현황판 운영 가이드

I. 시스템 종료 절차

　- 종료 순서: Web Server -> WAS -> DB

1. Apache 종료

　# systemctl stop httpd

　# systemctl status httpd

```
httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset:
   Active: inactive (dead) since Thu 2024-10-10 15:07:14 KST; 3s ago
  Duration: 3d 1h 8min 41.953s
     Docs: man:httpd.service(8)
  Process: 2653131 ExecStart=/usr/sbin/httpd $OPTIONS -DFOREGROUND (code=ex
 Main PID: 2653131 (code=exited, status=0/SUCCESS)
   Status: "Total requests: 4951; Idle/Busy workers 100/0;Requests/sec: 0.0
      CPU: 2min 11.875s
```

2. PM2 종료

　# pm2 stop ts-node

```
[root@tech-board ~]# pm2 stop all
[PM2] Applying action stopProcessId on app [all](ids: [ 0 ])
[PM2] [ts-node](0) √
```

id	name	mode	□	status	cpu	memory
0	ts-node	fork	1811	stopped	0%	0b

3. MongoDB 종료

　# systemctl stop mongod

```
mongod.service - MongoDB Database Server
   Loaded: loaded (/usr/lib/systemd/system/mongod.service; enabled; preset: disabled)
   Active: inactive (dead) since Thu 2024-11-21 17:25:22 KST; 3s ago
  Duration: 1month 5d 12h 36min 33.329s
     Docs: https://docs.mongodb.org/manual
  Process: 1148 ExecStart=/usr/bin/mongod $OPTIONS (code=exited, status=0/SUCCESS)
 Main PID: 1148 (code=exited, status=0/SUCCESS)
      CPU: 3h 8min 57.452s
```

II. 시스템 시작 절차

　- 시작 순서 : DB -> WAS -> Web Server

1. MongoDB 시작

systemctl start mongod

systemctl status mongod

```
● mongod.service - MongoDB Database Server
    Loaded: loaded (/usr/lib/systemd/system/mongod.service; enabled; preset: disabled)
    Active: active (running) since Fri 2024-09-27 09:28:15 KST; 1 week 5 days ago
      Docs: https://docs.mongodb.org/manual
  Main PID: 1224542 (mongod)
    Memory: 237.2M
       CPU: 1h 9min 15.584s
    CGroup: /system.slice/mongod.service
            └─1224542 /usr/bin/mongod -f /etc/mongod.conf
```

2. PM2 시작

pm2 start ts-node

```
[root@tech-board ~]# pm2 start ts-node
[PM2] Applying action restartProcessId on app [ts-node](ids: [ 0 ])
[PM2] [ts-node](0) √
[PM2] Process successfully started
```

id	name	mode	D	status	cpu	memory
0	ts-node	fork	1807	online	0%	19.0mb

3. Apache 시작

systemctl start httpd

systemctl status httpd

```
httpd.service - The Apache HTTP Server
    Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: d
    Active: active (running) since Thu 2024-10-10 15:19:20 KST; 17h ago
      Docs: man:httpd.service(8)
  Main PID: 990 (httpd)
    Status: "Total requests: 1048; Idle/Busy workers 100/0;Requests/sec: 0.01
     Tasks: 230 (limit: 48822)
    Memory: 49.9M
       CPU: 30.651s
```

● 참고: MongoDB, PM2, Apache 모두 서버 재시작 시 자동 기동 되도록 설정함

III. 명령어

1. MongoDB 관리

1) MongoDB 명령어 셸 열기

> # mongo

```
MongoDB server version: 4.4.29
---
The server generated these startup warnings when booting:
        2024-09-27T09:28:15.504+09:00: Using the XFS filesystem is strongly reco
mmended with the WiredTiger storage engine. See http://dochub.mongodb.org/core/p
rodnotes-filesystem
        2024-09-27T09:28:16.576+09:00: Access control is not enabled for the dat
abase. Read and write access to data and configuration is unrestricted
        2024-09-27T09:28:16.576+09:00: /sys/kernel/mm/transparent_hugepage/enabl
ed is 'always'. We suggest setting it to 'never'
---
>
```

2) 데이터베이스 선택

> use [database 이름]

ex) use employee-vehicle-status

```
> use employee-vehicle-status
switched to db employee-vehicle-status
>
```

3) 컬렉션 조회

> show collections

```
businesses ──→ 사업명 데이터
cars ──→ 차량 데이터
destinations ──→ 방문지 데이터
drivingrecords ──→ 운행 일지 데이터
employeeinforms ──→ 근무 현황 데이터
etcs ──→ 기타 비용 관련 데이터
names ──→ 이름 데이터
users ──→ 유저 데이터
works ──→ 업무 데이터
```

4) 필드 조회

> Object.keys(db.[필드명].findOne())

(1) businesses 필드

```
"business", "destinationId", "_v" ] ──→ business: 사업명, destinationId: 방문지 매칭용 방문지 ID값
```

(2) cars 필드

```
"car", "_v", "notification" ] ──→ car: 차량 번호, notification: 차량 공지 사항
```

(3) destinations 필드

"destination", "__v"] ⟶ destination: 방문지 이름

(4) drivingrecords 필드

"username", ⟶ 운전자 이름
"car", ⟶ 차량 번호
"drivingDestination", ⟶ 행선지
"startKM", ⟶ 출발 km
"endKM", ⟶ 도착 km
"totalKM", ⟶ 주행 거리 (도착 - 출발)
"fuelCost", ⟶ 주유비
"toll", ⟶ 하이패스
"etc", ⟶ 기타 비용
"createdAt",
"updatedAt",
"__v",
"writerId", ⟶ 작성자 id 값
"driveDay" ⟶ 운행일

