



Dapp Dojo



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paisa hi paisa hoga

Ye Blockchain Kya cheez hai?

A blockchain is a distributed, digital, immutable ledger that is used to record transactions and store data in a secure and transparent manner. It is based on a decentralized network of nodes that collectively maintain a single source of truth, allowing participants to interact with the system without the need for intermediaries.

A block is a container data structure that aggregates transactions for inclusion in the public ledger, the Blockchain. Each block in the chain contains a set of transactions that have been verified and recorded by the network of nodes through a process known as consensus. Once a block is added to the chain, it cannot be altered or deleted, creating an immutable record of all transactions on the network.

Decentralized Ledger



CBINSIGHTS



Land Angel Sarastro
@SerfdomEscaping

Haven't checked
my crypto
portfolio which
means the crash
isn't happening

Decentralization? Why Bruv?

Le people who are insecure about their data-

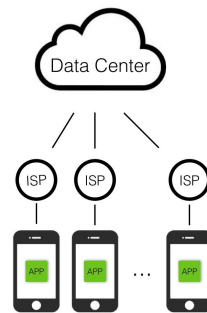


Decentralization? Why Bruv?

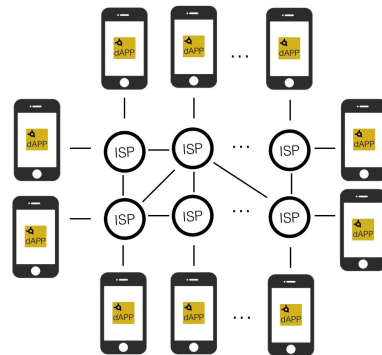
By storing data in a peer to peer network of nodes, the blockchain is a decentralized network. This has significant benefits over the traditional approach of storing data in a centralized manner. There are significant examples of problems with centralization - a few of which we will list here:

- Data breaches in centralized systems expose a lot of data
- Centralized authorities can censor and shut down speech
- Reliance on a central authority means upstream problems affect downstream consumers (e.g. AWS going down means most of the internet goes down with it)

Apps



dApps



WHY DECENTRALIZED?

There are significant examples of problems with centralization - a few of which we will list here:

- Data breaches in centralized systems expose a lot of data
- Centralized authorities can censor and shut down speech
- Reliance on a central authority means upstream problems affect downstream consumers (e.g. AWS going down means most of the internet goes down with it)

On the other hand, decentralization brings about the opposite benefits.

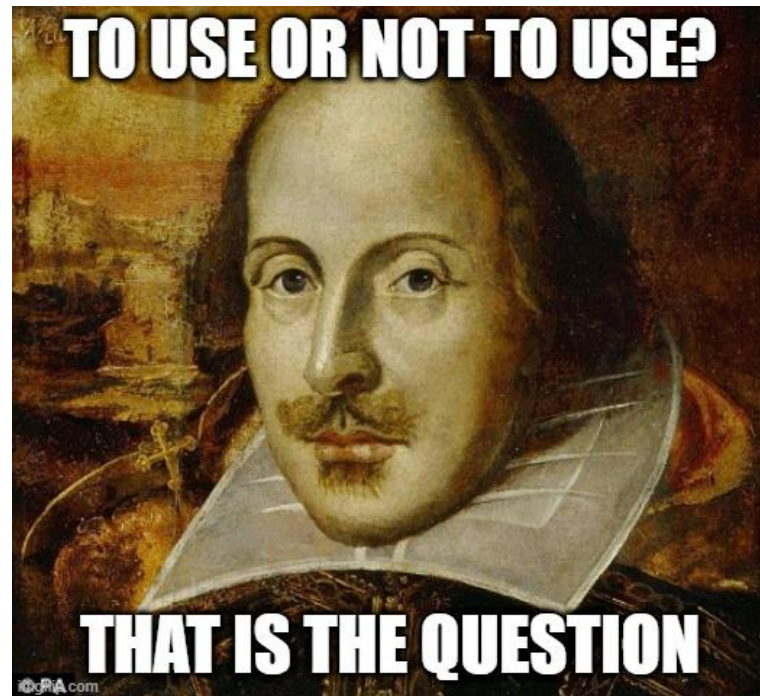
- No censorship as there is no single authority or middleman that can censor you
- No downtime as the overall network is running across 1000's of nodes across the globe
- Highly attack resistant making it infeasible to manipulate or destroy data

