

# LU07.S01 - Preparations for the assignment of the DML commands

## Preparation Assignments

### A: Creating the data schema

First of all we need a database schema (database workspace). Execute the following two lines on your MySQL installation.

```
CREATE DATABASE hr_database;
SHOW DATABASES;
USE hr_database;
```

After executing the three SQL commands above, the feedback from your database would look like in the image below:

The screenshot shows a MySQL query editor in WebStorm. The top part shows the SQL code:

```
1 SHOW DATABASES;
2 CREATE DATABASE hr_database;
3 SHOW DATABASES;
4 USE hr_database;
```

The second line, `CREATE DATABASE hr_database;`, is highlighted with a green selection bar. The bottom part shows the results in the "Result" tab:

Database
hr_database
information_schema
mysql
performance_schema
sys

Red arrows point to the newly created `hr_database` entry in both the code editor and the results table.

**Result in webstorm**

### B: CREATE TABLE

To exercise the DML commands, we need a suitable table including a reasonable amount of data. The following SQL statement will create a table **employee** regarding all necessary attributes of an „average employee“.

```
CREATE TABLE EMPLOYEES (
    employee_ID INT PRIMARY KEY,          -- Employee ID as the primary key
    ....
```

**Result in Webstorm** After creating the table „employees“ the result in our Webstorm ought to look like the figure above:

The screenshot shows the Webstorm interface with a database connection named 'firstConnection'. In the top-left code editor, line 81 contains the SQL query 'select \* from employees;'. A red arrow points to this line. Below it, the 'Output' tab shows the results of the query: '0 rows'. Another red arrow points to this output area. The bottom part of the interface shows the 'employees' table structure with columns: employee\_id, name, surname, birthdate, sex, pronomen, employment\_date, salary, and department.

## C1: Initial data import

Once we have created our 'employees' table, we need a reasonable amount of data to be able to make the assignments. The following SQL INSERTS will provide you with the initial data of 30 employees. Though execute the following INSERT statements on your MySQL.

As we already know there are two ways how to import the initial data consisting of 30 rows of employee data:

- multiple inserts
- single insert

### Multiple inserts

```
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (1, 'John', 'Doe', '1985-03-25', 'M', 'He/Him', '2015-01-15', 55000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (2, 'Jane', 'Smith', '1990-07-19', 'F', 'She/Her', '2017-06-10', 60000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (3, 'Mike', 'Brown', '1982-11-02', 'M', 'He/Him', '2012-03-05', 75000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (4, 'Sarah', 'Johnson', '1970-01-14', 'F', 'She/Her', '2020-08-22', 50000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (5, 'Chris', 'Williams', '1987-04-11', 'M', 'He/Him', '2016-09-30', 65000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
```

```
employment_date, salary, department)
VALUES (6, 'Anna', 'Lee', '1993-12-01', 'F', 'She/Her', '2018-04-12',
72000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (7, 'David', 'Kim', '1989-10-22', 'M', 'He/Him', '2014-11-08',
69000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (8, 'Laura', 'Clark', '1986-02-17', 'F', 'She/Her', '2013-05-01',
56000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (9, 'Jake', 'Lewis', '1962-09-05', 'M', 'He/Him', '2019-12-20',
59000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (10, 'Emily', 'Martinez', '1996-06-13', 'F', 'She/Her', '2021-01-05',
61000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (11, 'Ryan', 'Turner', '1991-05-21', 'M', 'He/Him', '2017-07-19',
70000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (12, 'Sophia', 'Adams', '1988-12-06', 'F', 'She/Her', '2014-02-11',
62000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (13, 'Nathan', 'Garcia', '1994-03-29', 'M', 'He/Him', '2018-09-15',
66000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (14, 'Olivia', 'Baker', '1983-08-11', 'F', 'She/Her', '2011-10-25',
78000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (15, 'Liam', 'Scott', '1958-12-18', 'M', 'He/Him', '2020-06-13',
53000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (16, 'Isabella', 'Carter', '1990-01-02', 'F', 'She/Her',
'2016-03-30', 67000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (17, 'James', 'Rodriguez', '1984-05-14', 'M', 'He/Him', '2013-07-22',
72000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen,
employment_date, salary, department)
VALUES (18, 'Mia', 'Lopez', '1998-09-27', 'F', 'She/Her', '2021-03-11',
51000.00, 'IT');
```

```
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (19, 'Ethan', 'Harris', '1970-04-07', 'M', 'He/Him', '2019-10-05', 64000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (20, 'Charlotte', 'Moore', '1986-11-03', 'F', 'She/Her', '2014-12-30', 59000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (21, 'Lucas', 'Jackson', '1989-02-28', 'M', 'He/Him', '2015-08-18', 74000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (22, 'Amelia', 'Young', '1991-06-23', 'F', 'She/Her', '2016-11-02', 62000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (23, 'Henry', 'King', '1993-10-08', 'M', 'He/Him', '2018-05-07', 67000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (24, 'Grace', 'Wright', '1987-03-19', 'F', 'She/Her', '2012-04-14', 71000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (25, 'Jack', 'White', '1962-08-15', 'M', 'He/Him', '2019-01-23', 69000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (26, 'Chloe', 'Martin', '1996-12-31', 'F', 'She/Her', '2021-07-05', 54000.00, 'IT');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (27, 'Daniel', 'Green', '1985-09-25', 'M', 'He/Him', '2013-02-13', 76000.00, 'Marketing');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (28, 'Ella', 'Hall', '1994-04-30', 'F', 'She/Her', '2017-09-26', 63000.00, 'HR');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (29, 'Oliver', 'Nelson', '1993-07-21', 'M', 'He/Him', '2018-11-19', 64000.00, 'Finance');
INSERT INTO EMPLOYEES (employee_id, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES (30, 'Ava', 'Walker', '1958-02-11', 'F', 'She/Her', '2021-05-30', 52000.00, 'Marketing');
```

