

Chapter 16

NFT Contract 작성

메타데이터 생성하기

(1) IPFS 로 메타데이터 업로드

IPFS 설치하기

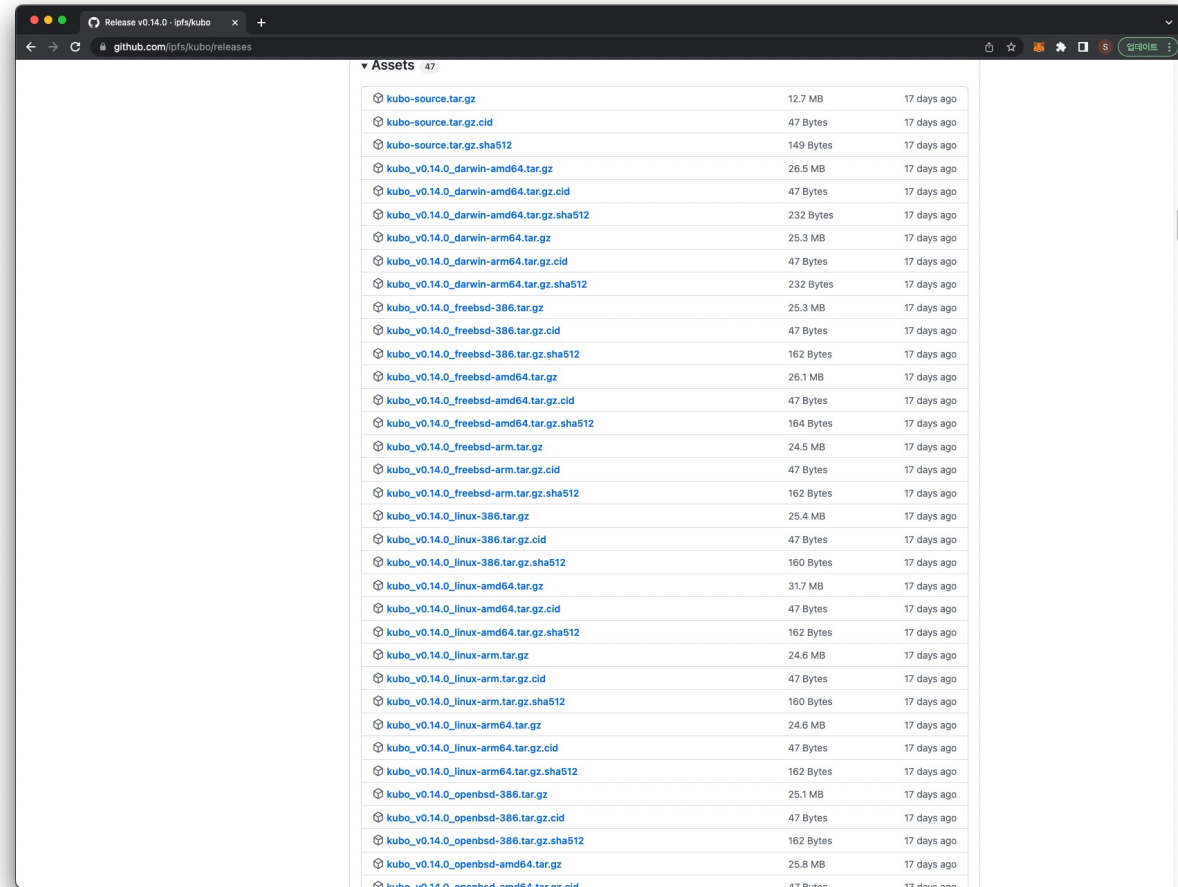
Github 에서 최신 Release 설치하기

<https://github.com/ipfs/kubo/releases>

IPFS 설치하기

자신의 운영체제에 맞는 압축파일 다운로드

(source 단어가 들어간 것은 소스코드
파일이고 실행파일을 다운로드 받아야함)



The screenshot shows the GitHub releases page for the ipfs/kubo repository. The browser address bar shows 'github.com/ipfs/kubo/releases'. The page title is 'Release v0.14.0 · ipfs/kubo'. The main content area displays a list of 47 assets under the heading 'Assets 47'. Each asset is a tar.gz file, with names indicating the operating system and architecture (e.g., darwin-amd64, linux-386, linux-amd64, linux-arm, linux-arm64, openbsd-386, openbsd-amd64, openbsd-arm64). The assets are organized into groups: source code (kubo-source), darwin (kubo_v0.14.0_darwin), linux (kubo_v0.14.0_linux), and openbsd (kubo_v0.14.0_openbsd). Each asset entry includes a download icon, the filename, the size, and the release date (17 days ago).

