

탈중앙 신원 관리

CDM 적용

파일 공유

ifs(InterPlanetary File System)

InterPlanetary File System

From Wikipedia, the free encyclopedia

The **InterPlanetary File System** (**IPFS**) is a [protocol](#) and [peer-to-peer](#) network for storing and sharing data in a [distributed file system](#). IPFS uses [content-addressing](#) to uniquely identify each file in a [global namespace](#) connecting all computing devices.^[3]

IPFS allows users to not only receive but host content, in a similar manner to [BitTorrent](#). As opposed to a centrally located server, IPFS is built around a decentralized system of user-operators who hold a portion of the overall data, creating a resilient system of file storage and sharing. Any user in the network can serve a file by its content address, and other peers in the network can find and request that content from any node who has it using a [distributed hash table](#) (DHT).

```
fabric-samples
[cloud9@BLOCK001 ~]$ ipfs daemon
Initializing daemon...
go-ipfs version: 0.4.18-
Repo version: 7
System version: amd64/linux
Golang version: go1.11.1
Successfully raised file descriptor limit to 2048.
Swarm listening on /ip4/127.0.0.1/tcp/4001
Swarm listening on /ip4/172.17.0.1/tcp/4001
Swarm listening on /ip4/172.18.0.1/tcp/4001
Swarm listening on /ip4/192.168.122.1/tcp/4001
Swarm listening on /ip4/220.149.241.71/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 /ip4/172.17.0.1/tcp/4001
Swarm announcing /ip4/172.18.0.1/tcp/4001
Swarm announcing /ip4/192.168.122.1/tcp/4001
Swarm announcing /ip4/220.149.241.71/tcp/4001
Swarm announcing /ip6>:::1/tcp/4001
API server listening on /ip4/127.0.0.1/tcp/5001
Gateway (readonly) server listening on /ip4/127.0.0.1/tcp/8080
Daemon is ready
```

비동기 TASK

celery, task queue

```
celery -A sec_tasks worker --loglevel=info
/home/cloud9/CDM/sec_tasks.py:14: FutureWarning: The `ipfsapi` library is deprecated and will stop receiving updates on the 31.12.2019! If you are on Python 3.5+ please enable and fix all Python deprecation warnings (CPython flag `-Wd`) and switch to the new `ipfshttpclient` library name. Python 2.7 and 3.4 will not be supported by the new library, so please upgrade.
  import ipfsapi

----- celery@BLOCK001 v4.4.2 (cliffs)
--- ***** ---
-- ***** --- Linux-3.10.0-957.el7.x86_64-x86_64-with-centos-7.6.1810-Core 2020-04-15 17:57:22
- *** --- * ---
- ** ----- [config]
- ** ----- .> app:      tasks:0x7f558d3914e0
- ** ----- .> transport:  amqp://guest:**@localhost:5672//
- ** ----- .> results:   rpc://
- *** --- * --- .> concurrency: 8 (prefork)
-- ***** --- .> task events: OFF (enable -E to monitor tasks in this worker)
--- ***** ---
----- [queues]
      .> celery      exchange=celery(direct) key=celery

[tasks]
. sec_tasks.add_ipfs
. sec_tasks.get_ipfs
. sec_tasks.via_openssl_keygen
. sec_tasks.via_pyopenssl_sign256
. sec_tasks.via_pyopenssl_sign256_key
. sec_tasks.via_pyopenssl_verify
```

ID 관리

- DID 개념 도입
 - x.509 키관리
 - 기관은 사적키를 유지, DL을 통해 공개키를 출판
 - 기관은 CDM 자료를 서명하여 CDM 클라우드에 전달
 - CDM 클라우드는 전달 자료검증을 위해 DL에서 공개키 사용

메시지 브로커

rabbitmq

- rabbitmq 설치

sudo yum -y install rabbitmq-server

sudo systemctl enable --now rabbitmq-server

sudo systemctl status rabbitmq-server

```
[[cloud9@BLOCK001 ~]$ sudo systemctl status rabbitmq-server
[[sudo] cloud9의 암호:
● rabbitmq-server.service - RabbitMQ broker
   Loaded: loaded (/usr/lib/systemd/system/rabbitmq-server.service; enabled; vendor preset: disabled)
   Active: active (running) since 수 2020-04-15 01:28:27 KST; 1 day 7h ago
   Main PID: 19658 (beam.smp)
   Tasks: 46
   Memory: 40.8M
   CGroup: /system.slice/rabbitmq-server.service
           └─19658 /usr/lib64/erlang/erts-5.10.4/bin/beam.smp -W w -K true -A...
             └─19673 /usr/lib64/erlang/erts-5.10.4/bin/epmd -daemon
               └─19754 inet_gethost 4
                 └─19755 inet_gethost 4

4월 15 01:28:25 BLOCK001 systemd[1]: rabbitmq-server.service: Got notific...58
4월 15 01:28:25 BLOCK001 systemd[1]: rabbitmq-server.service: Got notific...58
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: RabbitMQ 3.3.5. Copyright ...
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: ## ## Licensed under...
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: ## ##
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: ##### Logs: /var/log...
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: ##### ## /var/log...
4월 15 01:28:26 BLOCK001 rabbitmq-server[19658]: #####
4월 15 01:28:27 BLOCK001 rabbitmq-server[19658]: Starting broker... complet...
```

