

**Multimedia im Netz**  
**Online Multimedia**  
**Winter semester 2015/16**

Tutorial 05 – Minor Subject



# Today's Agenda

- Discussion of assignment 04
- PHP and MySQL
- Break Out: Music-Albums Organization WebPage
- Quiz
- Discussion of “Hangman” Solution (Assignment 03)

# Assignment 04, Task 1

ID	FirstName	LastName	StreetAddress	City
1	Theresa	Bauer	Amalienstr. 17	Munich
2	Max	Mustermann	Theresienstr. 49	Munich
3	Felix	Stein	Hauptstr. 2	Karlsruhe

# PHP + MySQL

# PHP & MySQL

- Multiple functions and APIs available for PHP to work with databases:
  - mysql („Deprecated“ since PHP 5.5.0)
  - **mysqli** (i is for „improved“)
  - PDO (PHP Data Objects)
- „mysql“ is still supported for older PHP versions
- It is highly recommendable to use mysqli or PDO

# MySQL at the CIP-Pool (reminder)

- Access “Datenbank Management” here:  
<https://tools.rz.ifi.lmu.de/>
- Create a new account (required)
- Create a new database (required)
- Connect to db2.cip.ifi.lmu.de

# Mysqli

- i stands for “improved”
- Offers two interfaces
  - **Procedural (traditional) ← that’s what we will use.**
  - Object-oriented (see lecture slides)
- Supports...:
  - „prepared“ statements
  - multiple statements within one query
  - transactions
- Improved debugging tools

# Mysqli (procedural)

- Establish connection (replace user, password, and mydb with your own credentials)  
`$c = mysqli_connect("localhost", "user", "password", "mydb");`
- Select database  
`mysqli_select_db($c, "mydb");`
- Close connection  
`mysqli_close($c);`
- PHP statement for MySQL query  
`$results = mysqli_query($c, $query);`
- Process the results:  
`mysqli_fetch_array($results);`  
`mysqli_fetch_array($results, MYSQLI_NUM);`  
`mysqli_fetch_array($results, MYSQLI_ASSOC);`



# Example

*Table: Contacts*

PersonID	FirstName	LastName	PhoneNumber
1	Max	Mustermann	089455544431
2	Laura	Stern	070815643593
3	Tanja	Baumann	0895673138
4	Felix	Maurer	0894562897

# Establish Connection with MySQLi

```
<?php
$c = mysqli_connect("localhost", "root", "");

if($c){
    echo "Connection has been successfully established.";
} else {
    echo "Could not connect to database. ";
}
?>
```

# Create Database (not possible at CIP-Pool!)

```
<?php
//... Create connection
$query = "CREATE DATABASE mmn1516";
$result = mysqli_query($c, $query);

if(!$result){
    echo mysqli_error($c);
}
else{
    echo "Database was created";
}
?>
```

# Select a specific database

- Either at connection (DB has to exist beforehand):

```
$c = mysqli_connect("localhost", "username",  
                    "password", "mmn1516");
```

- Or with `mysqli_select_db()`:

```
mysqli_select_db($c, "mmn1516");
```

# Create a table

```
<?php
// ... Connection etc.
$query = "CREATE TABLE Contacts
(PersonID int NOT NULL PRIMARY KEY AUTO_INCREMENT,
FirstName varchar(255) NOT NULL,
LastName varchar(255) NOT NULL,
PhoneNumber int NOT NULL)";

$result = mysqli_query($c, $query);

?>
```

# Add an entry

```
<?php
$query = "INSERT INTO
        Contacts
        (FirstName, LastName, PhoneNumber)
        VALUES
        ('Max', 'Mustermann', 098776557)";

mysqli_query($c, $query);
?>
```

# Read entries

```
<?php
// ... Connection etc.
$query = "SELECT * FROM Contacts";
$result = mysqli_query($c, $query);

while($contact = mysqli_fetch_assoc($result)){
    $firstName = $contact['FirstName'];
    $lastName = $contact['LastName'];
    $phoneNumber = $contact['PhoneNumber'];
    echo "$firstName $lastName $phoneNumber <br />";
}
?>
```

# Breakout

- Create a database table “albums” with PHP
- The table has these columns:
  - ID: automatically incremented, primary key
  - Title: the name of the album
  - Artist: the artist name of the album
  - Year: The release year of the album
- Add one or two albums with a PHP script
- Show the contents of the table in a web page
  
- Time frame: 40 Minutes



# Round-up Quiz

1. What does the “i” in mysqli mean?
2. What is mysqli\_close() good for?
3. Which parameters does mysqli\_query() take?
4. When do we need mysqli\_select\_db()?
5. What does mysqli\_fetch\_assoc() do?
6. Which parameter does mysqli\_fetch\_assoc() take?

**Thanks!**

**What are your questions?**

# Let's begin with the Assignment!

- Download the assignment sheet
- Start with task 1
- You can collaborate with your neighbor
- Turn in the assignment by November 25<sup>th</sup>, 12:00 noon via UniWorX