

Maria DB

Maria DB

❖ Maria DB

- ✓ SQL에 기반을 둔 관계형 DBMS로 Open Source 로 제공
- ✓ 리눅스, 유닉스, 윈도우 등 거의 모든 운영체제에서 사용 가능
- ✓ 처리 속도가 빠르기 때문에 대용량 데이터 처리에 용이
- ✓ 설치 방법이 쉽고 초보자도 익히기 쉬움
- ✓ 작업 단위
 - 데이터베이스 > 테이블
 - 데이터베이스는 사용자 와 상관없이 생성되며 사용자에게 권한을 부여해서 사용
 - 데이터베이스를 생성하면 사용자 별로 만들어지지 않음
 - 하나의 데이터베이스를 여러 사용자가 공유 가능



Server 설치

❖ Maria DB 서버 설치

✓ Windows

- 다운로드: <https://mariadb.org/download/>



The screenshot shows the MariaDB Foundation website's download page. The browser's address bar displays <https://mariadb.org/download/>. The website header includes the MariaDB Foundation logo, navigation links (Download, Documentation, Contribute, Server Fest, Events, Sponsor, Blog, Planet MariaDB, About), and a search bar. Below the header, a banner lists the latest releases: 10.11.0 (Alpha), 10.10.1 (RC), 10.9.3, 10.8.5, 10.7.6, 10.6.10, 10.5.17, 10.4.26, and 10.3.36, with a link to vote in a poll. The main content area features a 'Download MariaDB Server' section. On the left, there is a 'WATCH MORE!' button with a play icon and a 'SUBSCRIBE to our YouTube channel' button. Below this, links for 'Download MariaDB Server', 'REST API', and 'Release Schedule' are visible. The 'Download MariaDB Server' link is highlighted. To the right of the links, a text block explains that MariaDB Server is a popular open-source relational database available in Linux repositories or via package managers. A purple banner at the bottom of this section states: 'This is a preview release with all potential upcoming features bundled into one package. Not all these features may make it into the final stable release of 10.11.'

← → ↻ <https://mariadb.org/download/>

MariaDB Foundation

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Latest releases 10.11.0 (Alpha) 10.10.1 (RC) 10.9.3, 10.8.5, 10.7.6, 10.6.10, 10.5.17, 10.4.26, 10.3.36. Vote in our poll!

Search ...

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Download MariaDB Server
REST API
Release Schedule

Download MariaDB Server

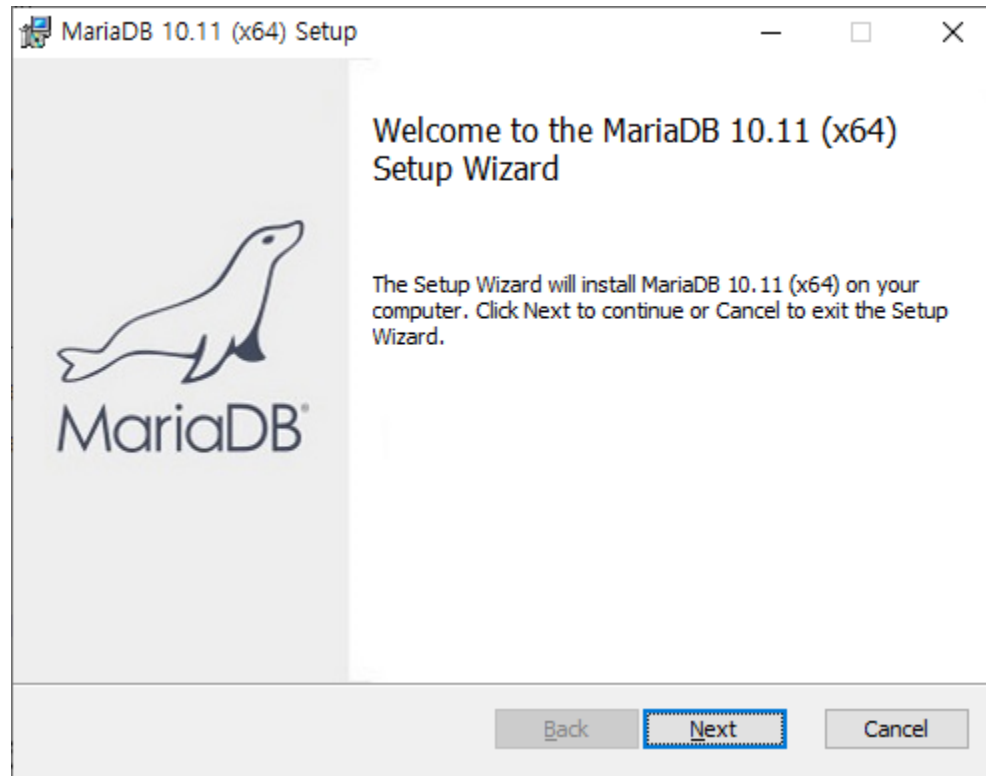
MariaDB Server is one of the world's most popular open source relational databases and is available in the standard repositories of all major Linux distributions. Look for the package mariadb-server using the package manager of your operating system. Alternatively you can use the following resources:

MariaDB Server | MariaDB Repositories | Connectors

This is a preview release with all potential upcoming features bundled into one package. Not all these features may make it into the final stable release of 10.11.

