A decentralized storage network

Why do we need to create a decentralized method of storing and sharing files?

Decentralized, secure, and reliable.
Cheaper than using google drive and dropbox.
You can earn some money by renting your some space on your hard drive (storj).
Peer to peer, decentralized, distributed file system.
Used for saving static content (no live steam yet).

It is not cheap to save documents, photos or videos on Blockchain, it cost more money, but we can use decentralized protocols for data storage such as IPFS, Swarm, Storj, Sia, Maidsafe, Filecoin.

The idea is that (documents, photos or videos) data are addressed based on their hash and not their name. The file saves on many IPFS peers around the internet.
Here we focus on IPFS.

Download:
https://docs.ipfs.io/introduction/install/

Install:

```
$ tar xvfz go-ipfs.tar.gz
$ cd go-ipfs
$ sudo ./install.sh
```

Initialise key pair and create repository

```
$ ipfs init
```

Start ipfs

```
$ ipfs daemon
```

```
[ipfs]$ ipfs daemon
Initializing daemon...
go-ipfs version: 0.4.19-
Repo version: 7
System version: amd64/darwin
Golang version: go1.11.5
Swarm listening on /ip4/127.0.0.1/tcp/4001
Swarm listening on /ip4/155.246.215.125/tcp/4001
Swarm listening on /ip6/::1/tcp/4001
Swarm listening on /p2p-circuit
Swarm announcing /ip4/127.0.0.1/tcp/4001
Swarm announcing /ip4/155.246.215.125/tcp/4001
Swarm announcing /ip6/::1/tcp/4001
API server listening on /ip4/127.0.0.1/tcp/5001
WebUI: http://127.0.0.1:5001/webui
Gateway (readonly) server listening on /ip4/127.0.0.1/tcp/8080
Daemon is ready
```

After running `pfs daemon` run the peers list on a new terminal: lists the IP of peers on my IPFS

```
$ ipfs swarm peers
```

