

# 1 Einführung SQL

## 1.1 Beispiel DATENBANKEN

```
drop table anbot;  
drop table produzenten;  
drop table haendler;  
drop table dbs;
```

### Produzenten

```
CREATE TABLE Produzenten (PName CHAR(5) NOT NULL , Stadt CHAR(11) DEFAULT  
'München', Web VARCHAR(10) NOT NULL , PRIMARY KEY (PName));  
  
insert into produzenten values ('P3', 'Berlin', 'www.p3.com');  
insert into produzenten values ('P1', 'Hamburg', 'www.p1.de');  
insert into produzenten values ('P2', 'Frankfurt', 'www.p2.de');  
insert into produzenten values ('P4', 'Rom', 'www.p4.it');  
insert into produzenten values ('P5', 'Passau', 'www.p5.info');  
  
select * from produzenten;
```

### DBS

```
CREATE TABLE datenbanksysteme.DBS (BezDBS CHAR(10) NOT NULL , Typ  
VARCHAR(10) NOT NULL , Plattform VARCHAR(10) NULL DEFAULT 'UNIX' , LPreis  
DECIMAL(7,2) NOT NULL , PName CHAR(5) NOT NULL , Datum date, PRIMARY KEY  
(`BezDBS`), Foreign key (pname) references produzenten(pname));  
  
insert into dbs (bezdb, typ, plattform, lpreis, pname, datum) values  
( 'DBS1', 'RDBS', 'UNIX', 9500.10, 'P1', '2014-07-20'),  
( 'DBS2', 'RDBS', 'UNIX', 3000.20, 'P1', '2015-10-20'),  
( 'DBS9', 'NoSQL', 'LINUX', 3000.20, 'P1', '2017-01-01'),  
( 'DBS8', 'RDBS', 'LINUX', 1200.30, 'P2', '2016-08-20'),  
( 'DBS7', 'OODBS', 'UNIX', 5000.40, 'P3', '2010-07-20'),  
( 'DBS6', 'OODBS', 'WINDOWS', 1800.55, 'P2', '2017-06-20'),  
( 'DBS5', 'OODBS', 'LINUX', 900.66, 'P1', '2016-04-20'),  
( 'DBS4', 'NoSQL', 'WINDOWS', 2000.77, 'P4', '2014-02-20'),  
( 'DBS3', 'RDBS', 'LINUX', 2301.00, 'P2', '2017-02-26'),  
( 'DBS10', 'RDBS', 'WINDOWS', 600.88, 'P4', '2016-03-20'),  
( 'DBS11', 'RDBS', 'WINDOWS', 800.90, 'P5', '2015-11-20');  
  
/*Unvollständige Eingaben:*/  
  
insert into dbs (bezdb, typ, pname) values ('DBS99', 'NoSQL', 'P1');  
insert into dbs (bezdb, plattform, pname, datum) values ('DBS98', 'UNIX',  
'P1', '2014-07-20');  
insert into dbs (bezdb, pname) values ('DBS97', 'P1');  
  
delete from dbs where bezdb='DBS97';
```

```

delete from dbs where bezdbs='DBS98';
delete from dbs where bezdbs='DBS99';

update dbs SET lpreis=2300 WHERE bezdbs='DBS3';
update dbs SET datum='2015-02-27' WHERE bezdbs='DBS3';
SELECT * FROM dbs where bezdbs='DBS3';

```

## Haendler

```

create table haendler (fname char(5), ort char(10), strasse char(14),
rabatt decimal(2,0), primary key(fname));

```

```

insert into haendler (fname, ort, strasse, rabatt) VALUES
('HAE1', 'Frankfurt', 'Hammerweg 5', 10),
('HAE5', 'Ravensburg', 'Hammerstraße 3', 20),
('HAE2', 'München', 'Hummelweg 99', 6),
('HAE3', 'Passau', 'Langstr. 1', 12),
('HAE6', 'Vilshofen', 'An der Donau 7', 5),
('HAE4', 'Stuttgart', 'Bahnhofstr. 20', 8);
insert into haendler values ('HAE7', 'Stuttgart', 'Hummerweg 20', 7)