Trying to explain crypto to your friend:



USES OF DECENTRALIZATION

- Cryptocurrency
- Smart Contracts
- Decentralized Finance
- Gaming
- Supply Chain Tracking
- Counterfeiting Protection
- Data Privacy
- Decentralized Governance
- Verifiable ownership of assets



kids after
knowing this much

i am a
blockchain expert

CHANGE MY MIND

**RUKO ZARA
SABAR KARO**



**YE TO
BASIC HAI KIDS**

ETH / ETHEREUM



Ethereum is a decentralized blockchain that supports smart contracts. Unlike Bitcoin, which only supports the transfer of the Bitcoin token around the network, Ethereum is more general purpose.

Developers can build dApps, or decentralized applications, which can be executed on the Ethereum network on the Ethereum Virtual Machine (EVM). The global state of Ethereum therefore consists of more than just the balance of every account, but also the state of each dApp.

dApps are built on Ethereum using its programming language, Solidity. You can write smart contracts using Solidity and deploy the smart contracts to the Ethereum Network.

It maintains consensus across all the computers in its network with Proof of Stake (PoS). The Serenity Patch, introduced in September of 2022, made the switch for Ethereum going from Proof of Work to a Proof of Stake mechanism.

BITCOIN IS BLOCKCHAIN

NO MA



ETHER chahiye guys

Ethereum has a native currency called "Ether", or "ETH". This token is required to pay transaction fees for transactions done on the Ethereum network.



SMART CONTRACTS

Smart contracts are small computer programs that are replicated and processed on all the computers on the Ethereum network without a central coordinator. Smart Contracts allow you to program contracts that can be automatically enforced by computer code.

The general-purpose nature of Ethereum allows for any number of possible applications to be built on top of it, which all inherit the security and decentralization benefits that come from running on the Ethereum blockchain.

Deployment of every contract takes up some amount of gas fees.



ERC-20 Token

People can create and use their own currencies on Ethereum. The most common form of currency is ERC20 tokens. ERC20 Tokens are smart contracts that fit a specific standard. Developers can extend beyond the standard, but should meet the minimum requirements when making their own token. The standardization allows for digital wallets to easily support all types of tokens, without needing specialized code for each token created.



ENOUGH BLAH BLAH

SHOW ME SOME CODE!

makeameme.org

Prerequisites

- Make sure you have downloaded and installed [Metamask](#).
- Make sure you have enough Mumbai Polygon testnet network to work with.





Step 1- Set up remix IDE

Set up Remix IDE which will be our working environment

<https://remix.ethereum.org/>



Step 2- Creating a file

In Remix, create a new contract file- you can name it whatever you want!

Remember to save the name with **.sol** extension.

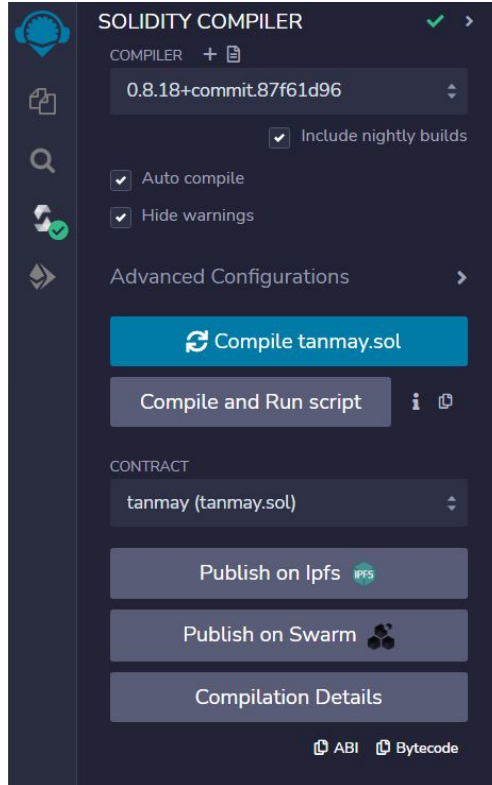
Let's call my file **tanmay.sol**

Step 3- Add your code



```
1 pragma solidity ^0.8.0; // SPDX-License-Identifier: MIT
2
3 import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/master/contracts/token/ERC20/ERC20.sol";
4
5 contract tanmay is ERC20 {
6     constructor(string memory _name, string memory _symbol) ERC20(_name, _symbol) {
7         _mint(msg.sender, 10 * 10 ** 18);
8     }
9 }
```

