

Primary Key ↓

user テーブル → userID

department テーブル → departmentID

station テーブル → stationID

親テーブル

- department
- station

子テーブル

- user

Foreign Key ↓

- user テーブルの departmentID が外部キー
(参照先は department テーブルの departmentID)
- user テーブルの stationID が外部キー
(参照先は station テーブルの stationID)

↓全テーブル

```
MariaDB [Challenge_DB]> SELECT * FROM user;
```

userID	name	tell	age	birthday	departmentID	stationID
1	田中 実	012-345-6789	30	1994-02-01	3	1
2	鈴木 茂	090-1122-3344	37	1987-08-12	3	4
3	鈴木 実	080-5566-7788	24	2000-12-24	2	5
4	佐藤 清	012-0987-6543	19	2005-08-01	1	5
5	高橋 清	090-9900-1234	24	2000-12-24	3	5

5 rows in set (0.00 sec)

```
MariaDB [Challenge_DB]> SELECT * FROM department;
```

departmentID	departmentName
1	開発部
2	営業部
3	総務部

3 rows in set (0.00 sec)

```
MariaDB [Challenge_DB]> SELECT * FROM station;
```

stationID	stationName
1	九段下
2	永田町
3	渋谷
4	神保町
5	上井草

5 rows in set (0.00 sec)

user テーブル キー 確認↓
SHOW CREATE TABLE user;

```
user | CREATE TABLE `user` (  
  `userID` int(11) NOT NULL,  
  `name` varchar(255) DEFAULT NULL,  
  `tell` varchar(255) DEFAULT NULL,  
  `age` int(11) DEFAULT NULL,  
  `birthday` date DEFAULT NULL,  
  `departmentID` int(11) NOT NULL,  
  `stationID` int(11) NOT NULL,  
  PRIMARY KEY (`userID`),  
  KEY `departmentID` (`departmentID`),  
  KEY `stationID` (`stationID`),  
  CONSTRAINT `user_ibfk_1` FOREIGN KEY (`departmentID`) REFERENCES `department` (`departmentID`),  
  CONSTRAINT `user_ibfk_2` FOREIGN KEY (`stationID`) REFERENCES `station` (`stationID`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8 |
```

department テーブル キー 確認↓

```
| Table      | Create Table  
+-----+  
| department | CREATE TABLE `department` (  
  `departmentID` int(11) NOT NULL,  
  `departmentName` varchar(255) DEFAULT NULL,  
  PRIMARY KEY (`departmentID`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8 |  
+-----+  
+-----+  
+-----+
```

station テーブル キー 確認↓

```
station | CREATE TABLE `station` (  
  `stationID` int(11) NOT NULL,  
  `stationName` varchar(255) DEFAULT NULL,  
  PRIMARY KEY (`stationID`)  
ENGINE=InnoDB DEFAULT CHARSET=utf8 |  
+-----+  
+-----+  
+-----+
```

+++やりかた+++

- ①全てのテーブルを先につくる
- ②あとから主キー、外部キーを設定する

①のSQL文

user
CREATE TABLE
-> user

-> (userID int,name varchar(255),tell varchar(255),age int,birthday date,departmentID int,stationID int);

↓情報入力

INSERT INTO user (userID,name,tell,age,birthday,departmentID,stationID) VALUES (1,'田中 実','012-345-6789','30','1994-02-01',3,1);

INSERT INTO user (userID,name,tell,age,birthday,departmentID,stationID) VALUES (2,'鈴木 茂','090-1122-3344',37,'1987-08-12',3,4);

INSERT INTO user(userID,name,tell,age,birthday,departmentID,stationID) VALUES (3,'鈴木 実','080-5566-7788',24,'2000-12-24',2,5);

INSERT INTO user(userID,name,tell,age,birthday,departmentID,stationID) VALUES (4,'佐藤 清','012-0987-6543',19,'2005-08-01',1,5);

INSERT INTO user(userID,name,tell,age,birthday,departmentID,stationID) VALUES (5,'高橋 清','090-9900-1234',24,'2000-12-24',3,5);

* department

CREATE TABLE

-> department

-> (departmentID int,departmentName varchar(255));

情報入力↓

INSERT INTO department(departmentID,departmentName)VALUES(1,'開発部');

INSERT INTO department(departmentID,departmentName)VALUES(2,'営業部');

INSERT INTO department(departmentID,departmentName)VALUES(3,'総務部');

* station

CREATE TABLE

-> station

-> (stationID int,stationName varchar(255));

情報入力↓

INSERT INTO station(stationID,stationName)VALUES(1,'九段下');

INSERT INTO station(stationID,stationName)VALUES(2,'永田町');

INSERT INTO station(stationID,stationName)VALUES(3,'渋谷');

INSERT INTO station(stationID,stationName)VALUES(4,'神保町');

INSERT INTO station(stationID,stationName)VALUES(5,'上井草');

②主キーをつける

ALTER TABLE user ADD PRIMARY KEY(userID);

```
ALTER TABLE department ADD PRIMARY KEY(departmentID);
```

```
ALTER TABLE station ADD PRIMARY KEY(stationID);
```

③外部キーをつける

```
ALTER TABLE user
```

```
-> ADD FOREIGN KEY(departmentID)
```

```
-> REFERENCES department(departmentID);
```

```
ALTER TABLE user
```

```
-> ADD FOREIGN KEY(stationID)
```

```
-> REFERENCES station(stationID);
```