```

```

SELECT * FROM `haendler`;

```

## ANGEBOT

```

create table angebot (bezdbs char(10), fname char(5), mpreis decimal(8,2),
primary key (bezdbs, fname), foreign key (bezdbs) references dbs (bezdbs),
foreign key (fname) references haendler (fname));

```

```

Insert into angebot (bezdbs, fname, mpreis) values ('DBS3', 'HAE3', NULL),
('DBS11', 'HAE4', 500.00),
('DBS9', 'HAE1', 2200.50),
('DBS9', 'HAE2', 2500.00),
('DBS8', 'HAE5', 1000.00),
('DBS9', 'HAE4', 3150.00),
('DBS7', 'HAE4', 4500.00),
('DBS6', 'HAE1', 1700.50),
('DBS4', 'HAE2', 1800.00),
('DBS5', 'HAE3', NULL),
('DBS1', 'HAE3', 7100.00),
('DBS8', 'HAE6', 1150.00),
('DBS8', 'HAE2', 1140.00);

```

## TYPEN

```

CREATE TABLE typen (Bez varchar(10), mafu char(10), anteil decimal(2,0),
primary key (bez), foreign key (mafu) references dbs (bezdbs));

```

```

insert into typen values ('NoSQL', 'DBS4', 80),
('OODBS', 'DBS6', 40),
('RDBS', 'DBS2', 35);

```

## 1.2 Beispiel KUCHEN

AWB Kuchen:

Create database KuchenBaecker;

Drop table baeku;

Drop table baecker;

Drop table kuchen;

```
create table kuchen (KNr int(2), BEZ char(15), KalStueck int(4), preis decimal(4,2), primary key (KNr));
```

```
create table Baecker (BNr int(2), Name char(15), primary key (BNr));
```

/\*mit Fremdschlüsseln

```
create table BaeKu (BNr int(2), KNr int(2), preis decimal(4,2), primary key(BNr, KNr), foreign key (BNr) references baecker(bnr), foreign key (knr) references kuchen(knr));
```

/\*ohne Fremdschlüssel

```
create table BaeKu (BNr int(2), KNr int(2), preis decimal(4,2), primary key(BNr, KNr));
```

delete from kuchen;

```
insert into kuchen values (1, 'Obstschnitte', 600, 1.70);
```

```
insert into kuchen values
```

```
(2, 'Apfelkuchen', 650, 1.70),
```

```
(3, 'Kirschkuchen', 720, 2.10),
```

```
(4, 'Kirschtorte', 720, 2.52),
```

```
(5, 'Mohnkuchen', 920, 2.38),
```

```
(6, 'Sahnetorte', 1300, 2.46);
```

```
Insert into baecker values (10, 'Müller');
```

```
Insert into baecker values
```

```
(20, 'Huber'),
```

```
(30, 'Gonzales'),
```

```
(40, 'Mertens');
```

Insert into baeku values

(20, 1, 1.50),

(40, 1, 1.60),

(10, 2, 2.00),

(20, 2, 1.90),

(30, 2, 2.10),

(40, 2, 2.20),

(30, 3, 2.70),

(40, 4, 3.10),

(40, 5, 3.00),

(20, 5, 4.00),

(30, 5, 5.00),

(40, 6, 4.00);

select a.bnr, a.knr, a. preis, b.name, c.bez from baeku a, baecker b, kuchen c where a.bnr=b.bnr and a.knr=c.knr order by a.bnr, a.knr;

| bnr | knr | preis | name     | bez          |
|-----|-----|-------|----------|--------------|
| 10  | 2   | 2.00  | Müller   | Apfelkuchen  |
| 20  | 1   | 1.50  | Huber    | Obstschnitte |
| 20  | 2   | 1.90  | Huber    | Apfelkuchen  |
| 20  | 5   | 4.00  | Huber    | Mohnkuchen   |
| 30  | 2   | 2.10  | Gonzales | Apfelkuchen  |
| 30  | 3   | 2.70  | Gonzales | Kirschkuchen |
| 30  | 5   | 5.00  | Gonzales | Mohnkuchen   |
| 40  | 1   | 1.60  | Mertens  | Obstschnitte |
| 40  | 2   | 2.20  | Mertens  | Apfelkuchen  |
| 40  | 4   | 3.10  | Mertens  | Kirschtorte  |
| 40  | 5   | 3.00  | Mertens  | Mohnkuchen   |
| 40  | 6   | 4.00  | Mertens  | Sahnetorte   |