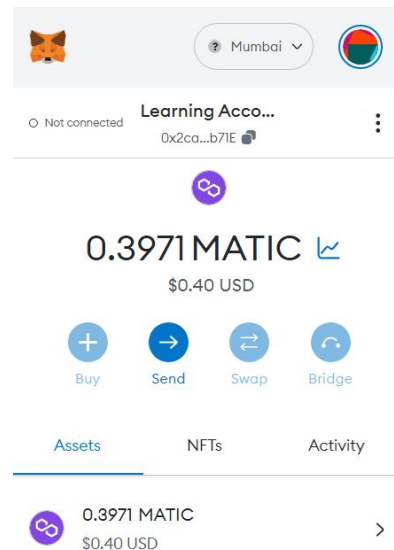
Step 4- Compile the code



Step 5- Deploy the code

1. Head over to **deployer tab** in Remix IDE.
2. First open Metamask now and check that you are using Mumbai Testnets
3. Select injector provider- metamask.
4. Enter name and symbol of your token.

Don't deploy without checking next slide.



cont..

After everything your deploy should look similar to this.

The screenshot shows the 'DEPLOY & RUN TRANSACTIONS' interface in the Remix IDE. The interface is dark-themed and contains several sections for configuring a deployment:

- ENVIRONMENT:** A dropdown menu showing 'Injected Provider - MetaMask' with a small information icon to its right.
- ACCOUNT:** A dropdown menu showing 'Custom (80001) network'.
- ACCOUNT:** A dropdown menu showing the account address '0x2ca...8b71E (0.39415950)' with copy and share icons to its right.
- GAS LIMIT:** A text input field containing the value '3000000'.
- VALUE:** A text input field containing '0' and a unit dropdown menu set to 'Wei'.
- CONTRACT (Compiled by Remix):** A dropdown menu showing 'tanmay - contracts/tanmay.sol'.
- DEPLOY:** A section with two input fields: '_NAME:' containing '"tanmay"' and '_SYMBOL:' containing '"tany"'. Below these are three buttons: 'Calldata' (disabled), 'Parameters' (disabled), and 'transact' (active, orange).
- Publish to IPFS:** A checkbox that is currently unchecked.
- OR:** A separator text.
- At Address:** A button that is currently disabled.
- Load contract from Address:** A text input field for loading a contract from a specific address.

If everything looks fine, Click Transact and approve the transaction from Metamask to deploy your contract!



Aae mai toh thak gayi bhaisaab.

Notice

Check that your ERC-20 Token is not available in your metamask even if you have deployed it.

Let's import it to our metamask now.

Importing ERC-20 Token

1. Go to deployed tokens section and copy your contract address.
2. Go to <https://mumbai.polygonscan.com/> to find your contract.
3. Click on Import token under assets section in Metamask.
4. Copy your contract address from the website above and paste it in metamask and click add.

Don't see your token?

[Import tokens](#)

Need help? Contact [MetaMask Supp](#)

Contract Overview

Balance: 0 MATIC

More Info

My Name Tag: Not Available

Contract Creator: 0x2ca9e0c0941e95c355... at tx 0xedef9a17b54e6748e1...

Token Tracker: tanmay (tany)

Transactions

ERC-20 Token Txns Contract Events

Latest 1 from a total of 1 transactions

Txn Hash	Method	Block	Age	From	To	Value	[Txn Fee]
0xedef9a17b54e6748e1...	Contract Creation	34735324	3 mins ago	0x2ca9e0c0941e95c355...	Contract Creation	0 MATIC	0.002943335017

[Download CSV Export](#)

Learning Account / tany

10 tany

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You have no transactions