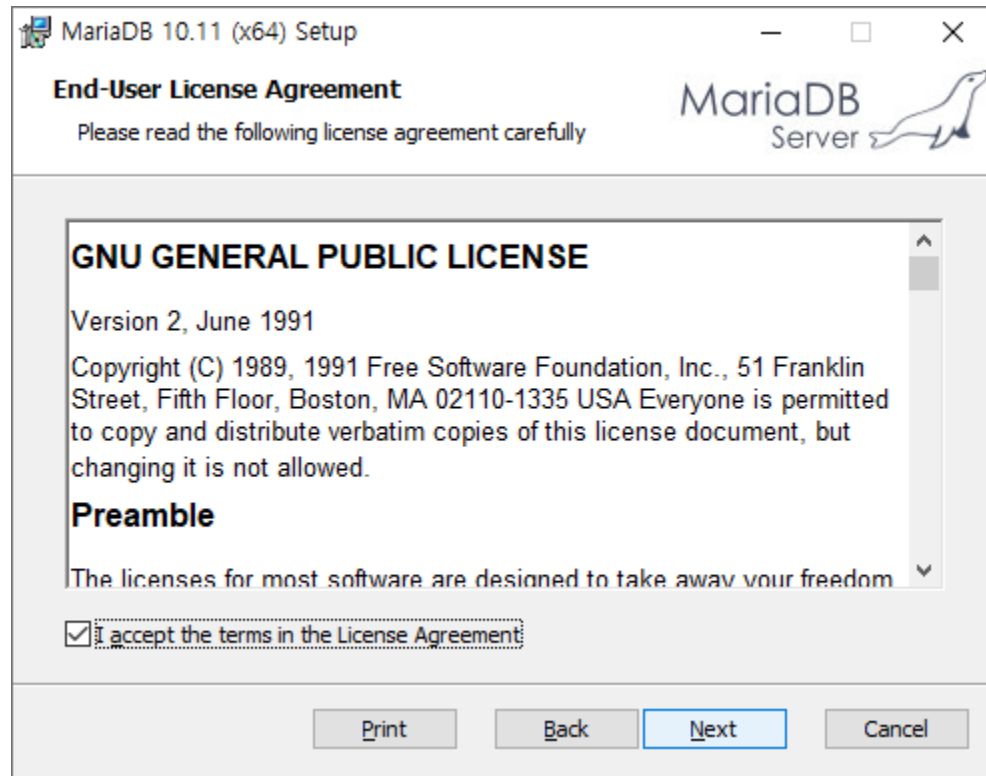
Server 설치

- ❖ Maria DB 서버 설치
 - ✓ Windows



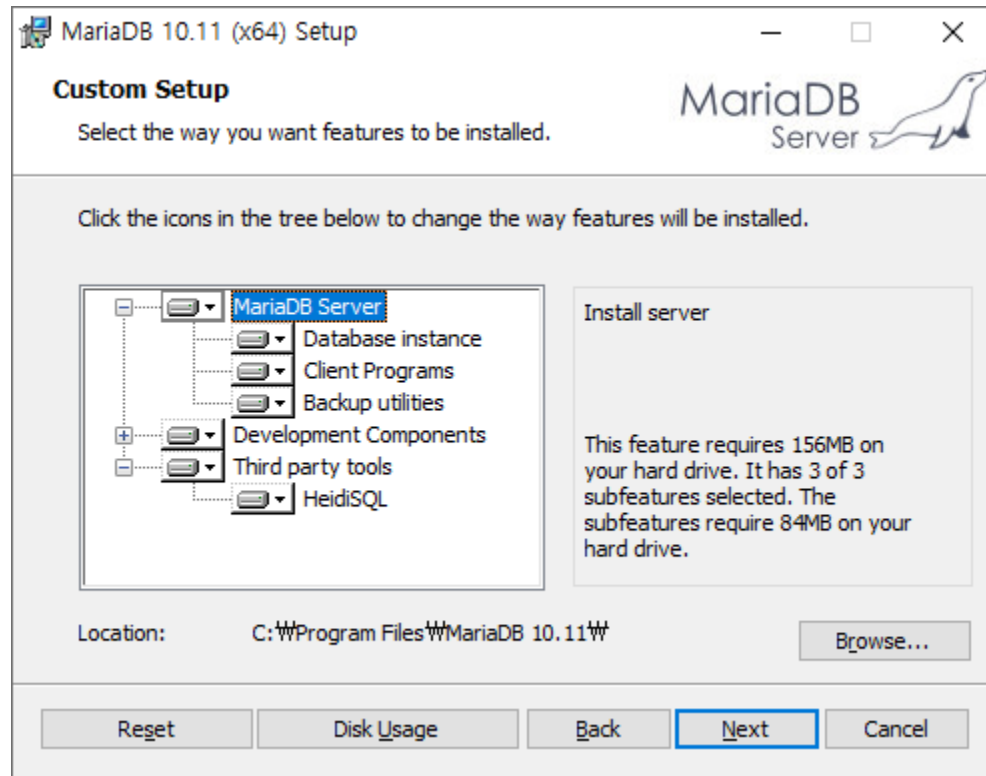
Server 설치

- ❖ Maria DB 서버 설치
 - ✓ Windows



Server 설치

- ❖ Maria DB 서버 설치
 - ✓ Windows

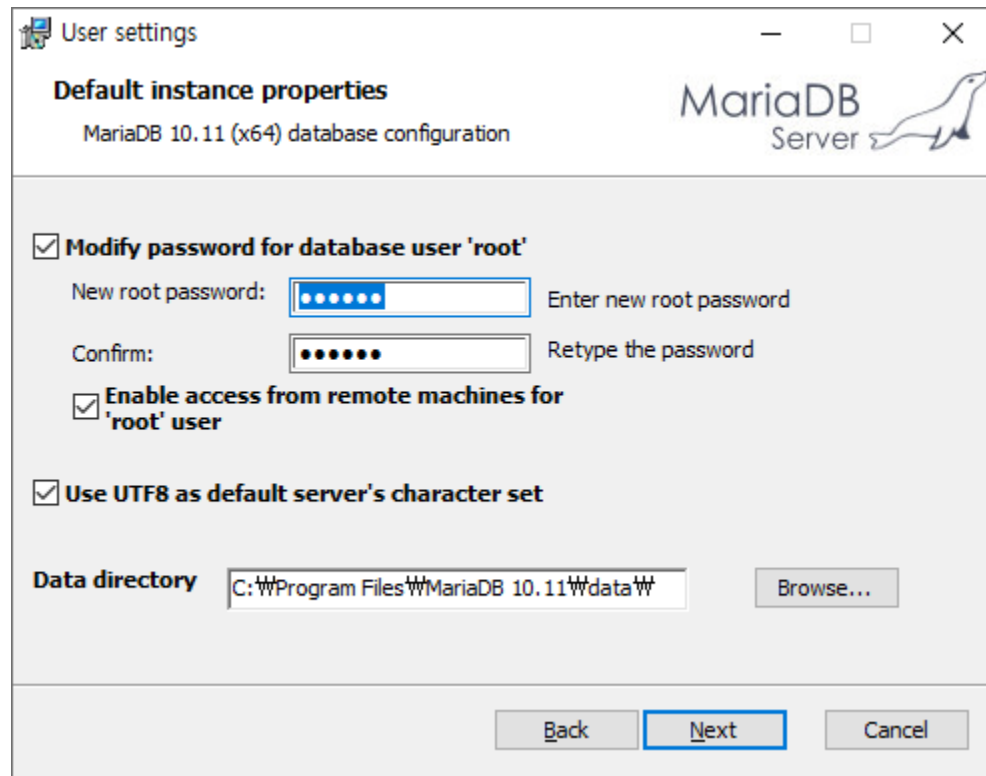


Server 설치

❖ Maria DB 서버 설치

✓ Windows

- root 비밀번호 설정 및 원격 접속 허용 여부 및 인코딩 설정



The screenshot shows the 'User settings' window for MariaDB 10.11 (x64) database configuration. The window has a title bar with standard Windows window controls and the MariaDB Server logo. The main content area is titled 'Default instance properties' and includes the following options:

- ☒ **Modify password for database user 'root'**
 - New root password: [password field] Enter new root password
 - Confirm: [password field] Retype the password
- ☒ **Enable access from remote machines for 'root' user**
- ☒ **Use UTF8 as default server's character set**

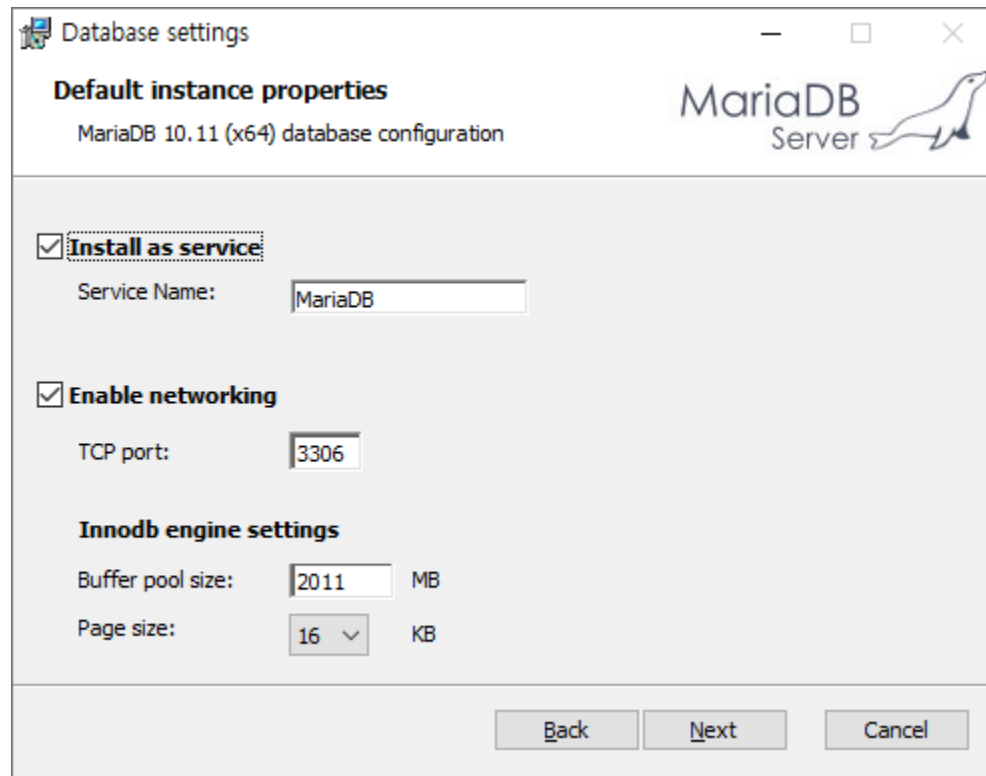
At the bottom, there is a 'Data directory' field with the path 'C:\Program Files\MariaDB 10.11\data' and a 'Browse...' button. At the very bottom, there are 'Back', 'Next', and 'Cancel' buttons, with 'Next' being the active button.