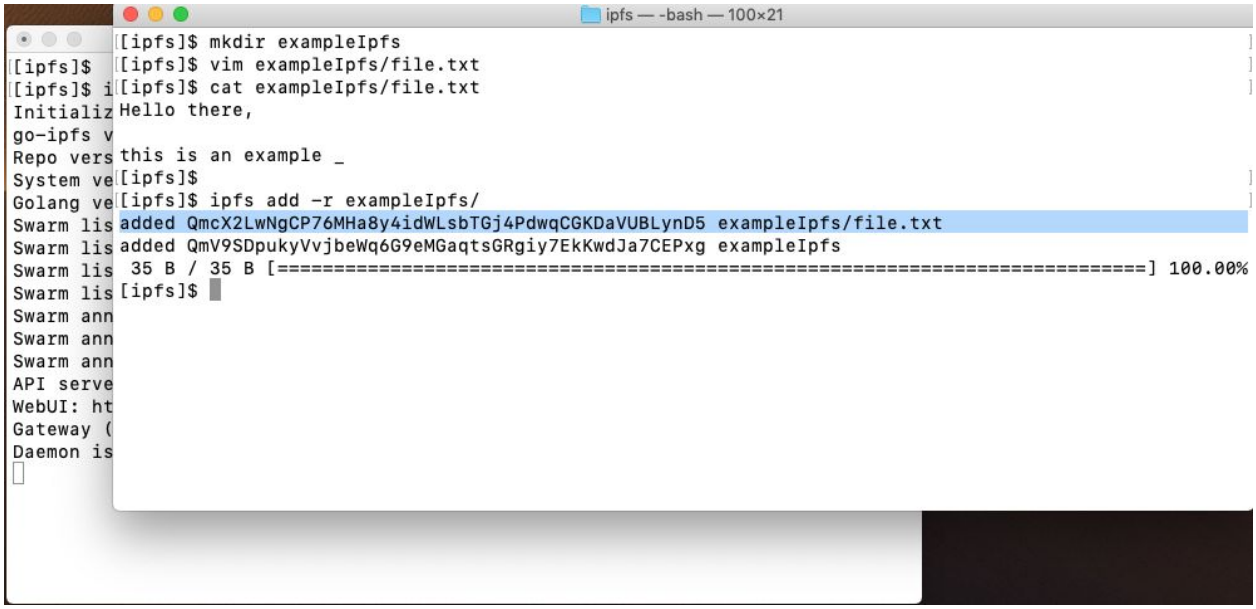
```
[ipfs]$ ipfs swarm peers
/ip4/100.25.248.251/tcp/4001/ipfs/QmWgZLonFZVHbeqLqQUpSkcSaMB1BZ3PNpxAr2ew2paAAE
/ip4/103.231.90.115/tcp/10001/ipfs/QmemYmPG5fic8DPKw1DLZG1peMmjBLUuaA7JgSwuuqjMga
/ip4/103.99.209.141/tcp/4001/ipfs/QmfQbhCvW2vze5PCHVdPWfjCRJ113G4ALwa9pTeSyiYcaJ
/ip4/106.14.3.2/tcp/14001/ipfs/QmR7RFKHGuoRfH8LQdKChLH3bVgvC96KviqUrfiJyhPzsU
/ip4/115.29.39.85/tcp/4001/ipfs/QmTgbNyY4REvd94FGpS3Dx9jqhzJB7StSGLQVRRkAbDwWx
/ip4/13.59.235.81/tcp/4001/ipfs/QmYfywze6ADxF45Rmmcbv28MZQQ7QuiD1bV88n3Twyq7Ld
/ip4/136.243.185.221/tcp/4001/ipfs/QmSq7qzi9By2D7bGWjNz5yZUFxxbtqqYwuN5g9J2sQYwws
/ip4/138.197.153.52/tcp/4001/ipfs/QmbEbFvqVoKqM2VQsfc1ZgwN67wPwz4XoWUndNYHNx582C
/ip4/159.65.81.174/tcp/4001/ipfs/QmcrsAcVXz2BLxmy6HibQVSjRQPpVp7jP4cquRJNLeFtvz
/ip4/159.89.116.13/tcp/4001/ipfs/QmSqLAXiJiteNbuNPY4Y5Lp4iKiUmqhCkBZSedZEutktVs
/ip4/160.94.179.186/tcp/4001/ipfs/QmeXnkGwFdoreeqa97kvyq1AczjLYfyZWSHdggBMDceEPr
/ip4/172.104.110.153/tcp/4001/ipfs/QmadCytRzE1GfYPRUM9nPhBHwyG32EJBo7gPmNiEPj4PF3
/ip4/172.104.147.104/tcp/4001/ipfs/Qmc44wn4KD9w4CZosUtXsuWNWLqxDy8a7i8jFbKp58RYV2
/ip4/172.104.68.7/tcp/4001/ipfs/QmW4KeWpE9NoZXDoDcYGgE6MoPuRGJFGUkf9RMe85pVdwm
/ip4/172.65.0.13/tcp/4002/ipfs/QmSfPx5uNa1Jh4Rn7LTtV6uaiVoWP7MjvMdzAKEM2R9swJ
/ip4/172.65.0.13/tcp/4006/ipfs/Qmb53qh7fo26k99u3KATf4nFDUbg2tnUPdfhAqp63jU67S
/ip4/172.65.0.13/tcp/4009/ipfs/QmYAXDCy9sZCEZFmQtFi6f5a7JbBoWJsixdHzrKuNPxumv
/ip4/173.255.195.214/tcp/4001/ipfs/Qmf8VXhHcQgbjZUZZa9K5X9ZNocvhCk6SFhkquBiGARHiB
/ip4/178.62.158.247/tcp/4001/ipfs/QmSoLer265NRgSp2LA3dPaeykiS1J6DifTC88f5uVQKNAd
/ip4/18.185.14.140/tcp/4001/ipfs/QmdbxhD8SXxesfRRqwNRFFMgoXfCTKygn3mRj6tru8o5eJ
/ip4/18.191.132.124/tcp/4001/ipfs/Qmc5NXfUgCfBC8AMUFfDQCP4kjb5ptcAZjq2UT8tEwAGmi
/ip4/18.195.119.140/tcp/4001/ipfs/QmSfnb7FGivxSDsb7jyQes6JDdts7PLugEppgFfX5J32Bx
