General

Helpful reference materials for the Filecoin specification, implementations, and ecosystem.

About Filecoin

- [Filecoin Specification](#)
-
  - technical specification for Filecoin protocol and its associated subsystems.
- [Engineering Filecoin's Economy](#)
-
  - the design of Filecoin's economic incentives.
- [Filecoin Slack](#)
-
  - announcement, open discussion of Filecoin.
- [Filecoin Community](#)
-
  - Filecoin community and ecosystem channels, discussion forums, and more.
- [Filecoin 中文社区](#)
-
  - resources and forum for the Chinese community, maintained and moderated by CoinSummer & PL.
- [Filecoin YouTube channel](#)
-
  - various Filecoin workshops, conference talks, and meetups.
-

Filecoin Network

Node implementations

- [Lotus](#)
- -Recommended
- most advanced implementation and[security audited](#)
- , in GoLang.
- Other implementations (In progress):
-
  - [Fuhon](#)
-
  -
    - C++
-
  - [Forest](#)
-
  -
    - Rust
-
  - [Venus](#)
-
  - (formerlygo-filecoin
-
  -) - also in GoLang ([Venus documentation](#)
-
  -).
- *
- Lotus Docker Hub Images (unofficial):
-
  - [glif/lotus](#)
-
  - [ognots/lotus](#)
-
  - -mainnet-v1.830-rc1
-
  - [textile/lotus](#)
-
  -
    - latest
- *
-

Networks

network.filecoin.io - lists all current Filecoin networks and related information.

- Mainnet
-
    - [Mainnet network status](#)
-
    -
        - reports the status and incident of the Filecoin Mainnet.
- *
- Calibration
-
    - Largest testnet which support 32 GiB and 64 GiB sectors.
-
    - See[#fil-net-calibration-announce](#)
-
    - for announcements and[#fil-net-calibration-discuss](#)
-
    - for questions and discussion in[Filecoin Slack](#)
-
    - .
- *
- Local Devnet
-
    - [Run a Local Devnet using Lotus](#)
-
    - .
-
    - [Textile's local devnet](#)
-
    -
        - uses a mocked sector builder for faster deal confirmation and it is for storage app prototyping.
-
    - [Ganache for Filecoin](#)
-
    -
        - local network to support development with Filecoin by various ways.
- *
-

Network status

Tools to check status and details of the network and chain.

Block explorers

- [Filfox.info](#)
-
    - Mainnet
- [Filscan](#)
-
    - Mainnet & Calibration
-

Chain data and monitoring

- [dashboard.starboard.ventures](#)
-
    - network health monitoring
- [Filstats.io](#)
-
    - node telemetry monitoring - add your node!
- Orphan blocks (not an official protocol term in the Filecoin Spec) - Blocks without rewards that were either mined on the wrong tipset that the network fails to deliver in time, or a mix resulting in reorgs.
- [Sentinel Project](#)
-
    - Filecoin Network Monitoring and Analysis System
-

Storage/Deals status

- storage.filecoin.io
-
  - general storage summary of Filecoin
- filecoin.tools
-
  - check your CID's storage deal status. Also provides an API - check filecoin.tools/docs
- for reference
- file.app
-
  - Filecoin storage provider analytics
- [Deals list at Filfox.io](Deals list atFilfox.io)
-

Storage Web Applications

Web-based applications that store your data on Filecoin. No command-line or coding experience required.

- Estuary
- allows uploading and storing content on the Filecoin network directly from your browser. Allows anyone with public data to store and retrieve using a few API calls.
- ChainSafe Files
-
  - Dropbox-style UI, login with OAuth or general MetaMask
- File.video
-
  - video hosting with decentralized transcoding from LivePeer
- Starling Framework for Data Integrity
-
  - to securely capture, store and verify human history
-
  - learn more at starlinglab.org/78days
-
  - or the Filecoin blog interview
-
  - Starlingstorage.io
-
  -
    - API + CLI that simplified storing data to a local Lotus node for preservation use cases.
- *
-

APIs & Developer tools

Developer tools, API clients & storage services that developers can use to build on Filecoin.

