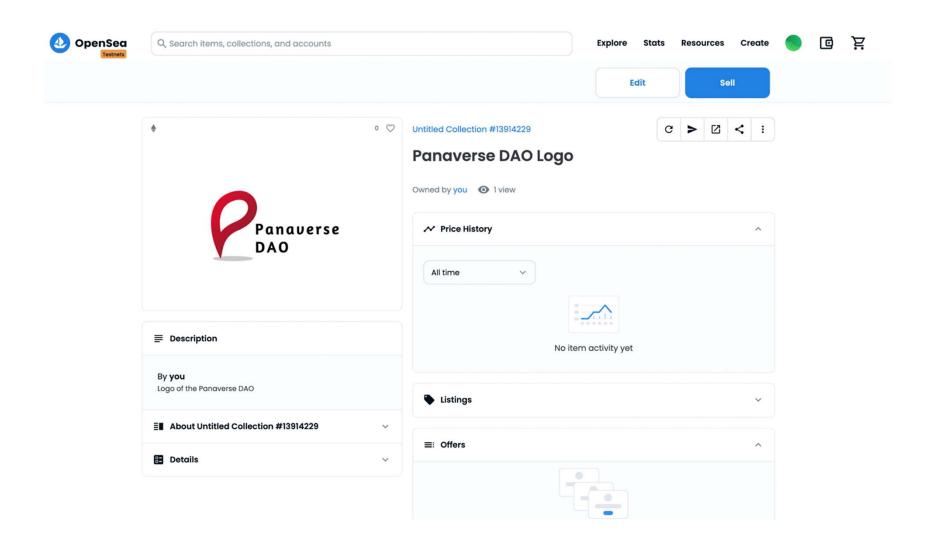




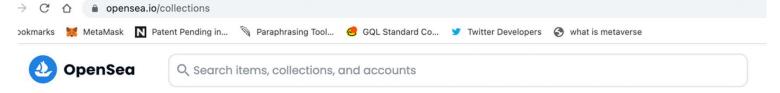






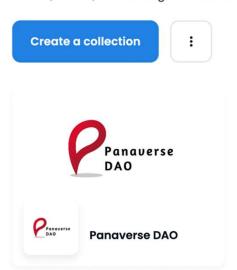


### Moved to the Miannet

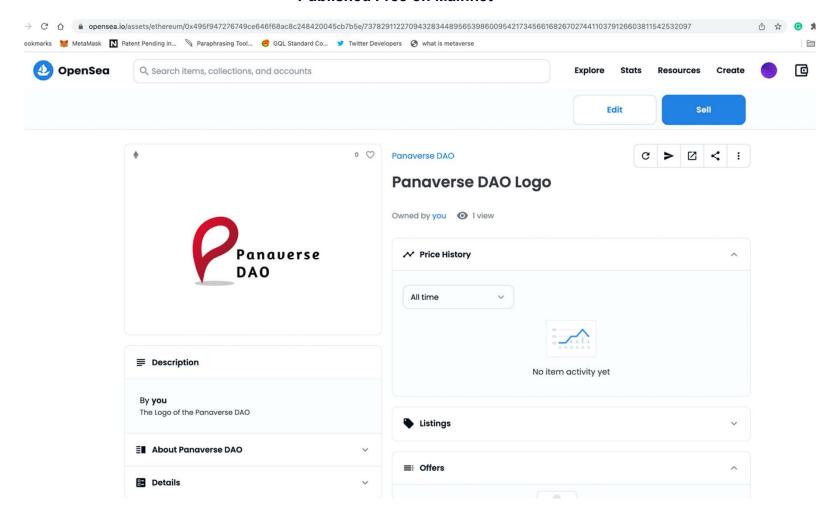


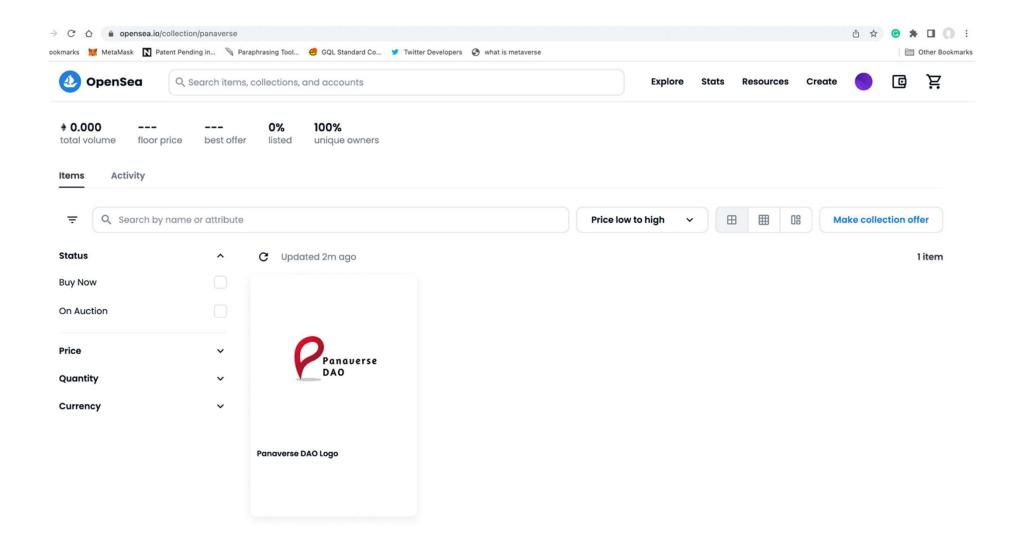
## **My Collections**

Create, curate, and manage collections of unique NFTs to share and sell. (i)



### **Published Free on Mainnet**







# Challenge Assignment: Become a Liquidity Provider on Uniswap (Goerli Testnet)



Part 1: Provide Liquidity to a existing pool

Getting Started <a href="https://support.uniswap.org/hc/en-us/sections/8122851346573-Getting-Started">https://support.uniswap.org/hc/en-us/sections/8122851346573-Getting-Started</a>

Tutorial: How to Become a Liquidity Provider on Uniswap <a href="https://opensea.io/collection/panaverse">https://opensea.io/collection/panaverse</a>

Part 2: Create a New Pool and Provide Liquidity

Advanced requirement is that you create a pool of your own Tokens: <a href="https://tokpie.io/blog/how-create-pool-uniswap-erc20-pair/">https://tokpie.io/blog/how-create-pool-uniswap-erc20-pair/</a>



# Publish Challenge Assignment: Become a Liquidity Provider on Uniswap (Goerli Testne

After you have completed the challenge publish it on:

Twitter and refer to @Panaverse\_edu with hashtags #web3 and #uniswap

Facebook Group:

https://www.facebook.com/groups/panaverse

Panaverse Channels on Panacloud Discord Server:

https://discord.qq/GqqDkBwJDr

Whatsapp to me all the details at: 923008263374



# Panaverse DAO The Web 3.0 & Metaverse Team

www.panaverse.co https://discord.gg/GggDkBwJDr https://twitter.com/Panaverse\_edu https://www.facebook.com/groups/panaverse Certified Web 3.0 and Metaverse Developer: A Nationwide Program in Karachi, Lahore, Islamabad, Peshawar, and Faisalabad

> Certified Web 3.0 and Metaverse Developer: A Nationwide Program in Karachi, Lahore, Islamabad, Peshawar, and Faisalabad

APPLY FOR ADMISSION NOW Will Open in a Few Weeks

Natch the Insane Future of Web 3.0 and Metaverse Vid Stufy The Panaverse Plan

