

# **Crypto Tokens and their Types**

# Crypto Tokens

Digital assets that are created and managed on a blockchain network

They represent a unit of value or utility and can be used for a variety of purposes, including as a means of payment, as a reward for incentivizing network participants.

Variety of crypto tokens exist, most of them are built with the same token standards.

Token standards are sets of rules and conventions for governing how a crypto token works. Popular standards include ERC-20, BEP-20, ERC-721, and ERC-1155.

# Crypto Tokens Types

- Utility Tokens – Digital coupon or a redeemable, ideally distributed before ICO
- Payment Tokens - these tokens are used to buy and sell assets and pay for blockchain-based transaction fees
- Non-fungible Tokens (NFTs) - this token is a cryptographic asset that's created using blockchain technology
- Security Tokens - Security tokens are digital assets that operate on existing blockchain networks and represent ownership or stake in a real-world company or asset
- Stablecoin - cryptocurrency that's pegged to a stable asset such as the US dollar
- Exchange Tokens - designed for investment and speculative purpose, medium of exchange
- Privacy Tokens - allow you to send money anonymously
- Defi Token - Decentralized tokens created specifically for use in conjunction with decentralized platforms that operate using smart contracts

# ERC-20 Tokens

- Standard for fungible tokens on the Ethereum blockchain
- Defines a set of functions to manage the token, including transfer, approve, and balanceOf
- Requires a total supply to be defined upon creation

# ERC-20 Tokens Use Case

- Can be used to represent any type of asset that can be divided into smaller units, such as currency or commodity
- Can be used for initial coin offerings (ICOs) or token sales
- Can be used as rewards or loyalty points

# ERC-721 Tokens

- Standard for non-fungible tokens (NFTs), unique and can't be replaced such as art, digital assets on the Ethereum blockchain
- Defines a set of functions to manage the ownership and transfer of unique assets, including tokenURI and ownerOf
- Each token has a unique ID that cannot be divided into smaller units

# ERC-721 Tokens Use Case

- Can be used to represent unique assets, such as collectibles, digital art, or real estate
- Can be used to prove ownership of assets, such as tickets or access rights
- Can be used for gaming or virtual worlds, where unique items or characters are valuable and tradable

# ERC-1155 Tokens

- Standard for multi-token contracts, both fungible and non-fungible on the Ethereum blockchain
- Allows for multiple tokens to be managed by a single contract, with each token represented by a unique ID
- Defines a set of functions to manage the creation, ownership, and transfer of multiple tokens, including `balanceOfBatch` and `safeBatchTransferFrom`



# ERC-1155 Tokens Use Case

- Can be used to represent collections of assets, such as game items or digital trading cards
- Can be used for fractional ownership of assets, where multiple users own a share of a single asset
- Can be used for batch transfers of multiple assets at once, such as for rewards or distributions