### WHAT IS IPFS



The InterPlanetary File System

IPFS is a decentralized storage and delivery network

- Supports a resilient internet
- Makes it harder to censor content
- · Can speed up the web when you're far away or disconnected.

# HOW DOES IPFS WORK



The InterPlanetary File System

1) Unique identification via content addressing



hash function sha-256



QmbWqxBEKC3P8tqsKc98xmWNzrzDtRLMiMPL8wBuTGsMnR

data is cryptographically hashed, resulting in a safe, unique content identifier:



## HOW DOES IPFS WORK



The InterPlanetary File System

2) Content linking via directed acyclic graphs (DAGs)

#### CID

QmbWqxBEKC3P8tqsKc98xmWNzrzDtRLMiMPL8wBuTGsMnR

chunker

splits content into blocks

The CID is the root node

blocks will be arragned in a tree-like structure.

structure.



different DAGs can reference the same subset of data --> Data Deduplication different parts of the file can come from different nodes --> Data Decentralization

#### HOW DOES IPFS WORK



The InterPlanetary File System

3.) Content discovery via distributed hash tables (DHTs)

To find which peers are hosting the content IPFS uses a distributed hash table, or DHT

**→** 