Server 설치

❖ Maria DB 서버 설치

✓ Windows

- 서비스 이름 과 포트번호 및 버퍼 사이즈 설정



Database settings

Default instance properties
MariaDB 10.11 (x64) database configuration

☒ **Install as service**
Service Name:

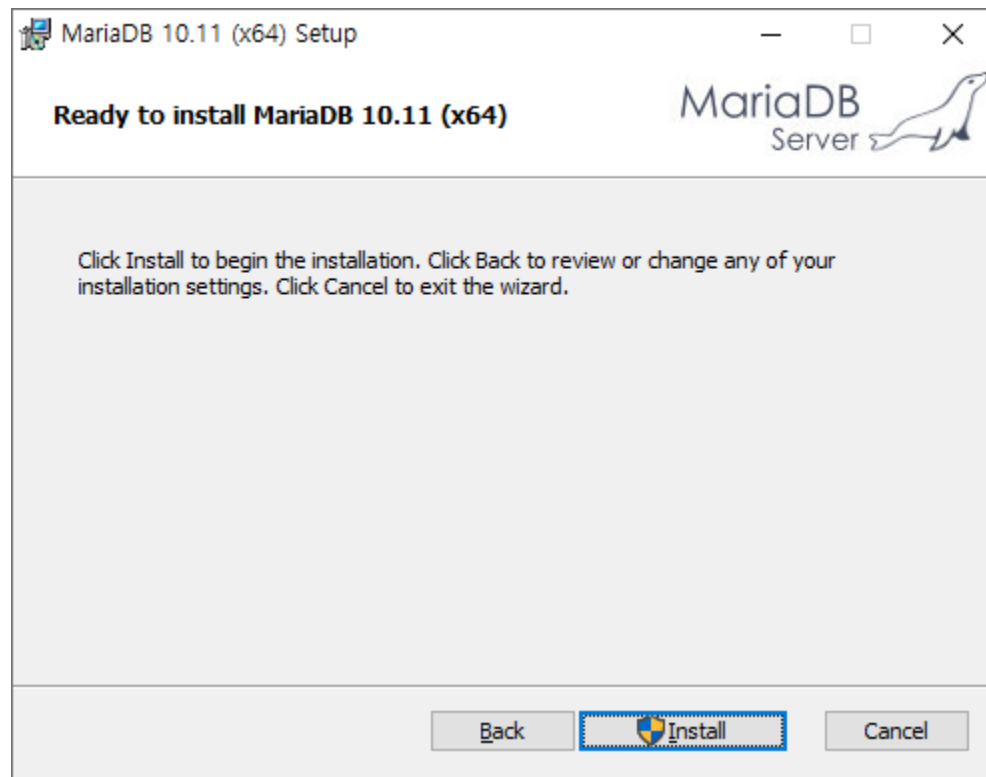
☒ **Enable networking**
TCP port:

InnoDB engine settings
Buffer pool size: MB
Page size: KB

Back Next Cancel

Server 설치

- ❖ Maria DB 서버 설치
 - ✓ Windows
 - 설치 완료



Server 설치

❖ Maria DB 서버 설치

✓ Mac

● brew(패키지 관리자) 설치

- ◆ Intel Chip: `/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`
- ◆ ARM Chip: `/bin/bash -c "$(curl -fsSL https://gist.githubusercontent.com/nrubin29/bea5aa83e8dfa91370fe83b62dad6dfa/raw/48f48f7fef21abb308e129a80b3214c2538fc611/homebrew\_m1.sh)"`

● brew(패키지 관리자) 업데이트

- ◆ `brew update`



Server 설치

❖ Maria DB 서버 설치

✓ Mac

- Maria DB 설치
 - ◆ 설치: `brew install mariadb`
 - ◆ 설치 확인: `mysql --version`
- Maria DB 서버 시작 및 중지
 - ◆ 서버 시작: `brew services start mariadb`
 - ◆ 서버 중지: `brew services stop mariadb`
 - ◆ 서버 재시작: `brew services restart mariadb`
- Maria DB 서버 접속 및 설정
 - ◆ 접속: `sudo mysql -u root`
 - ◆ root 계정 비밀번호 설정
 - `ALTER USER 'root'@'localhost' IDENTIFIED BY '새로운비밀번호';`
 - `FLUSH PRIVILEGES;`
 - 비밀번호 설정 후 접속: `mysql -u root -p` (엔터)
 - ◆ 설정 파일: `/opt/homebrew/etc/my.cnf`

Server 설치

❖ Maria DB 서버 설치

✓ Mac

● Maria DB 설치 제거

◆ 설치: `brew uninstall mariadb`

◆ 설정 및 데이터 모두 삭제

- `rm -rf /usr/local/var/mysql`
- `rm -rf /usr/local/etc/my.cnf`



Server 설치

❖ Maria DB 서버 설치

✓ Ubuntu Linux에서 설치

- 패키지 목록 업데이트
 - ◆ `sudo apt update`
 - ◆ `sudo apt upgrade -y`
- 설치
 - ◆ `sudo apt install mariadb-server mariadb-client -y`
- 상태 확인
 - ◆ `sudo systemctl status mariadb`
- 보안 설정(root 비밀번호 설정 및 익명 사용자 제거 등)
 - ◆ `sudo mysql_secure_installation`
- 설정 파일
 - ◆ `/etc/mysql/mariadb.conf.d/50-server.cnf`



Server 설치

❖ Maria DB 서버 설치

✓ Docker를 이용한 설치

- 이미지 다운로드: `docker pull mariadb` 버전(생략하면 최신 버전)
- 컨테이너 생성: `docker run --name mariadb -d -p 외부에서접속할포트번호:MariaDB포트번호 -e MYSQL_ROOT_PASSWORD=비밀번호 mariadb`



실습

❖ Maria DB 접속

Connection "mariadb" configuration

Connection settings
MariaDB connection settings

 MariaDB

✓ Connection settings
Initialization
Shell Commands
Client identification
Transactions
General
Metadata
Errors and timeouts
Data editor
SQL Editor

Main Driver properties SSH Proxy SSL

Server

Server Host: localhost Port: 3306
Database: mysql

Authentication (Database Native)

Username: root
Password: ☒ Save password loc:

Advanced

Server Time Zone: Auto-detect
Local Client:

i You can use variables in connection parameters.

Driver name: MariaDB Edit Driver Settings

Test Connection ... 취소 확인

실습

❖ 외부 접속 허용

- ✓ Mac 이나 Linux 에서 직접 설치한 경우 설정 파일을 수정
 - bind-address = 127.0.0.1 부분을 0.0.0.0 이나 허용할 IP를 나열
- ✓ Mac 에서 brew를 이용해서 설치한 경우 아래 위치의 설정 파일을 수정
 - 터미널에서 아래 명령 수행을 해서 확장자가 cnf 인 파일을 찾아서 수정
`mysql --help | grep cnf`



실습

❖ 외부 접속 허용

✓ Docker에 설치한 경우

- MariaDB가 설치된 도커 컨테이너로 접속
\$ docker exec -it [mariadb컨테이너이름] bash
- vim 설치되어 있지 않으면 설치
apt update
apt upgrade
apt install vim
- MariaDB 외부 접근 허용을 위한 설정 파일을 수정
vim /etc/mysql/mariadb.conf.d/50-server.cnf
 - bind-address 의 값을 0.0.0.0 으로 수정



실습

❖ 외부 접속 허용

✓ 유저 생성

create user '사용자계정'@'%' identified by '비밀번호';

✓ 유저에 권한 부여

GRANT all privileges on *.* TO '계정'@'%';

- *.* 대신에 데이터베이스 이름을 대입하면 모든 데이터베이스 사용 가능
- % 대신에 ip를 기재하면 특정 ip에서만 접속이 허용되며 localhost로 지정하면 현재 컴퓨터에서만 접속이 가능
- 변경 내용 적용: FLUSH privileges;



실습

❖ 데이터베이스 관련 명령

- ✓ 존재하는 데이터베이스 목록 보기

`show databases;`

- ✓ 현재 사용 중인 데이터베이스 확인

`select database();`

- ✓ 데이터베이스 생성

`create database 데이터베이스이름;`

- ✓ 데이터베이스 삭제

`drop database 데이터베이스이름;`

- ✓ 데이터베이스 사용

`use 데이터베이스이름;`

- ✓ 테이블 목록 보기

`show tables;`



샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE tCity
(
    name CHAR(10) PRIMARY KEY,
    area INT NULL ,
    popu INT NULL ,
    metro CHAR(1) NOT NULL,
    region CHAR(6) NOT NULL
);

INSERT INTO tCity VALUES ('서울',605,974,'y','경기');
INSERT INTO tCity VALUES ('부산',765,342,'y','경상');
INSERT INTO tCity VALUES ('오산',42,21,'n','경기');
INSERT INTO tCity VALUES ('청주',940,83,'n','충청');
INSERT INTO tCity VALUES ('전주',205,65,'n','전라');
INSERT INTO tCity VALUES ('순천',910,27,'n','전라');
INSERT INTO tCity VALUES ('춘천',1116,27,'n','강원');
INSERT INTO tCity VALUES ('홍천',1819,7,'n','강원');