Asset Name	Size	Release Date
kubo-source.tar.gz	12.7 MB	17 days ago
kubo-source.tar.gz.cid	47 Bytes	17 days ago
kubo-source.tar.gz.sha512	149 Bytes	17 days ago
kubo_v0.14.0_darwin-amd64.tar.gz	26.5 MB	17 days ago
kubo_v0.14.0_darwin-amd64.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_darwin-amd64.tar.gz.sha512	232 Bytes	17 days ago
kubo_v0.14.0_darwin-arm64.tar.gz	25.3 MB	17 days ago
kubo_v0.14.0_darwin-arm64.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_darwin-arm64.tar.gz.sha512	232 Bytes	17 days ago
kubo_v0.14.0_freebsd-386.tar.gz	25.3 MB	17 days ago
kubo_v0.14.0_freebsd-386.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_freebsd-386.tar.gz.sha512	162 Bytes	17 days ago
kubo_v0.14.0_freebsd-amd64.tar.gz	26.1 MB	17 days ago
kubo_v0.14.0_freebsd-amd64.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_freebsd-amd64.tar.gz.sha512	164 Bytes	17 days ago
kubo_v0.14.0_freebsd-arm.tar.gz	24.5 MB	17 days ago
kubo_v0.14.0_freebsd-arm.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_freebsd-arm.tar.gz.sha512	162 Bytes	17 days ago
kubo_v0.14.0_linux-386.tar.gz	25.4 MB	17 days ago
kubo_v0.14.0_linux-386.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_linux-386.tar.gz.sha512	160 Bytes	17 days ago
kubo_v0.14.0_linux-amd64.tar.gz	31.7 MB	17 days ago
kubo_v0.14.0_linux-amd64.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_linux-amd64.tar.gz.sha512	162 Bytes	17 days ago
kubo_v0.14.0_linux-arm.tar.gz	24.6 MB	17 days ago
kubo_v0.14.0_linux-arm.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_linux-arm.tar.gz.sha512	160 Bytes	17 days ago
kubo_v0.14.0_linux-arm64.tar.gz	24.6 MB	17 days ago
kubo_v0.14.0_linux-arm64.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_linux-arm64.tar.gz.sha512	162 Bytes	17 days ago
kubo_v0.14.0_openbsd-386.tar.gz	25.1 MB	17 days ago
kubo_v0.14.0_openbsd-386.tar.gz.cid	47 Bytes	17 days ago
kubo_v0.14.0_openbsd-386.tar.gz.sha512	162 Bytes	17 days ago
kubo_v0.14.0_openbsd-amd64.tar.gz	25.8 MB	17 days ago
kubo_v0.14.0_openbsd-amd64.tar.gz.cid	47 Bytes	17 days ago

