

ERC20

OVERVIEW :

This document explains the concepts, usage and benefits of ERC20.

ERC20:

The smart contract that follows ERC20 standard is Fungible Tokens. Fungible tokens are interchangeable and these are non unique and divisible. ERC Token similar to the ETH. ERC20 is the token that implements an api token within a smart contract.

INTERFACE:

Common interface of the ERC20 contract is shown below. For the detailed description please check [here](#).

```
interface NDCoinERC20 {
// functions
function name() public view returns (string);
function symbol() public view returns (string);
function decimals() public view returns (uint8);
function totalSupply() public view returns (uint256);
function balanceOf(address _owner) public view returns (uint256 balance);
function transfer(address _to, uint256 _value) public returns (bool success);
function transferFrom(address _from, address _to, uint256 _value) public returns (bool success);
function approve(address _spender, uint256 _value) public returns (bool success);
function allowance(address _owner, address _spender) public view returns (uint256 remaining);

// events
event Transfer(address indexed _from, address indexed _to, uint256 _value);
event Approval(address indexed _owner, address indexed _spender, uint256 _value);
}
```

FUNCTIONALITIES :

- To transfer tokens from one account to another. The **transfer()** is used and it throws if the message callers the account balance does not have enough tokens to spend.
- To get the current token balance of an account it has **balanceOf()** .
- To get the total supply of the token available on the network we can use the **totalSupply()** which returns total token supply.
- Approve whether an amount of token from an account can be spent by a third-party account, for this approval function can be used. Allows the spender to withdraw from your account multiple times.
- Event **transfer()** triggers when tokens are transferred including zero value transfer.

ADVANTAGE :

- It provides a built-in wallet to protect a user's private key and personal assets.
- The significant features of ERC20 are easy for creating a new token and it is easy to write a script to create a new ERC20.
- It ensures safety and security through a built-in wallet. Wallet assists the user to store their purchased coins.
- It allows building smart contracts through ERC20 Tokens.
- It requires a very low cost to create a New token .By this we can conduct their trading activities.

REFERENCES:

<https://ethereum.org/en/developers/docs/standards/tokens/erc-20/>

<https://eips.ethereum.org/EIPS/eip-20>

<https://blog.logrocket.com/create-deploy-erc-20-token-ethereum-blockchain/>