Storage APIs for app builders

- Estuary
-
  - a simple IPFS node that integrates with Filecoin. For infrastructure operators, developers and users.
-
  - Estuary documentation
-
  - Estuary www
-
  -
    - a simple web app example
-
  - Estuary Rclone
-
  -
    - sync to and from different cloud storage providers and Estuary
- *
- NFT.storage
-
  - beta service from Protocol Labs for storing off-chain NFT
- data on IPFS and Filecoin.

- [Web3.storage](#)
-
  - beta service from Protocol Labs for storing off-chaindApp
- data on IPFS and Filecoin, with help from Pinata (a fast IPFS Pinning Service) to [distribute the content across IPFS](#)
- [Slate.host](#)
-
  - has a Developer API that allows you upload files with an account
- [Textile.io's tools](#)
-
  - suite of tools for interacting with IPFS and Filecoin
-
  - includes The Hub, Buckets, ThreadsDB, Powergate, [Tableland](#)
-
  - (new) and Filecoin bridges to Polygon and NEAR
-
  - [Powergate](#)
-
  -
    - infrastructure tool for using IPFS for hot storage and retrieval and Filecoin for cold, with deal helpers and other convenience features
-
  - [Textile Buckets](#)
-
  -
    - simplified cloud bucket store on IPFS with archive to Filecoin option using Powergate under the hood
- *
- [Fleek's tools](#)
-
  - provides access to Fleek's hosted services using IPFS, Textile, Filecoin, Ethereum, etc.
-
  - [Space SDK](#)
-
  -
    - modular JavaScript/Typescript library and set of interfaces that packages tools and features enabled by Open Web protocols like IPFS, Textile, Filecoin, and Ethereum.
-
  - [Space Daemon](#)
-
  -
    - packages together IPFS, Textile Threads and Buckets, and Textile Powergate into one easy to install background service
- *
-

Message signing tools

- [Filecoin Signing Tools](#)
- -Recommended
- a pure JS or Rust / WASM / JSONRPC library for creating signed messages apart from a Filecoin node.
-
  - For an open source example of how to use it see the [Glif web wallet](#)
-
  - on GitHub.
- *
- [Filecoin JS Signer](#)
-
  - [last update: June 2021
-] pure TS / JS library for creating signed messages and interacting with Filecoin's built-in Actors (like Payment Channel and Multisig), used by the [Filecoin Loans grant project](#)
- .
-
  - On npm at [@blitslabs/filecoin-js-signer](#)
- *
-

Wallet-related tools

- [Filecoin Rosetta API Proxy](#)
- -[Rosetta](#)

- is an API standard created by Coinbase for a consistent interface to many chains for wallets and exchanges.
- [FilSnap MetaMask Plugin](#)
-
  - MetaMask has a new plugin system currently still in beta that developers can try out. The MM UI will not change but Filecoin keys are in the MM vault.
-

Node Infrastructure & APIs

NOTE: making deep calls into the chain's history may take some time to return and it may be more efficient to use a chain database (e.g. used by block explorers) that stores the chain's history and is optimized for queries.

- [Glif nodes](#)
- and[Infura](#)
-
  - Hosted endpoints to Filecoin mainnet and testnet.
-
  - These endpoints support read-only calls andMPoolPush()
-
  - for sending signed transactions to the network (which can be signed using the[Message signing tools](#)
-
  -).
- *
- [Lotus JSON-RPC API](#)
-
  - Lotus offers the full feature set of its capabilities through API.
-
  - [lotus API Postman sample](#)
-
  -
    - (shows sample wallet calls only)
- *
-

Scalable endpoint hosting

For running a node cluster of load balanced Lotus JSON RPC API endpoints.