SELECT * FROM tCity;
```

샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE tStaff  
(  
    name CHAR (15) PRIMARY KEY,  
    depart CHAR (10) NOT NULL,  
    gender CHAR(3) NOT NULL,  
    joindate DATE NOT NULL,  
    grade CHAR(10) NOT NULL,  
    salary INT NOT NULL,  
    score DECIMAL(5,2) NULL  
);
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO tStaff VALUES ('김유신','총무부','남','2000-2-3','이사',420,88.8);
INSERT INTO tStaff VALUES ('유관순','영업부','여','2009-3-1','과장',380,NULL);
INSERT INTO tStaff VALUES ('안중근','인사과','남','2012-5-5','대리',256,76.5);
INSERT INTO tStaff VALUES ('윤봉길','영업부','남','2015-8-15','과장',350,71.25);
INSERT INTO tStaff VALUES ('강감찬','영업부','남','2018-10-9','사원',320,56.0);
INSERT INTO tStaff VALUES ('정몽주','총무부','남','2010-9-16','대리',370,89.5);
INSERT INTO tStaff VALUES ('허난설헌','인사과','여','2020-1-5','사원',285,44.5);
INSERT INTO tStaff VALUES ('신사임당','영업부','여','2013-6-19','부장',400,92.0);
INSERT INTO tStaff VALUES ('성삼문','영업부','남','2014-6-8','대리',285,87.75);
INSERT INTO tStaff VALUES ('논개','인사과','여','2010-9-16','대리',340,46.2);
INSERT INTO tStaff VALUES ('황진이','인사과','여','2012-5-5','사원',275,52.5);
INSERT INTO tStaff VALUES ('이율곡','총무부','남','2016-3-8','과장',385,65.4);
INSERT INTO tStaff VALUES ('이사부','총무부','남','2000-2-3','대리',375,50);
INSERT INTO tStaff VALUES ('안창호','영업부','남','2015-8-15','사원',370,74.2);
INSERT INTO tStaff VALUES ('을지문덕','영업부','남','2019-6-29','사원',330,NULL);
INSERT INTO tStaff VALUES ('정약용','총무부','남','2020-3-14','과장',380,69.8);
INSERT INTO tStaff VALUES ('홍길동','인사과','남','2019-8-8','차장',380,77.7);
INSERT INTO tStaff VALUES ('대조영','총무부','남','2020-7-7','차장',290,49.9);
INSERT INTO tStaff VALUES ('장보고','인사과','남','2005-4-1','부장',440,58.3);
INSERT INTO tStaff VALUES ('선덕여왕','인사과','여','2017-8-3','사원',315,45.1);
```

```
SELECT * FROM tStaff;
```

샘플 데이터

❖ 테이블 구조 확인

DESC tStaff;

DESC tCity;

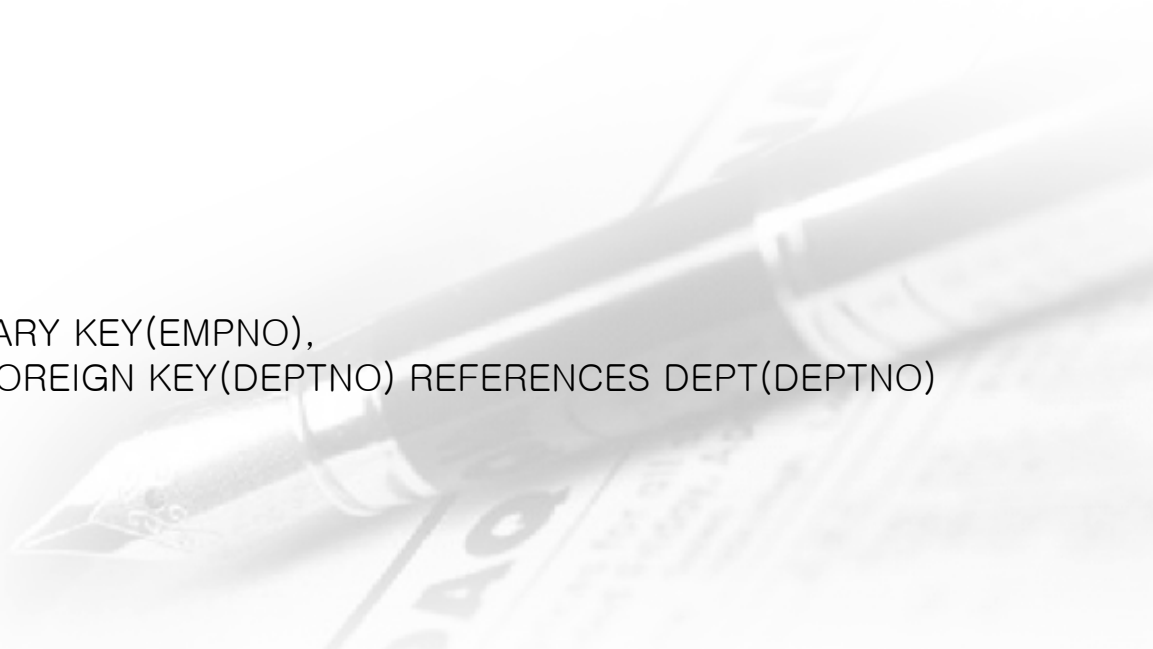


샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE DEPT(  
    DEPTNO INT(2),  
    DNAME VARCHAR(14) ,  
    LOC VARCHAR(13),  
    CONSTRAINT PK_DEPT PRIMARY KEY(DEPTNO)  
);
```

```
CREATE TABLE EMP(  
    EMPNO INT(4),  
    ENAME VARCHAR(10),  
    JOB VARCHAR(9),  
    MGR INT(4),  
    HIREDATE DATE,  
    SAL FLOAT(7,2),  
    COMM FLOAT(7,2),  
    DEPTNO INT(2),  
    CONSTRAINT PK_EMP PRIMARY KEY(EMPNO),  
    CONSTRAINT FK_DEPTNO FOREIGN KEY(DEPTNO) REFERENCES DEPT(DEPTNO)  
);
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO DEPT VALUES(10,'ACCOUNTING','NEW YORK');  
INSERT INTO DEPT VALUES (20,'RESEARCH','DALLAS');  
INSERT INTO DEPT VALUES(30,'SALES','CHICAGO');  
INSERT INTO DEPT VALUES(40,'OPERATIONS','BOSTON');
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO EMP VALUES
(7369,'SMITH','CLERK',7902,'1980-12-17',800,NULL,20);
INSERT INTO EMP VALUES
(7499,'ALLEN','SALESMAN',7698,'1981-2-20',1600,300,30);
INSERT INTO EMP VALUES
(7521,'WARD','SALESMAN',7698,'1981-2-22',1250,500,30);
INSERT INTO EMP VALUES
(7566,'JONES','MANAGER',7839,'1981-4-2',2975,NULL,20);
INSERT INTO EMP VALUES
(7654,'MARTIN','SALESMAN',7698,'1981-9-28',1250,1400,30);
INSERT INTO EMP VALUES
(7698,'BLAKE','MANAGER',7839,'1981-5-1',2850,NULL,30);
INSERT INTO EMP VALUES
(7782,'CLARK','MANAGER',7839,'1981-6-9',2450,NULL,10);
INSERT INTO EMP VALUES
(7788,'SCOTT','ANALYST',7566,'1987-7-13',3000,NULL,20);
INSERT INTO EMP VALUES
(7839,'KING','PRESIDENT',NULL,'1981-11-17',5000,NULL,10);
INSERT INTO EMP VALUES
(7844,'TURNER','SALESMAN',7698,'1981-9-8',1500,0,30);
INSERT INTO EMP VALUES
(7876,'ADAMS','CLERK',7788,'1987-7-13',1100,NULL,20);
```

샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO EMP VALUES  
(7900,'JAMES','CLERK',7698,'1981-12-3',950,NULL,30);  
INSERT INTO EMP VALUES  
(7902,'FORD','ANALYST',7566,'1981-12-3',3000,NULL,20);  
INSERT INTO EMP VALUES  
(7934,'MILLER','CLERK',7782,'1982-1-23',1300,NULL,10);
```

```
CREATE TABLE SALGRADE  
( GRADE INT,  
  LOSAL INT,  
  HISAL INT );
```

```
INSERT INTO SALGRADE VALUES (1,700,1200);  
INSERT INTO SALGRADE VALUES (2,1201,1400);  
INSERT INTO SALGRADE VALUES (3,1401,2000);  
INSERT INTO SALGRADE VALUES (4,2001,3000);  
INSERT INTO SALGRADE VALUES (5,3001,9999);
```

```
COMMIT;
```