/ip4/18.207.98.93/tcp/4001/ipfs/QmU9zjcnsfeX9yTnyKEZNnNx258gmUFN4U36WP6CsP732V
/ip4/18.208.206.93/tcp/4001/ipfs/QmSuCVYuejqafJ9SBQxLZLDB9HREryFCLk2FccdGJCrmwR
/ip4/18.220.145.83/tcp/4001/ipfs/QmTQcU2VaW3RhCD6brepGvSwZX5X2ArwZjNwZ77yL2QNMS
/ip4/18.224.54.97/tcp/4001/ipfs/Qmdg1B1YJ3BtZ7VYPQY1uFn7me1kQZzuJquD1rYLGZwkAA
/ip4/182.86.98.12/tcp/21648/ipfs/QmaPx7Fhct3HQ1pDFL54jdW6gRRLAMVBDkR1S1nWGFnxGT
/ip4/185.156.205.15/tcp/4001/ipfs/QmQswb435pZTChVi9WWhTfLDLepvakmqYkD6tPusW3zngV
/ip4/198.13.60.35/tcp/4001/ipfs/QmTmAJTmH6xfJ3enSCrAmih9qPVc1d7qRZbrJfwLmMFDtN
/ip4/20.42.31.5/tcp/4001/ipfs/QmSEkNr3dTsbwiMaKZJLAasRgPb2kbCwZYsrLL3XL8u7VD
/ip4/202.182.114.228/tcp/4001/ipfs/QmeVsYQV38EiJLoteo8koMAu5ZyaGZEexX9UPt1dpKszqq
/ip4/212.47.240.220/tcp/4001/ipfs/QmRSBxeyLK8eKRebhCkhVcjV8Dz8nQjGK1wBAnGTgsgTYB
/ip4/221.125.119.189/tcp/56754/ipfs/QmS3DdTCyfH5vQrFtL1RESzTEK4bfeUUTUNrrQYDtuzdr6
/ip4/3.121.29.123/tcp/4001/ipfs/QmY6EK2eYmvgJP2Ka8wzJkHh6YMw8iagwVj8BJdZZmr1Ng
/ip4/3.16.67.1/tcp/4001/ipfs/QmZeYh9LQSRLdhTMGtuha7BBarUxBVtxY7Jc2zAaMyFXvP
/ip4/3.209.81.117/tcp/4001/ipfs/QmdYVdttpXMHZPJ9TUYPJcBBKaLYzGpsfheZBp9W1j349P
/ip4/34.211.110.6/tcp/4001/ipfs/QmNmni8sGVa6sqoaUT42tPr9EYuVXTV3rhNW8mnFuzqdA6
/ip4/34.214.142.207/tcp/4001/ipfs/QmVedqKqPrWgg5SRK6S5Ap2pT6n7s87qrzB1zrmD7BJfHp
/ip4/34.217.111.111/tcp/4001/ipfs/QmSjkiS837t8hT1Mbm4mAYMnVo5yhCgpvMPgGvSoMJcskn
/ip4/34.244.27.104/tcp/4001/ipfs/QmQaTKPoYpxecV4rnHrf4aKdgyRrCkuCKRE83DE6msdZg8
/ip4/34.245.56.47/tcp/4001/ipfs/QmPXPHqF2fxHEu8uQUknhRBysA1gmAQDUNqiBaeCpXsvSu
/ip4/45.77.64.235/tcp/4001/ipfs/QmbqRGStLQJu7dWJ7Z9Hvi6YZ12Yx4yb1Vsqm6iNq9kgf6
/ip4/52.18.254.51/tcp/4001/ipfs/QmYnSZTvHhL2e5xT4Hkr9bEoGBic7eFJKqUAYWymSWaB5i
/ip4/52.203.37.146/tcp/4001/ipfs/QmZWjGTqgugeDUkMexVwDuQpogq6z14rkq3fgCWPtMxWWB
/ip4/54.212.188.163/tcp/4001/ipfs/QmXmA7d4CuUAjfEcCQJXSS5NyowYDBJLbgGjVugjxpnFa8
```