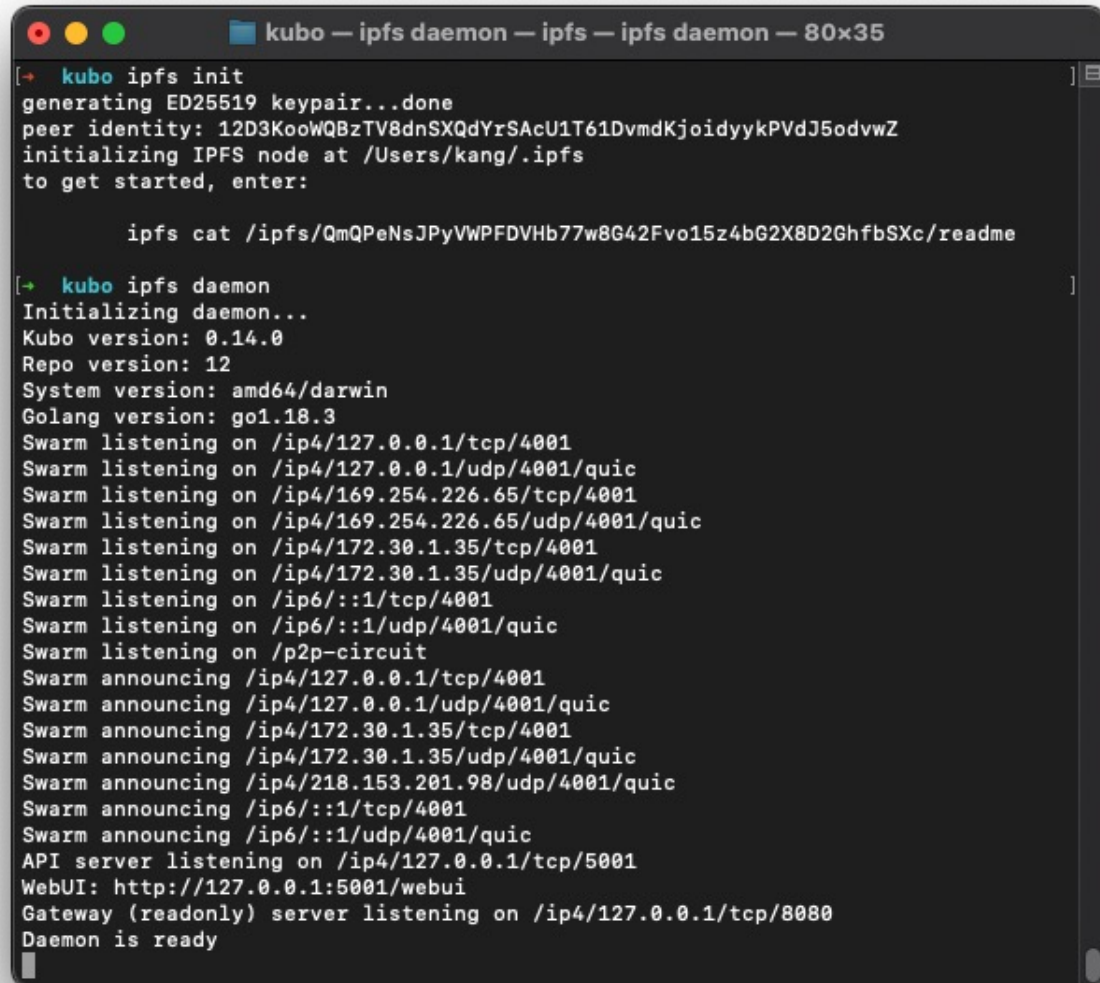
IPFS 설치하기

압축 해제 후

\$./ipfs init

\$./ipfs daemon

으로 실행 가능



```
kubo — ipfs daemon — ipfs — ipfs daemon — 80x35
[→ kubo ipfs init
generating ED25519 keypair...done
peer identity: 12D3KooWQBzTV8dnSXQdYrSACU1T61DvmdKjoidyykPVdJ5odvwZ
initializing IPFS node at /Users/kang/.ipfs
to get started, enter:

    ipfs cat /ipfs/QmQPeNsJPYVWPFDVHb77w8G42Fvo15z4bG2X8D2GhfbSXc/readme

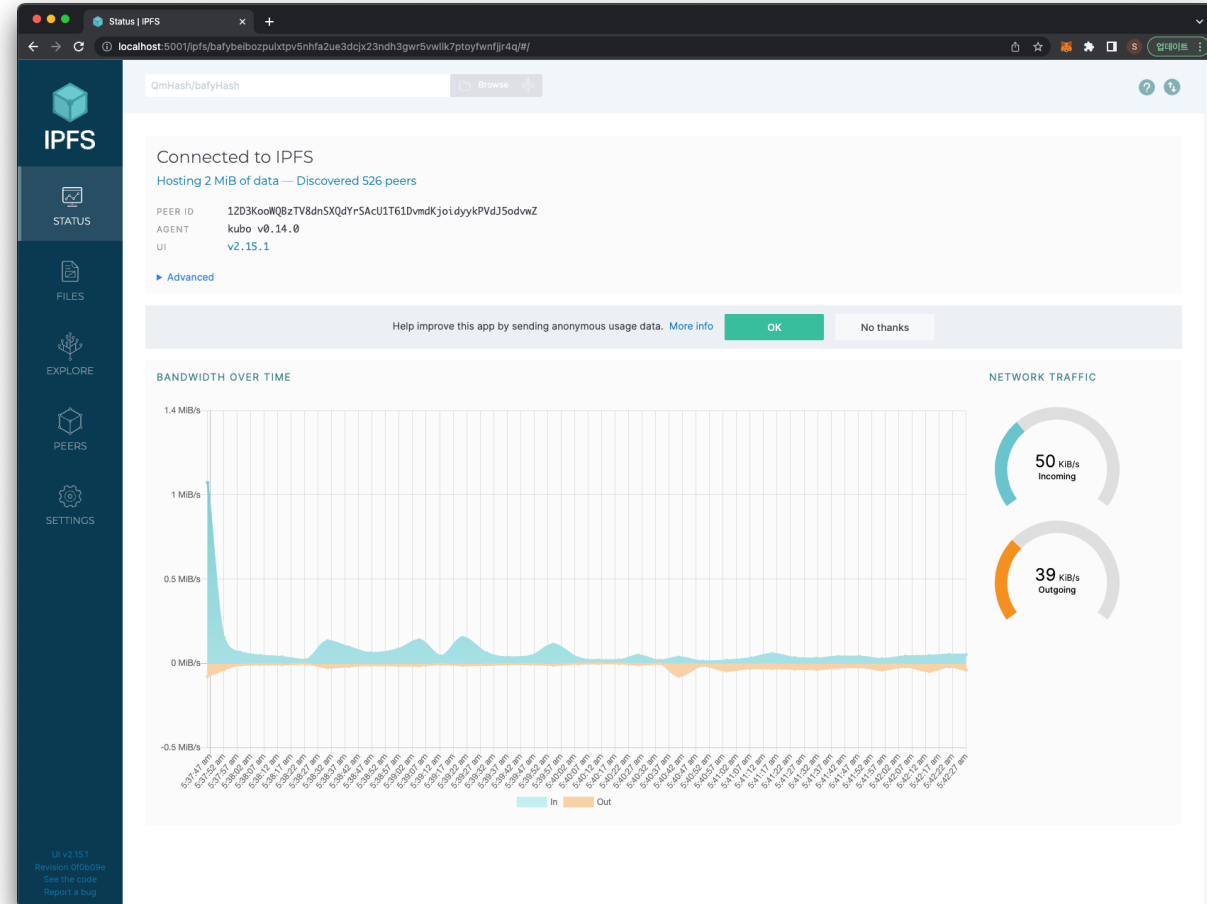
[→ kubo ipfs daemon
Initializing daemon...
Kubo version: 0.14.0
Repo version: 12
System version: amd64/darwin
Golang version: go1.18.3
Swarm listening on /ip4/127.0.0.1/tcp/4001
Swarm listening on /ip4/127.0.0.1/udp/4001/quic
Swarm listening on /ip4/169.254.226.65/tcp/4001
Swarm listening on /ip4/169.254.226.65/udp/4001/quic
Swarm listening on /ip4/172.30.1.35/tcp/4001
Swarm listening on /ip4/172.30.1.35/udp/4001/quic
Swarm listening on /ip6:::1/tcp/4001
Swarm listening on /ip6:::1/udp/4001/quic
Swarm listening on /p2p-circuit
Swarm announcing /ip4/127.0.0.1/tcp/4001
Swarm announcing /ip4/127.0.0.1/udp/4001/quic
Swarm announcing /ip4/172.30.1.35/tcp/4001
Swarm announcing /ip4/172.30.1.35/udp/4001/quic
Swarm announcing /ip4/218.153.201.98/udp/4001/quic
Swarm announcing /ip6:::1/tcp/4001
Swarm announcing /ip6:::1/udp/4001/quic
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
```

IPFS 설치하기

브라우저에서

<http://127.0.0.1:5001/webui>

로 관리자 페이지 접속 가능



IPFS 설치하기

파일 탭에서 파일 업로드 가능