샘플 데이터

❖ 샘플 데이터 생성

```
SELECT * FROM DEPT;  
SELECT * FROM EMP;  
SELECT * FROM SALGRADE;
```

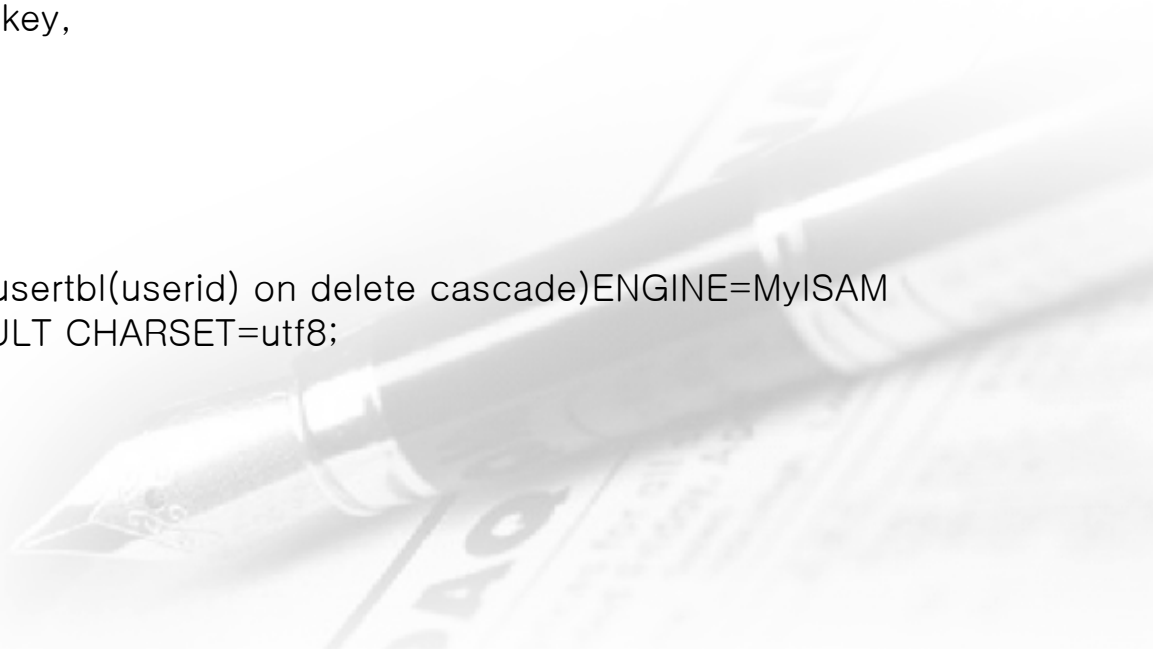


샘플 데이터

❖ 샘플 데이터 생성

```
create table usertbl(  
  userid char(15) not null primary key,  
  name varchar(20) not null,  
  birthyear int not null,  
  addr char(100),  
  mobile char(11),  
  mdate date)ENGINE=MyISAM AUTO_INCREMENT=1 DEFAULT CHARSET=utf8;
```

```
create table buytbl(  
  num int auto_increment primary key,  
  userid char(8) not null,  
  productname char(10),  
  groupname char(10),  
  price int not null,  
  amount int not null,  
  foreign key (userid) references usertbl(userid) on delete cascade)ENGINE=MyISAM  
  AUTO_INCREMENT=1 DEFAULT CHARSET=utf8;
```



샘플 데이터

❖ 샘플 데이터 생성

```
insert into usertbl values('kty', '김태연',1989,'전주','01011111111', '1989-3-9');
insert into usertbl values('bsj', '배수지',1994,'광주','01022222222', '1994-10-10');
insert into usertbl values('ksh', '김설현',1995,'부천','01033333333', '1995-1-3');
insert into usertbl values('bjh', '배주현',1991,'대구','01044444444', '1991-3-29');
insert into usertbl values('ghr', '구하라',1991,'광주','01055555555', '1991-1-13');
insert into usertbl values('san', '산다라박',1984,'부산','01066666666', '1984-11-12');
insert into usertbl values('jsm', '전소미',2001,'캐나다','01077777777', '2001-3-9');
insert into usertbl values('lhl', '이효리',1979,'서울','01088888888', '1979-5-10');
insert into usertbl values('iyou', '아이유',1993,'서울','01099999999', '1993-5-19');
insert into usertbl values('ailee', '에일리',1989,'미국','01000000000', '1989-5-30');
```

```
commit;
```

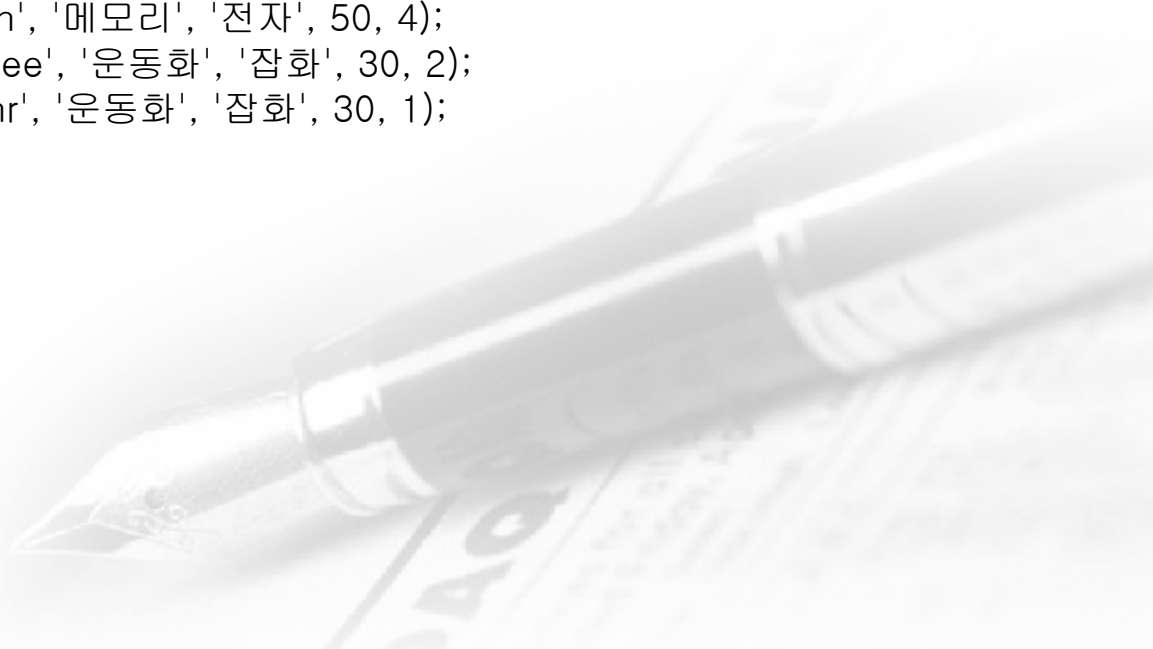


샘플 데이터

❖ 샘플 데이터 생성

```
insert into buytbl values(null, 'kty', '운동화', '잡화', 30, 2);
insert into buytbl values(null, 'kty', '노트북', '전자', 1000, 1);
insert into buytbl values(null, 'jsm', '운동화', '잡화', 30, 1);
insert into buytbl values(null, 'lhl', '모니터', '전자', 200, 1);
insert into buytbl values(null, 'bsj', '모니터', '전자', 200, 1);
insert into buytbl values(null, 'kty', '청바지', '잡화', 100, 1);
insert into buytbl values(null, 'lhl', '책', '서적', 15, 2);
insert into buytbl values(null, 'iyou', '책', '서적', 15, 7);
insert into buytbl values(null, 'iyou', '컴퓨터', '전자', 500, 1);
insert into buytbl values(null, 'bsj', '노트북', '전자', 1000, 1);
insert into buytbl values(null, 'bjh', '메모리', '전자', 50, 4);
insert into buytbl values(null, 'ailee', '운동화', '잡화', 30, 2);
insert into buytbl values(null, 'ghr', '운동화', '잡화', 30, 1);
```