127.0.0.1:5001/ipfs/QmXc9raDM1M5G5fpBnVyQ71vR4gbnskwnB9iMEzBuLgvoZ/#/peers

PEER ID	ADDRESS	LOCATION
Qme7bRcNUxN6V2Eu2iDg7t6Co8VrKzVGGWvmMmQe3m…	/ip4/3.0.200.55/tcp/4001	Fairfield, United States
QmZeYh9LQSRLdhTMGtuha7BBarUxBVtxY7Jc2zAaMy…	/ip4/3.16.67.1/tcp/4001	Fairfield, United States
QmdYVdttpXMHZPJ9TUYPJcBBKaLYzGpsfheZBp9W1j…	/ip4/3.209.81.117/tcp/4001	Fairfield, United States
Qmamk4pr4C8s7RtciqGbSF5Z2c75nYcFdDDTFGWtZM…	/ip4/5.196.67.126/tcp/4001	France
QmYfywze6ADxF45Rmmcbv28MZQQ7QuiD1bV88n3Twy…	/ip4/13.59.235.81/tcp/4001	Norwalk, United States
QmcYAcvCMf3CRJAAn77rpLsQ5jR4H1UexfPyMP7pws…	/ip4/13.232.94.240/tcp/4001	Norwalk, United States
QmdbxhD8SXxesfRRqwNRFFMgoXfCTKygn3mRj6tru8…	/ip4/18.185.14.140/tcp/4001	Cambridge, United States
QmXLe5krX55mk9pj26wbSvXoNuCUqeGUeCC4agi5tS…	/ip4/18.208.138.251/tcp/4001	Cambridge, United States
Qmdg1B1YJ3BtZ7VYPQY1uFn7me1kQZzuJquD1rYLGZ…	/ip4/18.224.54.97/tcp/4001	Cambridge, United States
QmbdnQcvQEYxsHEDTk8TyopqkDoonwJ9QXXEvwJTiz…	/ip4/18.237.227.0/tcp/4001	Cambridge, United States

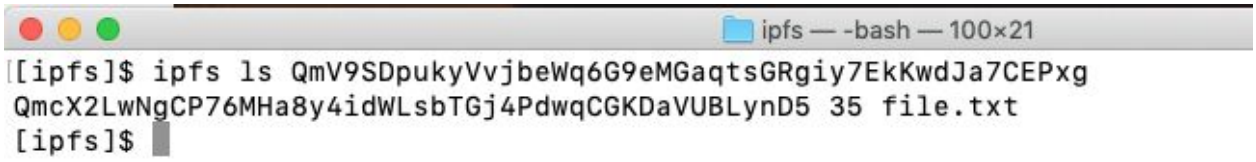
Run and add files:

```
$ ipfs add -r dirctory/   # r for adding dir content
```

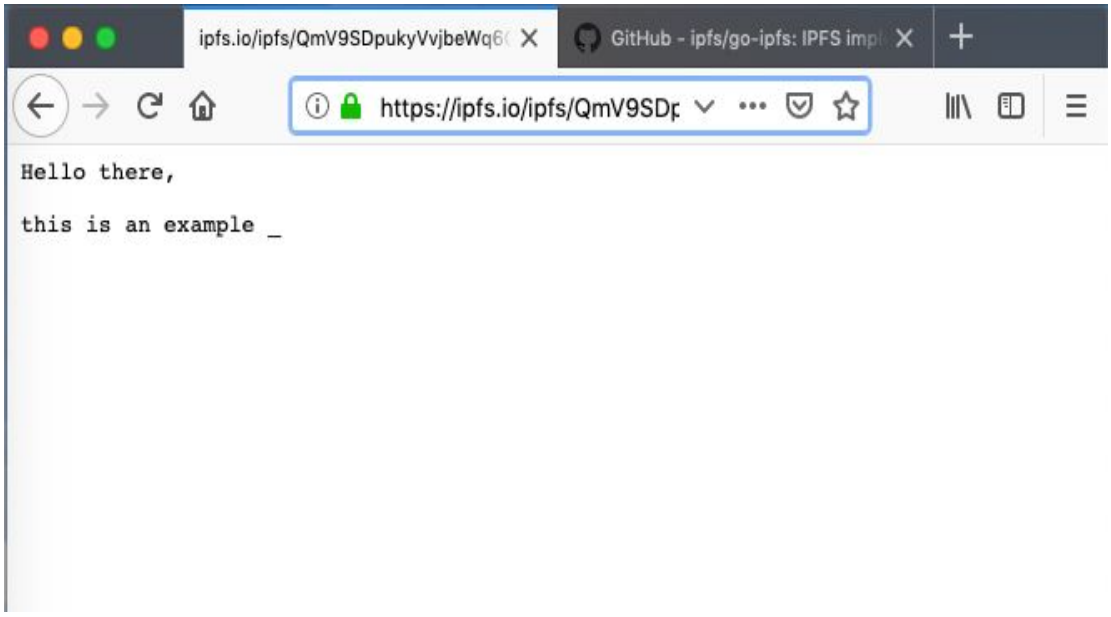


Display or list the files on dir:

```
$ ipfs ls QmV9SDpukyVvjbeWq6G9eMGaqtsGRgiy7EkKwdJa7CEPxg
```



https://ipfs.io/ipfs/QmV9SDpukyVvjbeWq6G9eMGaqtsGRqiy7EkKwdJa7CEPxg/file.txt



Status:

Reference:

https://github.com/ipfs/go-ipfs