- [Filecoin-chart](#)
- (k8 cluster) - Helm chart for hosting Lotus Node clients.
-

Filecoin API clients

- [Filecoin.js](#)
- (outdated) - higher-level JS library for interacting with Lotus via JSON-RPC API.
- [js-lotus-client](#)
-
  - lower-level JS wrapper for basic parsing of the Lotus JSON RPC API.
- [lotus-json-rpc-provider](#)
- (outdated) - wraps the Lotus API in TypeScript.
-

Storage provider index API

- [Filrep.io API](#)
-
  - A suite of RESTFul JSON endpoints to discover the best storage provider to make deals with.
- [Textile storage provider Index](#)
-
  - API and CLI to find storage providers by price, observed deals, speed from North American nodes.
-

Data prep tools

- [CAR files](#)
-
  - automatically used on Lotus import for less than 32 and 64 GiB, Filecoin archive format serialized from DAGs, see also[offline deals for large datasets](#)
- .

- [go-graphsplit](#)
  - FileDrive chunks a larger single DAG for storage in default Filecoin 32 and 64 GiB sector sizes.
- [IPFS](#)
  - you can use ipfs add
- with an IPFS node then [add the CID from a Filecoin node](#)
- .

Databases using IPFS and Filecoin

- [Tableland](#)
  - (new) create familiar SQL tables to read and write dynamic NFT metadata or application data for dApps, from Textile
- [OrbitDB](#)
  - decentralized multi-party database on IPFS with multi-party syncing with topic pubsub and CRDTs. Filecoin integration using Powergate available at [orbit-db-powergate-io](#)
- .
- [ThreadsDB](#)
  - decentralized multi-party database for user-siloed data on IPFS, from Textile

Other developer tools

- [js-rle](#)
  - RLE+ Spec. Learn about [rle-bitset-encoding in the Filecoin Spec](#)
- .
- [Truffle for Filecoin](#)
  - building apps to preserve files to IPFS and Filecoin.

Storage providers

Storage provider reputation systems

- [FIL Swan](#)
  - for offline deals, storage provider info, prices, offline deal acceptance.
- [Filrep.io](#)
  - Index of online storage providers and their pricing, ranked by power and reputation score.
- [SpaceGap](#)
  - shows storage proof deadlines and sector details for the top 50 storage providers.

Storage provider tools

- [Bidbot](#)
  - A Filecoin Network sidecar to bid in storage deal auctions.
- [Filgas.io](#)
  - real-time Filecoin mining gas queries.
- [Lotus Farcaster](#)
  - Prometheus, Grafana and Python monitoring dashboard.

Storage client and miner programs

- [Filecoin storage providers (SPs)](#)

- Interested in becoming an SP? A boot camp, grants and expert advice is available here!
- [Filecoin Plus Verified Data Program](#)
  - incentivizes valuable data stored on Filecoin with a social trust network for verified data
  - Clients can apply to Notaries to receive DataCap and incentivize storage providers at 10x to their quality-adjusted power, increasing probability of block rewards
- *
- [Slingshot Competition](#)
  - ended in 2021 and has now become [Filecoin Evergreen](#)

Retrieval Market resources (WIP experiments)

The Retrieval Market is in early development; research and development teams are actively exploring improvements.

- [Browser Retrieval Client](#)
- [Browser Retrieval Client using WASM](#)
- [ChainSafe's Full Node Retrieval Client](#)
- [Decentralized Data Delivery Markets - Open Problems and RFCs](#)
- [July 2020 Retrieval Markets Workshop](#)
  - list of [Sessions](#)

Ecosystem galleries

- [Community Projects Showcase](#)
  - updated news about ecosystem projects
- [Filecoin Ecosystem](#)

Hackathons

- [Upcoming Hackathons](#)
  - Keep a lookout for upcoming hackathons!
  - All winners are eligible for [Next Steps Grants](#)
  - after the Hackathon!
- *

Grants and accelerators

- [Filecoin Developer Grants](#)
  - ongoing monthly developer grant program to support open source projects and new [Open Grants](#)
- on Filecoin, funded by the [Filecoin Foundation](#)

Last updated 14 days ago