SELECT \* FROM `baecker` order by bnr

| BNr | Name     |
|-----|----------|
| 10  | Müller   |
| 20  | Huber    |
| 30  | Gonzales |
| 40  | Mertens  |

select \* from kuchen order by knr

| KNr | BEZ          | KalStueck | preis |
|-----|--------------|-----------|-------|
| 1   | Obstschnitte | 600       | 1.70  |
| 2   | Apfelkuchen  | 650       | 1.70  |
| 3   | Kirschkuchen | 720       | 2.10  |
| 4   | Kirschtorte  | 720       | 2.52  |
| 5   | Mohnkuchen   | 920       | 2.38  |
| 6   | Sahnetorte   | 1300      | 2.46  |

update kuchen set kalstueck=600 where knr=1

update kuchen set kalstueck=650 where knr=2

update kuchen set kalstueck=720 where knr=3

update kuchen set kalstueck=720 where knr=4

update kuchen set kalstueck=920 where knr=5

update kuchen set kalstueck=1300 where knr=6

Filialen dazunehmen

Create table filialen (ort char(20), straÙe char(20));

ALTER TABLE baecker ADD nr INT UNSIGNED NOT NULL AUTO\_INCREMENT, ADD PRIMARY KEY (nr);

describe;

### 1.3 Beispiel ABT-ANG

```
Create table ABT (AbtNr int(2), Bez char(10));
```

```
Create table ANG (PersNr int(5), Name char(20), AbtNr int(2));
```

```
Insert into ABT values
```

```
(55, 'IT'),
```

```
(60, 'ORG'),
```

```
(44, 'Logistik'),
```

```
(66, 'Marketing');
```

```
insert into abt values (90, 'Lager'), (91, 'Forschung');
```

```
insert into ANG VALUES
```

```
(1001, 'Müller', 55),
```

```
(5005, 'Czerny', 55),
```

```
(6006, 'Ruderer', 90);
```

```
insert into ANG (PersNR, Name) VALUES
```

```
(1002, 'Phillips'),
```

```
(5006, 'Hammer');
```

Schlüssel und FS einrichten:

```
alter table abt ADD PRIMARY KEY (AbtNr);
```

```
alter table ang ADD PRIMARY KEY (PersNr);
```

ANG\_F

```
create table ang_f as select * from ang where persnr >10000;
```

```
insert into ang_f
  values (2000, 'Voller', 44);
insert into ang_f values
  (2010, 'Schlicht', 66);
insert into ang_f values
  (2020, 'Stur', 91);
```

## 1.4 Beispiel FITNESS

delete from fitness;

```
create table fitness (Name char(10),  
    MitglNr tinyint (3) unsigned,  
    AlterM tinyint (2) unsigned,  
    Gewicht decimal (4,2) unsigned,  
    Punkte tinyint (2))
```

insert into fitness VALUES

('Rapunzel', 2, 18, 68.8, -10),

('Pfarr', 4, 27, 65.49, -5),

('Stilz', 5, 49, 64.01, 29),

('Rumpel', 6, 33, 63.55, 21),

('Maier', 7, 30, 60.20, -20),

('Metzger', 8, 22, 59.25, 30),

('Dürr', 9, 45, 55.45, 25),

('Groß', 1, 39, 62.10, -10),

('Storch', 10, 27, 45.50, 17),

('Rot', 3, 18, 49.44, 27),

('Schmalz', 11, 64, 62.24, -5);