## Single insert

```
INSERT INTO EMPLOYEES (employee_ID, name, surname, birthdate, sex, pronomen, employment_date, salary, department)
VALUES
    (1, 'John', 'Doe', '1985-03-25', 'M', 'He/Him', '2015-01-15', 55000.00, 'Finance'),
    (2, 'Jane', 'Smith', '1990-07-19', 'F', 'She/Her', '2017-06-10', 60000.00, 'HR'),
    (3, 'Mike', 'Brown', '1982-11-02', 'M', 'He/Him', '2012-03-05', 75000.00, 'IT'),
    (4, 'Sarah', 'Johnson', '1970-01-14', 'F', 'She/Her', '2020-08-22', 50000.00, 'Marketing'),
    (5, 'Chris', 'Williams', '1987-04-11', 'M', 'He/Him', '2016-09-30', 65000.00, 'Finance'),
    (6, 'Anna', 'Lee', '1993-12-01', 'F', 'She/Her', '2018-04-12', 72000.00, 'IT'),
    (7, 'David', 'Kim', '1989-10-22', 'M', 'He/Him', '2014-11-08', 69000.00, 'Marketing'),
    (8, 'Laura', 'Clark', '1986-02-17', 'F', 'She/Her', '2013-05-01', 56000.00, 'HR'),
    (9, 'Jake', 'Lewis', '1962-09-05', 'M', 'He/Him', '2019-12-20', 59000.00, 'Finance'),
    (10, 'Emily', 'Martinez', '1996-06-13', 'F', 'She/Her', '2021-01-05', 61000.00, 'IT'),
    (11, 'Ryan', 'Turner', '1991-05-21', 'M', 'He/Him', '2017-07-19', 70000.00, 'Marketing'),
    (12, 'Sophia', 'Adams', '1988-12-06', 'F', 'She/Her', '2014-02-11', 62000.00, 'HR'),
    (13, 'Nathan', 'Garcia', '1994-03-29', 'M', 'He/Him', '2018-09-15', 66000.00, 'Finance'),
    (14, 'Olivia', 'Baker', '1983-08-11', 'F', 'She/Her', '2011-10-25', 78000.00, 'IT'),
    (15, 'Liam', 'Scott', '1958-12-18', 'M', 'He/Him', '2020-06-13', 53000.00, 'Marketing'),
    (16, 'Isabella', 'Carter', '1990-01-02', 'F', 'She/Her', '2016-03-30', 67000.00, 'HR'),
    (17, 'James', 'Rodriguez', '1984-05-14', 'M', 'He/Him', '2013-07-22', 72000.00, 'Finance'),
    (18, 'Mia', 'Lopez', '1998-09-27', 'F', 'She/Her', '2021-03-11', 51000.00, 'IT'),
    (19, 'Ethan', 'Harris', '1970-04-07', 'M', 'He/Him', '2019-10-05', 64000.00, 'Marketing'),
    (20, 'Charlotte', 'Moore', '1986-11-03', 'F', 'She/Her', '2014-12-30', 59000.00, 'HR'),
    (21, 'Lucas', 'Jackson', '1989-02-28', 'M', 'He/Him', '2015-08-18', 74000.00, 'Finance'),
    (22, 'Amelia', 'Young', '1991-06-23', 'F', 'She/Her', '2016-11-02', 62000.00, 'IT'),
    (23, 'Henry', 'King', '1993-10-08', 'M', 'He/Him', '2018-05-07', 67000.00, 'Marketing'),
```

```
(24, 'Grace', 'Wright', '1987-03-19', 'F', 'She/Her', '2012-04-14',  
71000.00, 'HR'),  
(25, 'Jack', 'White', '1962-08-15', 'M', 'He/Him', '2019-01-23', 69000.00,  
'Finance'),  
(26, 'Chloe', 'Martin', '1996-12-31', 'F', 'She/Her', '2021-07-05',  
54000.00, 'IT'),  
(27, 'Daniel', 'Green', '1985-09-25', 'M', 'He/Him', '2013-02-13',  
76000.00, 'Marketing'),  
(28, 'Ella', 'Hall', '1994-04-30', 'F', 'She/Her', '2017-09-26', 63000.00,  
'HR'),  
(29, 'Oliver', 'Nelson', '1993-07-21', 'M', 'He/Him', '2018-11-19',  
64000.00, 'Finance'),  
(30, 'Ava', 'Walker', '1958-02-11', 'F', 'She/Her', '2021-05-30',  
52000.00, 'Marketing');
```

## Solution

Lösung

## Vocabulary

English	German
...	...



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