



invozone



IPFS Configuration

PRACTICE TASK | 6

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IPFS Configuration

IPFS overview

IPFS is a distributed system for storing and accessing files, websites, applications, and data. IPFS is a peer-to-peer (p2p) storage network. Content is accessible through peers located anywhere in the world, who might relay information, store it, or do both. IPFS knows how to find what you ask for using its content address rather than its location.

There are three fundamental principles to understanding IPFS:

1. Unique identification via content addressing
2. Content linking via directed acyclic graphs (DAGs)
3. Content discovery via distributed hash tables (DHTs)

For Simple explanation: <https://www.youtube.com/watch?v=5Uj6uR3fp-U>

<https://medium.com/wolverineblockchain/what-is-ipfs-b83277597da5>

How IPFS work

<https://ipfs.io/#how>

<https://docs.ipfs.io/concepts/how-ipfs-work>

How IPFS helps blockchain Developer

<https://icomunity.io/en/what-is-ifps-the-hard-drive-for-blockchain/>

IPFS setup

Installation

- <https://docs.ipfs.io/install/ipfs-desktop/#windows>
- <https://github.com/ipfs/ipfs-desktop>
- <https://www.youtube.com/watch?v=HuMxtHkzzBA>

IPFS and Blockchains

Blockchains cannot handle storing large amounts of data because it becomes extremely expensive to replicate large amounts of data across those thousands of nodes. This is where the section comes into place: storing the NFT data. For this reason, the majority of the NFTs data needs to be stored off-chain, and we need to secure this data too. We can solve this issue with IPFS. IPFS uses content-addressing to uniquely identify each file in a global namespace that is important for our NFTs to link the NFT metadata to the place where the asset or artwork is stored. IPFS can be seen as more persistent with data pinning when compared to centralized services such as Dropbox or Google Drive.

So we can mint an NFT easily using IPFS. There are the following steps you can take

- Upload NFT Content to IPFS via [*Pinata*](#)
<https://allcode.com/upload-nft-content-to-ipfs-via-pinata/>
<https://docs.pinata.cloud/nfts>
- Generate a separate JSON file for each content containing metadata.
<https://docs.opensea.io/docs/metadata-standards>
<https://docs.pinata.cloud/nfts#how-to-create-a-json-metadata-file>
- Upload NFT metadata to IPFS
<https://medium.datadriveninvestor.com/step-by-step-nft-minting-using-ipfs-26a1cb526326>
- Now we mint the NFT by using the CID of the metadata file.
<https://medium.com/geekculture/mint-an-nft-and-erc-721-smart-contract-easy-step-by-step-4fa1ff151fbc>
<https://4irelabs.com/articles/how-to-build-and-deploy-erc-721-token/>
- We can Find your NFT on IPFS
<https://medium.com/coinmonks/how-to-find-your-nft-on-ipfs-e51bc5e7c8a1>