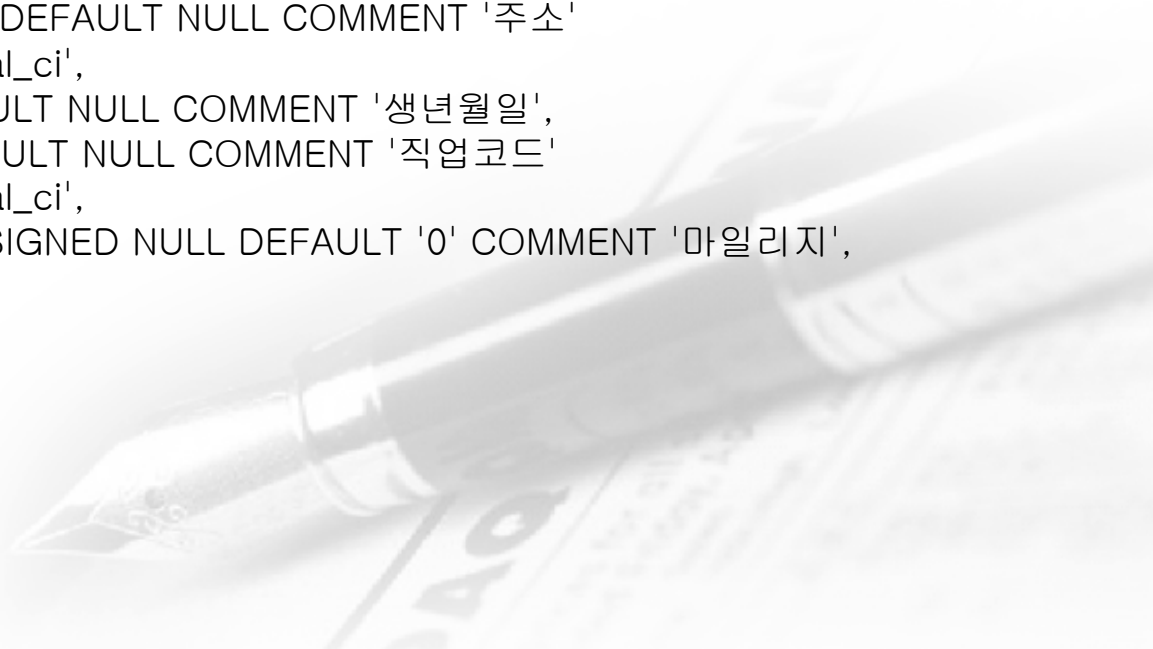
```
commit;
```



샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE `members` (  
  `memid` VARCHAR(9) NOT NULL COMMENT '회원ID'  
    COLLATE 'utf8mb4_general_ci',  
  `memname` VARCHAR(20) NOT NULL COMMENT '회원명'  
    COLLATE 'utf8mb4_general_ci',  
  `passwd` VARCHAR(128) NULL DEFAULT NULL  
    COMMENT '비밀번호' COLLATE 'utf8mb4_general_ci',  
  `passwdmdt` DATETIME NULL DEFAULT NULL COMMENT '비밀번호변경일시',  
  `jumin` VARCHAR(64) NULL DEFAULT NULL COMMENT '주민등록번호'  
    COLLATE 'utf8mb4_general_ci',  
  `addr` VARCHAR(100) NULL DEFAULT NULL COMMENT '주소'  
    COLLATE 'utf8mb4_general_ci',  
  `birthday` DATE NULL DEFAULT NULL COMMENT '생년월일',  
  `jobcd` CHAR(1) NULL DEFAULT NULL COMMENT '직업코드'  
    COLLATE 'utf8mb4_general_ci',  
  `mileage` DECIMAL(7,0) UNSIGNED NULL DEFAULT '0' COMMENT '마일리지',
```



샘플 데이터

❖ 샘플 데이터 생성

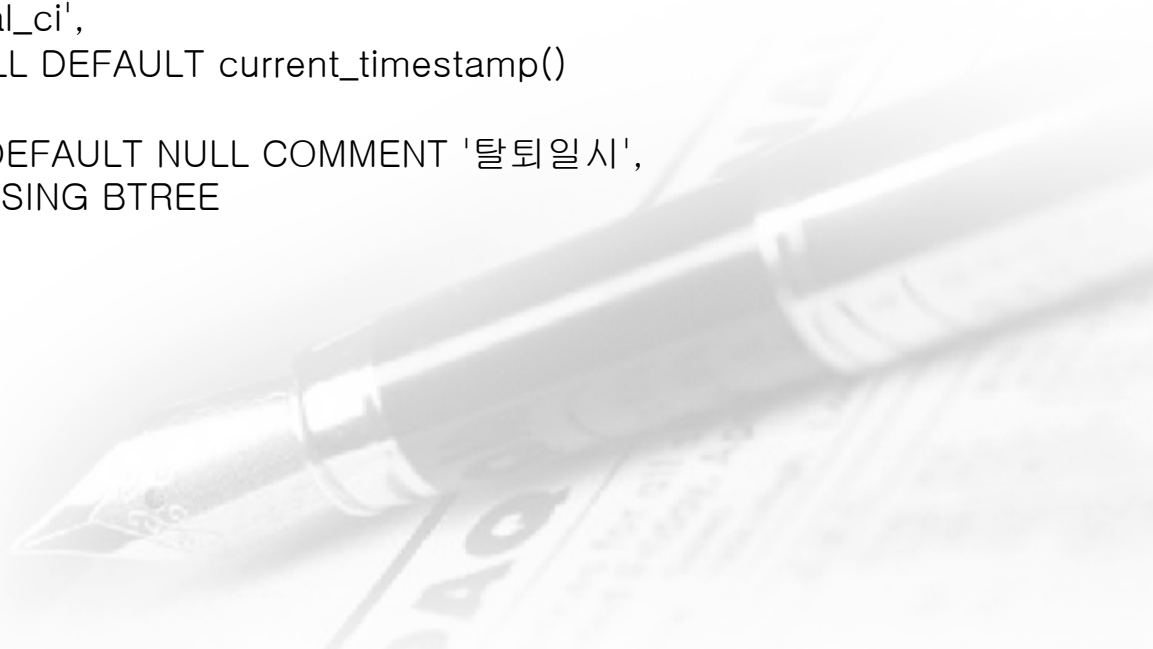
```
`stat` ENUM('Y','N') NOT NULL DEFAULT 'Y' COMMENT '상태'
      COLLATE 'utf8mb4_general_ci',
`enterdtm` DATETIME NOT NULL DEFAULT current_timestamp()
      COMMENT '가입일시',
`leavedtm` DATETIME NULL DEFAULT NULL COMMENT '탈퇴일시',
PRIMARY KEY (`memid`)
)
COLLATE='utf8mb4_general_ci'
ENGINE=InnoDB
;
```



샘플 데이터

❖ 샘플 데이터 생성

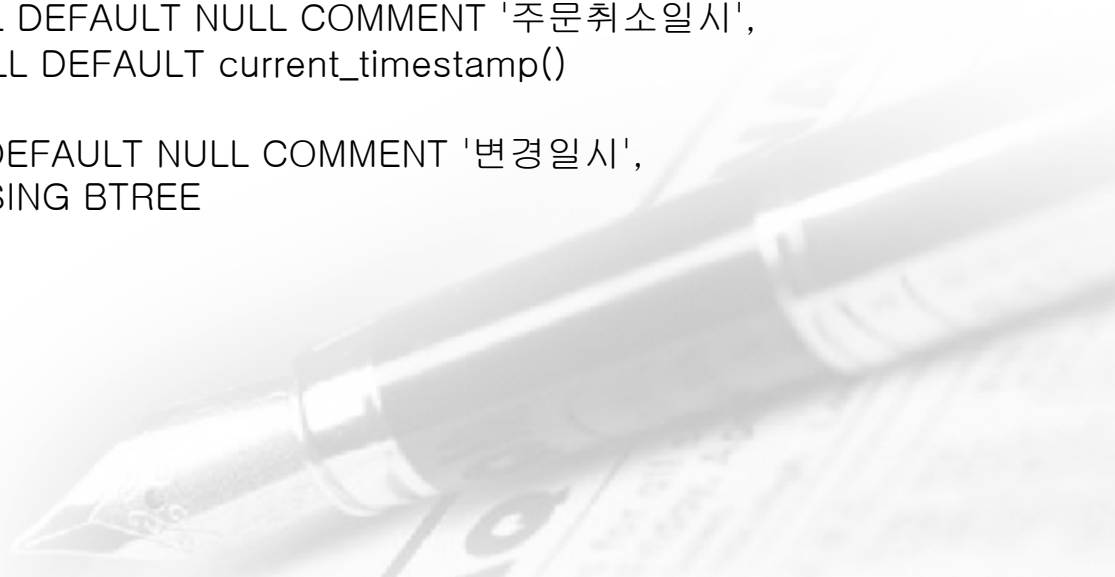
```
CREATE TABLE `goodsinfo` (  
  `goodscd` CHAR(5) NOT NULL COMMENT '상품코드'  
    COLLATE 'utf8mb4_general_ci',  
  `goodsname` VARCHAR(20) NOT NULL COMMENT '상품명'  
    COLLATE 'utf8mb4_general_ci',  
  `unitcd` CHAR(2) NULL DEFAULT NULL COMMENT '단위코드'  
    COLLATE 'utf8mb4_general_ci',  
  `unitprice` DECIMAL(5,0) UNSIGNED NOT NULL DEFAULT '0'  
    COMMENT '단가',  
  `stat` ENUM('Y','N') NOT NULL DEFAULT 'Y' COMMENT '상태'  
    COLLATE 'utf8mb4_general_ci',  
  `insdtm` DATETIME NOT NULL DEFAULT current_timestamp()  
    COMMENT '등록일시',  
  `moddtm` DATETIME NULL DEFAULT NULL COMMENT '탈퇴일시',  
  PRIMARY KEY (`goodscd`) USING BTREE  
)  
COLLATE='utf8mb4_general_ci'  
ENGINE=InnoDB
```



샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE `order_h` (  
  `orderno` CHAR(9) NOT NULL COMMENT '주문번호'  
    COLLATE 'utf8mb4_general_ci',  
  `orddt` DATE NOT NULL COMMENT '주문일',  
  `memid` VARCHAR(10) NOT NULL COMMENT '주문자ID'  
    COLLATE 'utf8mb4_general_ci',  
  `ordamt` DECIMAL(7,0) UNSIGNED NOT NULL DEFAULT '0'  
    COMMENT '주문총액',  
  `cancelyn` ENUM('Y','N') NOT NULL DEFAULT 'N'  
    COMMENT '주문상태' COLLATE 'utf8mb4_general_ci',  
  `canceldtm` DATETIME NULL DEFAULT NULL COMMENT '주문취소일시',  
  `insdtm` DATETIME NOT NULL DEFAULT current_timestamp()  
    COMMENT '등록일시',  
  `moddtm` DATETIME NULL DEFAULT NULL COMMENT '변경일시',  
  PRIMARY KEY (`orderno`) USING BTREE  
)  
COLLATE='utf8mb4_general_ci'  
ENGINE=InnoDB  
;
```



