

MySQL DBMS 데이터베이스 구현

ezen 아카데미 데이터베이스 구현 - 문항 21

MySQL DBMS 설치

```
~ » brew install mysql                                seojiyeong@seojiyeong-ui-MacBookPro
Warning: You are using macOS 12.
We do not provide support for this pre-release version.
You will encounter build failures with some formulae.
Please create pull requests instead of asking for help on Homebrew's GitHub,
Twitter or any other official channels. You are responsible for resolving
any issues you experience while you are running this
pre-release version.

==> Downloading https://ghcr.io/v2/homebrew/core/icu4c/manifests/69.1
##### 100.0%
==> Downloading https://ghcr.io/v2/homebrew/core/icu4c/blobs/sha256:d46b8ec5c3db
==> Downloading from https://pkg-containers.githubusercontent.com/ghcr1/blobs/sh
##### 100.0%
==> Downloading https://ghcr.io/v2/homebrew/core/openssl/1.1/manifests/1.1.1l
##### 100.0%
==> Downloading https://ghcr.io/v2/homebrew/core/openssl/1.1/blobs/sha256:ff8b2a
==> Downloading from https://pkg-containers.githubusercontent.com/ghcr1/blobs/sh
##### 100.0%
==> Downloading https://ghcr.io/v2/homebrew/core/libevent/manifests/2.1.12
##### 100.0%
==> Downloading https://ghcr.io/v2/homebrew/core/libevent/blobs/sha256:45758b448
==> Downloading from https://pkg-containers.githubusercontent.com/ghcr1/blobs/sh
```

```
Removing: /Users/seojiyeong/Library/Caches/Homebrew/Cask/notion--2.0.17.dmg...
162.5MB)
Pruned 1 symbolic links and 2 directories from /usr/local
==> Caveats
==> mysql
We've installed your MySQL database without a root password. To secure it run:
    mysql_secure_installation

MySQL is configured to only allow connections from localhost by default

To connect run:
    mysql -uroot

To start mysql:
    brew services start mysql
Or, if you don't want/need a background service you can just run:
    /usr/local/opt/mysql/bin/mysqld_safe --datadir=/usr/local/var/mysql
```

MySQL DBMS 실행

```
~ » brew services start mysql  
==> Successfully started `mysql` (label: homebrew.mxcl.mysql)
```

MySQL DBMS 접속

```
~ » mysql -uroot
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.27 Homebrew

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> █
```

기존 myschool database 삭제

```
mysql> drop database myschool;  
Query OK, 3 rows affected (0.10 sec)
```

myschool database 생성

```
mysql> create database myschool default charset `utf8`;  
Query OK, 1 row affected, 1 warning (0.00 sec)
```

```
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| ezen1    |  
| information_schema |  
| myschool  |  
| mysql     |  
| performance_schema |  
| sys       |  
+-----+
```

myschool database 사용

```
mysql> use myschool;  
Database changed
```

myschool database

- department 테이블 생성

```
mysql> create table `department` (`deptno` int not null primary key auto_increment, `dname` varchar(16) not null, `loc` varchar(10) null) ENGINE=InnoDB DEFAULT CHARSET=utf8 COMMENT='학과 테이블';
Query OK, 0 rows affected, 1 warning (0.01 sec)
```


myschool database

- department 테이블 명세 확인

```
mysql> desc department;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra           |
+-----+-----+-----+-----+-----+-----+
| deptno | int           | NO   | PRI | NULL    | auto_increment |
| dname  | varchar(16)   | NO   |     | NULL    |                 |
| loc    | varchar(10)   | YES  |     | NULL    |                 |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

myschool database

- student 테이블 생성

```
mysql> create table student (studno int not null auto_increment,  
-> name varchar(10) not null,  
-> userid varchar(10) not null,  
-> grade int not null,  
-> idnum varchar(13) not null,  
-> birthdate datetime not null,  
-> tel varchar(13) not null,  
-> height int not null,  
-> weight int not null,  
-> deptno int not null,  
-> profno int null,  
-> PRIMARY KEY (studno),  
-> FOREIGN KEY (deptno) REFERENCES professor (deptno)  
-> ) ENGINE=InnoDB DEFAULT CHARSET utf8;
```

myschool database

- professor 테이블 생성

```
mysql> create table professor (profno int not null,  
-> name varchar(10) not null,  
-> userid varchar(10) not null,  
-> position varchar(20) not null,  
-> sal int(10) not null,  
-> hiredate datetime not null,  
-> comm int null,  
-> deptno int not null,  
-> PRIMARY KEY(`profno`))  
-> ENGINE=InnoDB DEFAULT CHARSET `utf8` COMMENT='교수 테이블';
```

myschool database

- student 테이블 참조키 추가

```
mysql> alter table `student` add foreign key (`deptno`) references `professor` (`deptno`);  
Query OK, 0 rows affected (0.03 sec)  
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> alter table `student` add foreign key (`profno`) references `professor` (`profno`);  
Query OK, 0 rows affected (0.03 sec)  
Records: 0  Duplicates: 0  Warnings: 0
```

myschool database

- professor 테이블 참조키 추가

```
mysql> alter table `professor` add foreign key (`deptno`) references `department` (`deptno`);  
Query OK, 0 rows affected (0.03 sec)  
Records: 0 Duplicates: 0 Warnings: 0
```

myschool database

- student 테이블 명세 확인

```
mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra           |
+-----+-----+-----+-----+-----+-----+
| studno     | int           | NO   | PRI | NULL    | auto_increment |
| name       | varchar(10)   | NO   |     | NULL    |                 |
| userid     | varchar(10)   | NO   |     | NULL    |                 |
| grade      | int           | NO   |     | NULL    |                 |
| idnum      | varchar(13)   | NO   |     | NULL    |                 |
| birthdate  | datetime      | NO   |     | NULL    |                 |
| tel        | varchar(13)   | NO   |     | NULL    |                 |
| height     | int           | NO   |     | NULL    |                 |
| weight     | int           | NO   |     | NULL    |                 |
| deptno     | int           | NO   | MUL | NULL    |                 |
| profno     | int           | YES  | MUL | NULL    |                 |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)
```

myschool database

- professor 테이블 명세 확인

```
mysql> desc professor;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| profno     | int           | NO   | PRI | NULL    |       |
| name       | varchar(10)   | NO   |     | NULL    |       |
| userid     | varchar(10)   | NO   |     | NULL    |       |
| position   | varchar(20)   | NO   |     | NULL    |       |
| sal        | int           | NO   |     | NULL    |       |
| hiredate   | datetime      | NO   |     | NULL    |       |
| comm       | int           | YES  |     | NULL    |       |
| deptno     | int           | NO   | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.01 sec)
```

myschool database & tables

구축 확인

```
mysql> show databases;
+-----+
| Database |
+-----+
| ezen1    |
| information_schema |
| myschool |
| mysql    |
| performance_schema |
| sys      |
+-----+
6 rows in set (0.00 sec)
```

```
mysql> show tables;
+-----+
| Tables_in_myschool |
+-----+
| department          |
| professor           |
| student             |
+-----+
3 rows in set (0.00 sec)
```


Thank you!