(5) employeeinforms 필드

"username", ⟶ 이름
"destination", ⟶ 방문지 이름
"business", ⟶ 사업명
"work", ⟶ 업무 내용
"isDaily", ⟶ 근무 날짜 구분 (당일/다른날/기간)
"writerId", ⟶ 작성자 id 값
"startDate", ⟶ 시작일
"endDate", ⟶ 종료일
"car", ⟶ 차량

(6) names 필드

"username", "__v"] ⟶ 이름

(7) users 필드

```
"userId",      ⟶ 아이디
"password",    ⟶ 패스워드
"role",        ⟶ 권한
```

(8) works 필드

```
"work", "__v" ]   ⟶ 업무 내용
```

(9) departments 필드

```
"department", "__v" ]   ⟶ department: 파트명
```

(10) dailyWorks 필드

```
"username",      ⟶ 작성자
"department",    ⟶ 파트
"content",       ⟶ 업무 내용
"nextContent",   ⟶ 내일 일과
"writerId",      ⟶ 작성자 ID
"createdAt",
"updatedAt",
"writingDate"    ⟶ 작성일
```

4) 컬렉션 문서 조회
> db.[collectionName].find()
예시: db.users.find() db.[collectionName].deleteOne({필드:"필드 값"})

{ "_id" : ObjectId("66f62beb1a7bd4556eabf761"), "userId" : "a1", "password" : "$2a$12$XxwulaeGzFl8Irb7txd/zuQlslrzk4
imyFzf6rS/zNskRhla8GiK", "role" : "admin", "createdAt" : ISODate("2024-09-27T03:52:11.963Z"), "updatedAt" : ISODate(
2024-09-27T03:52:11.963Z"), "__v" : 0 }
{ "_id" : ObjectId("66fcf9b91c70777ade2402fe"), "userId" : "cloudstorm", "password" : "$2a$12$IxongUAbf4CcGB4enaJjlu1
lgEjHC5SyYlNzVpGXYcCowrKdTzDK2", "role" : "user", "createdAt" : ISODate("2024-10-02T07:43:53.353Z"), "updatedAt" : IS
ODate("2024-10-02T07:43:53.353Z"), "__v" : 0 }
{ "_id" : ObjectId("66fcfa6c1c70777ade240320"), "userId" : "gs.jung", "password" : "$2a$12$mv.pFqb7lmeJcYyJOYXzNOQpsh
AQiaZW6gtbyeUgu8XmYwqcqFN/i", "role" : "admin", "createdAt" : ISODate("2024-10-02T07:46:52.792Z"), "updatedAt" : ISOD
ate("2024-10-02T07:46:52.792Z"), "__v" : 0 }
{ "_id" : ObjectId("66fe3306lc70777ade2404c5"), "userId" : "mj.lee", "password" : "$2a$12$8RFrXo7AMJzmaDEFpwIiX.BPabs
q7kY7gdfldG6Pf3z/wY9.nXAb6", "role" : "admin", "createdAt" : ISODate("2024-10-03T06:00:38.437Z"), "updatedAt" : ISODa
ce("2024-10-03T06:00:38.437Z"), "__v" : 0 }
{ "_id" : ObjectId("66ff281e1c70777ade2404e3"), "userId" : "sm.park", "password" : "$2a$12$rjwCcELXgphV5K0c.jZhj.K3au
6ZXtzYpyR7mqr.Kao7GYKsBwPtq", "role" : "user", "createdAt" : ISODate("2024-10-03T23:26:22.088Z"), "updatedAt" : ISODa
te("2024-10-03T23:26:22.088Z"), "__v" : 0 }
{ "_id" : ObjectId("66ff336f1c70777ade240505"), "userId" : "ww.park", "password" : "$2a$12$L26DsXMFp/UNQCvZnDbTvuVRMd
Iq8XQIpNR7O68IXsCYMZw6LL.Fe", "role" : "admin", "createdAt" : ISODate("2024-10-04T00:14:39.515Z"), "updatedAt" : ISOD
ate("2024-10-04T00:14:39.515Z"), "__v" : 0 }
{ "_id" : ObjectId("66ff4efd2d83feb63127f2e6"), "userId" : "kb.jung", "password" : "$2a$12$uaGreGHtuPsk2VgcETb.3uglu0
DlVqL6MNa5bwLExEm.7my9haN.S", "role" : "user", "createdAt" : ISODate("2024-10-04T02:12:13.140Z"), "updatedAt" : ISODa
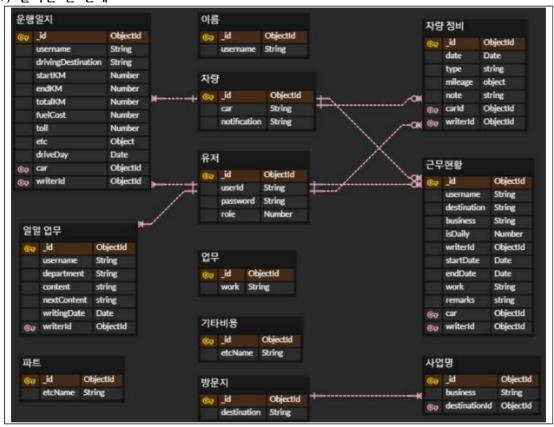ce("2024-10-04T02:12:13.140Z"), "__v" : 0 }

5) 특정 필드값 삭제

예시: db.users.deleteOne({userId:"a1"})

6) 특정 필드 값 업데이트
> db.[collectionName].updateOne() : 특정 필드 값 업데이트
예시: db.users.updateOne({userId:"a1"},{$set:{role:"admin"}})

7) 컬렉션 간 관계

2. PM2 관리
1) 서비스 로그 출력
pm2 log ts-node