샘플 데이터

❖ 샘플 데이터 생성

```
CREATE TABLE `order_d` (  
  `orderno` CHAR(9) NOT NULL COMMENT '주문번호'  
    COLLATE 'utf8mb4_general_ci',  
  `goodsd` CHAR(5) NOT NULL COMMENT '상품코드'  
    COLLATE 'utf8mb4_general_ci',  
  `unitcd` CHAR(2) NULL DEFAULT NULL COMMENT '단위코드'  
    COLLATE 'utf8mb4_general_ci',  
  `unitprice` DECIMAL(5,0) UNSIGNED NOT NULL DEFAULT '0'  
    COMMENT '단가',  
  `qty` DECIMAL(3,0) UNSIGNED NOT NULL DEFAULT '0' COMMENT '주문수량',  
  `amt` DECIMAL(7,0) UNSIGNED NOT NULL DEFAULT '0' COMMENT '주문금액',  
  `insdtm` DATETIME NOT NULL DEFAULT current_timestamp()  
    COMMENT '등록일시',  
  `moddtm` DATETIME NULL DEFAULT NULL COMMENT '변경일시',  
  PRIMARY KEY (`orderno`, `goodsd`) USING BTREE  
)  
COLLATE='utf8mb4_general_ci'  
ENGINE=InnoDB  
;
```



샘플 데이터

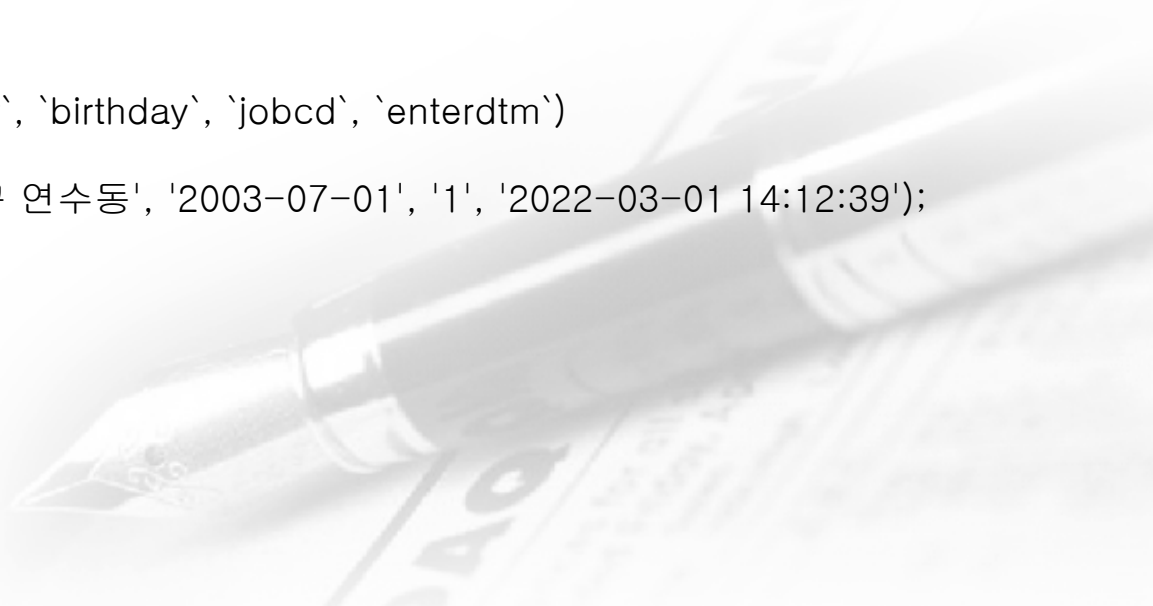
❖ 샘플 데이터 생성

members 테이블에 데이터 입력

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `mileage`, `enterdtm`)  
VALUES  
('hong1', '홍길동', '인천 동구 송림동', '2000-05-08', '2', 500, '2022-03-01 14:10:27');
```

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `mileage`, `enterdtm`)  
VALUES  
('hong2', '홍길동', '서울 강남구 신사동', '1990-01-05', '9', 1000, '2022-03-01  
14:11:50');
```

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `enterdtm`)  
VALUES  
('kim1', '김갑수', '인천 연수구 연수동', '2003-07-01', '1', '2022-03-01 14:12:39');
```



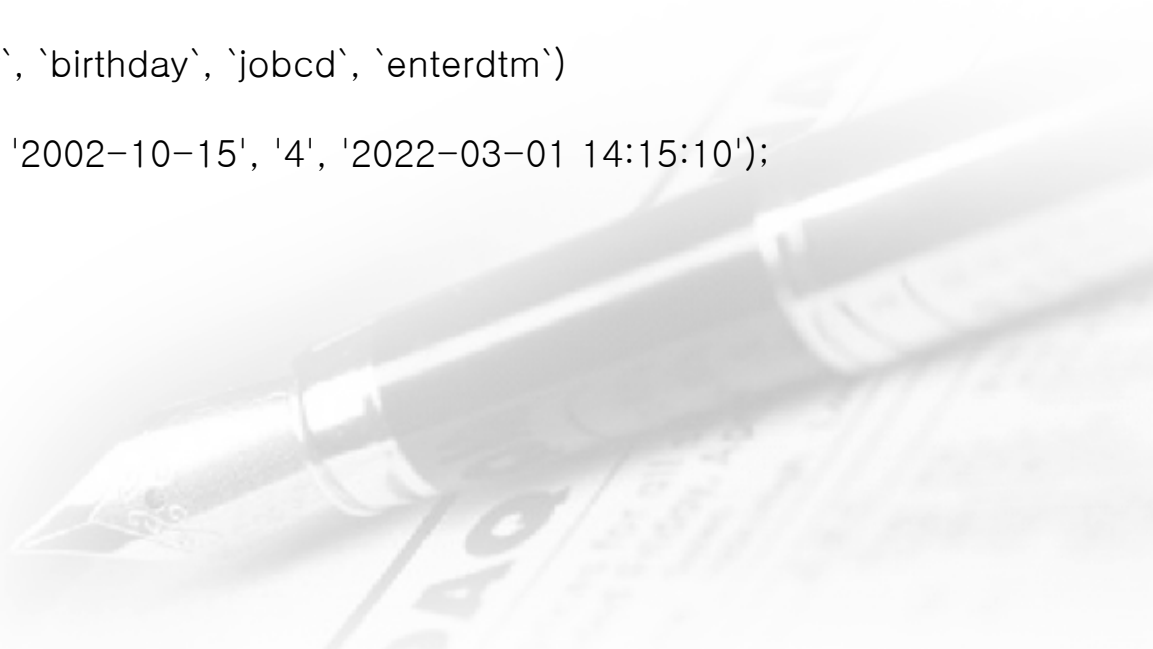
샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `enterdtm`)  
VALUES  
  ('park', '박기자', '경기 부천시', '2002-09-30', '3', '2022-03-01 14:13:16');
```

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `enterdtm`)  
VALUES  
  ('seo', '서갑돌', '인천 동구', '1998-03-10', '1', '2022-03-01 14:08:41');
```

```
INSERT INTO `members`  
  (`memid`, `memname`, `addr`, `birthday`, `jobcd`, `enterdtm`)  
VALUES  
  ('Taeh', '태현', '경기 수원시', '2002-10-15', '4', '2022-03-01 14:15:10');
```



샘플 데이터

❖ 샘플 데이터 생성

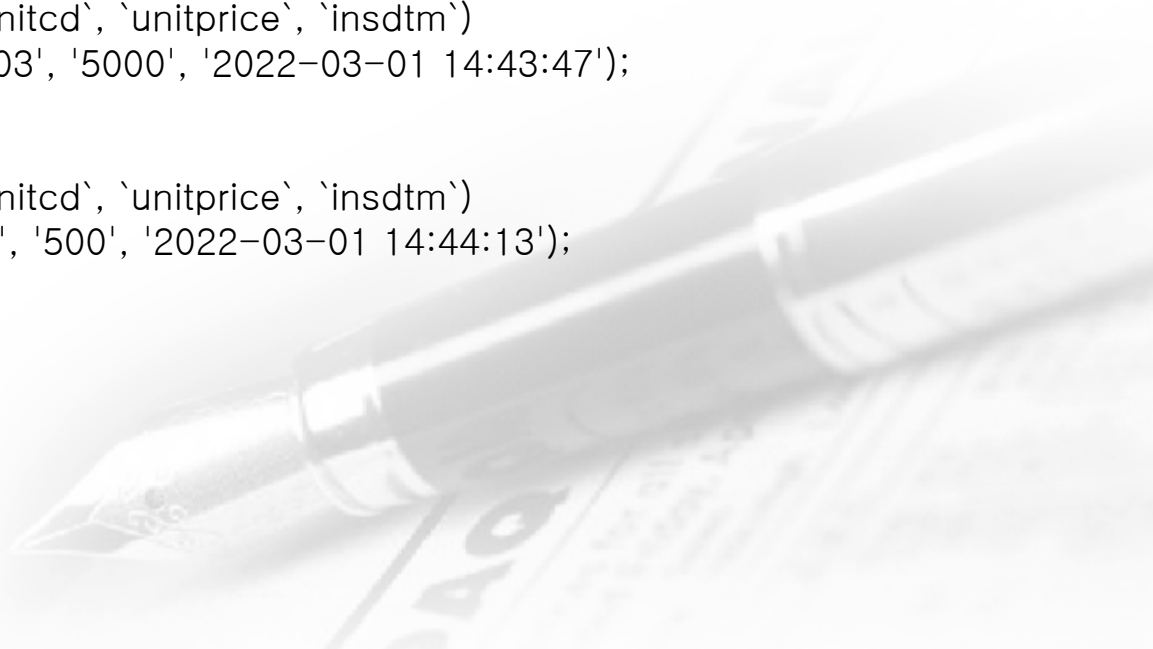
goodsinfo 테이블에 데이터 입력하기: 모두 6행의 데이터

```
INSERT INTO `goodsinfo`  
  (`goodscd`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS01', '노트', '01', '2000', '2022-03-01 14:42:44');
```

```
INSERT INTO `goodsinfo`  
  (`goodscd`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS02', '연필', '02', '100', '2022-03-01 14:43:17');
```

```
INSERT INTO `goodsinfo`  
  (`goodscd`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS03', '복사지', '03', '5000', '2022-03-01 14:43:47');
```

```
INSERT INTO `goodsinfo`  
  (`goodscd`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS04', '볼펜', '02', '500', '2022-03-01 14:44:13');
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO `goodsinfo`  
  (`goodsid`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS05', '네임펜', '02', '1000', '2022-03-01 14:44:30');
```

```
INSERT INTO `goodsinfo`  
  (`goodsid`, `goodsname`, `unitcd`, `unitprice`, `insdtm`)  
VALUES ('GDS06', '크레파스', '02', '1500', '2022-03-01 14:45:30');
```



샘플 데이터

❖ 샘플 데이터 생성

`order\_h` 테이블에 SQL 문으로 데이터 입력하기: 모두 9행의 데이터

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202201001', '2022-01-24', 'seo', '10000', '2022-03-01 14:49:07');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202201002', '2022-01-24', 'hong2', '15000', '2022-03-01 14:50:35');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202201003', '2022-01-25', 'hong1', '20000',  
  '2022-03-01 14:51:19');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202201004', '2022-01-25', 'kim1', '10000',  
  '2022-03-01 14:51:58');
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `cancelyn`,  
   `canceldtm`, `insdtm`) VALUES  
  ('202201005', '2022-01-25', 'park', '5000', 'Y',  
   '2022-01-25 00:00:00', '2022-03-01 14:53:12');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202202001', '2022-02-01', 'hong1', '30000', '2022-03-01 14:54:09');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202202002', '2022-02-01', 'hong1', '1000', '2022-03-01 14:54:40');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202202003', '2022-02-02', 'park', '10000', '2022-03-01 14:55:28');
```

```
INSERT INTO `order_h`  
  (`orderno`, `orddt`, `memid`, `ordamt`, `insdtm`) VALUES  
  ('202202004', '2022-02-02', 'abcd', '500', '2022-03-01 14:56:03');
```

샘플 데이터

❖ 샘플 데이터 생성

`order\_d` 테이블에 SQL 문으로 데이터 입력하기: 모두 16행의 데이터

```
INSERT INTO `order_d`  
  (`orderno`, `goodscd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201001', 'GDS01', '01', '2000', '10', '20000', '2022-03-01 15:10:39');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goodscd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201001', 'GDS02', '02', '100', '50', '5000', '2022-03-01 15:11:39');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goodscd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201001', 'GDS03', '03', '5000', '1', '5000', '2022-03-01 15:12:23');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goodscd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201002', 'GDS01', '01', '1000', '5', '5000', '2022-03-01 15:13:28');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goodscd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201002', 'GDS03', '03', '5000', '10', '50000', '2022-03-01 15:14:26');
```

샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201003', 'GDS04', '02', '500', '50', '25000', '2022-03-01 15:15:12');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201004', 'GDS05', '02', '1000', '10', '10000', '2022-03-01 15:15:59');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201005', 'GDS02', '02', '100', '50', '5000', '2022-03-01 15:16:45');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201005', 'GDS03', '03', '5000', '4', '20000', '2022-03-01 15:17:30');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202201006', 'GDS01', '01', '2000', '1', '2000', '2022-03-01 15:18:08');
```

샘플 데이터

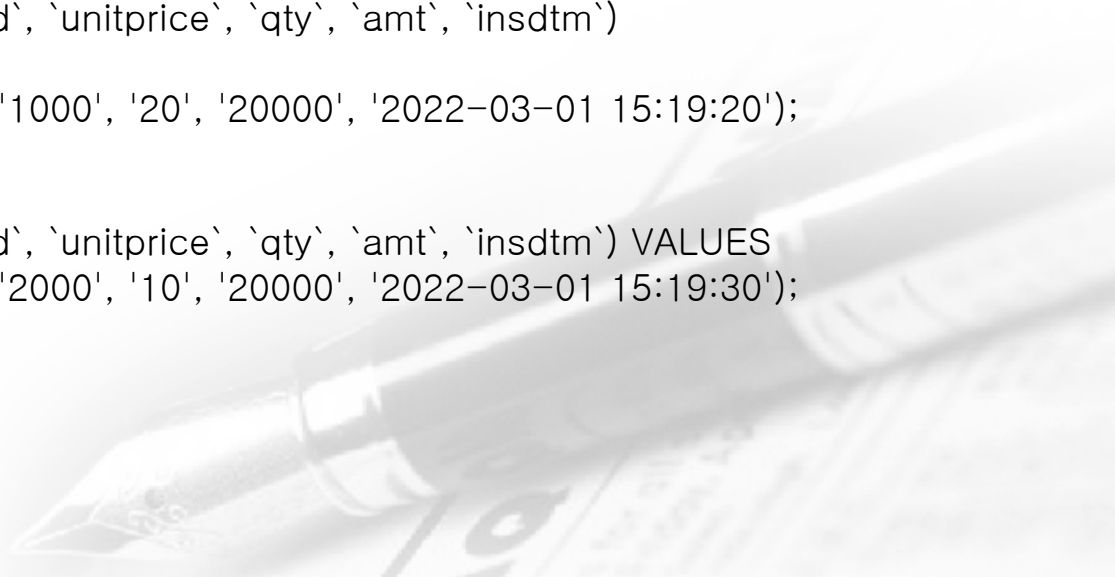
❖ 샘플 데이터 생성

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202202001', 'GDS01', '01', '2000', '10', '20000', '2022-03-01 15:18:59');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202202001', 'GDS03', '03', '5000', '1', '5000', '2022-03-01 15:19:10');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202202001', 'GDS05', '02', '1000', '20', '20000', '2022-03-01 15:19:20');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`) VALUES  
  ('202202003', 'GDS01', '01', '2000', '10', '20000', '2022-03-01 15:19:30');
```



샘플 데이터

❖ 샘플 데이터 생성

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`)  
VALUES  
  ('202202003', 'GDS07', '03', '2000', '20', '40000', '2022-03-01 15:20:30');
```

```
INSERT INTO `order_d`  
  (`orderno`, `goods_cd`, `unitcd`, `unitprice`, `qty`, `amt`, `insdtm`)  
VALUES  
  ('202202004', 'GDS01', '01', '2000', '10', '20000', '2022-03-01 15:21:18');
```



샘플 데이터

❖ 샘플 데이터 생성

✓ 대용량 데이터 복사

- 링크에서 파일 다운로드:
https://drive.google.com/file/d/18kdG3c2g_33RKohe2qDDHkfj1opt9leb/view?usp=drive_link
- 압축을 해제하고 압축을 해제한 디렉토리로 이동해서 `mysql -u root -p` 명령을 이용해서 mariadb에 접속
- 명령 수행: `source employees.sql`
- 확인: `show database`

