

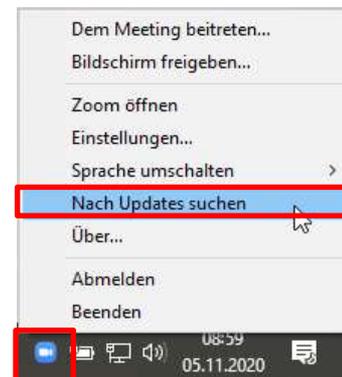
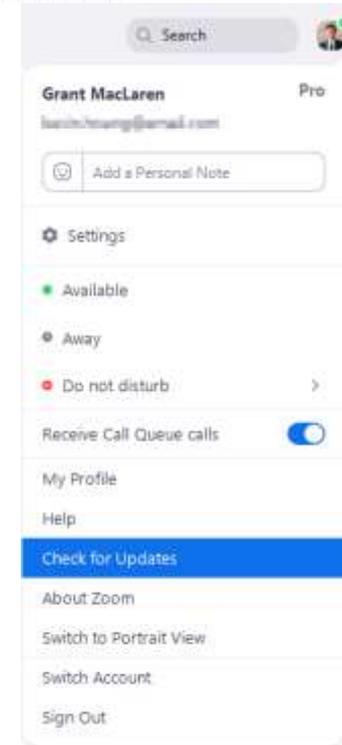
# Database Technologies

## 1. Exercise



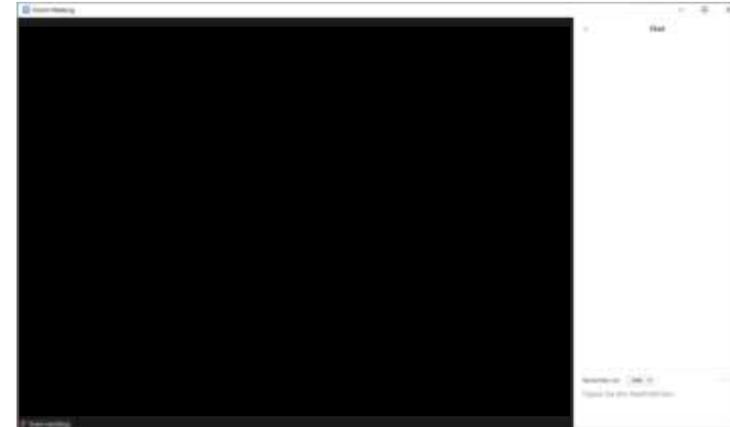
Hi 😊

- This semester the exercises will be online
  - to prepare for it, please use the zoom desktop client
  - In case you do not have an up to date version of Zoom client, **update it**
    - we will use some features of Zoom which only works with an up to date version such as Polls/breakout rooms
    - Sign in to Zoom desktop client
    - Click your profile picture then click **Check for Updates**
  - faster way for Windows
    - Right click on the small zoom icon down in the system tray
    - Choose “Check for Updates”



# Zooooooooooooom

- Webcam is not mandatory, **but**
  - from my previous teaching experience
    - it helps **you** to get to know your classmates if you turn on your webcam
    - especially for working in groups
  - Nevertheless, cool backgrounds are possible (preferred)
    - but it has some hardware requirements (may not work with every PC)
    - how to change background:



# Zooooooooooooom

- Before entering the zoom room, check
  - that your audio/video is working
  - activated the background if you wish

# Further preparation

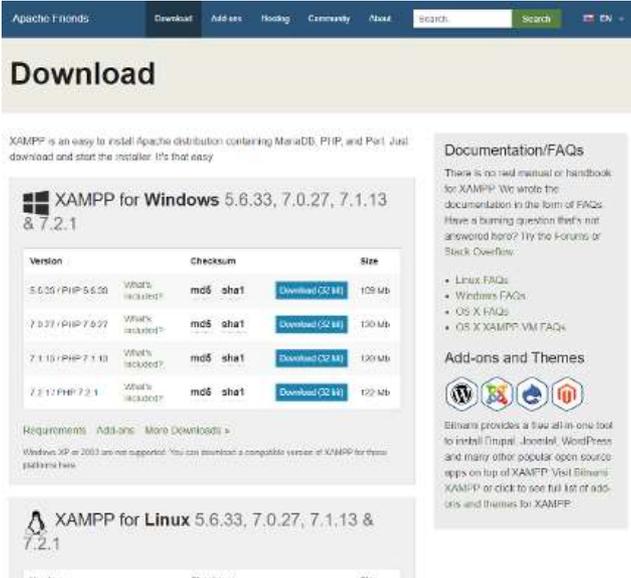
- For further inspection of databases in the exercises
  - e.g. try out queries / have a look at instances / tables etc
  - install the corresponding software
    - in this course we will use XAMPP because it works easily and for most of the operating systems out there
    - if you already have a database system installed like MariaDB, MySQL, etc... you can also use it if you want
  - the following slides will show how to install XAMPP

# Installing XAMPP and importing a dataset

- Download XAMPP for your operating system (Windows, Linux, Mac) and install it
  - <https://www.apachefriends.org/download.html>
  - when you are asked which services you should install then:
    - 1) apache webserver, 2) database like MariaDB/MySQL, 3) PhpMyAdmin is enough

– we do not need:

- Filezilla
- Mercury
- Tomcat

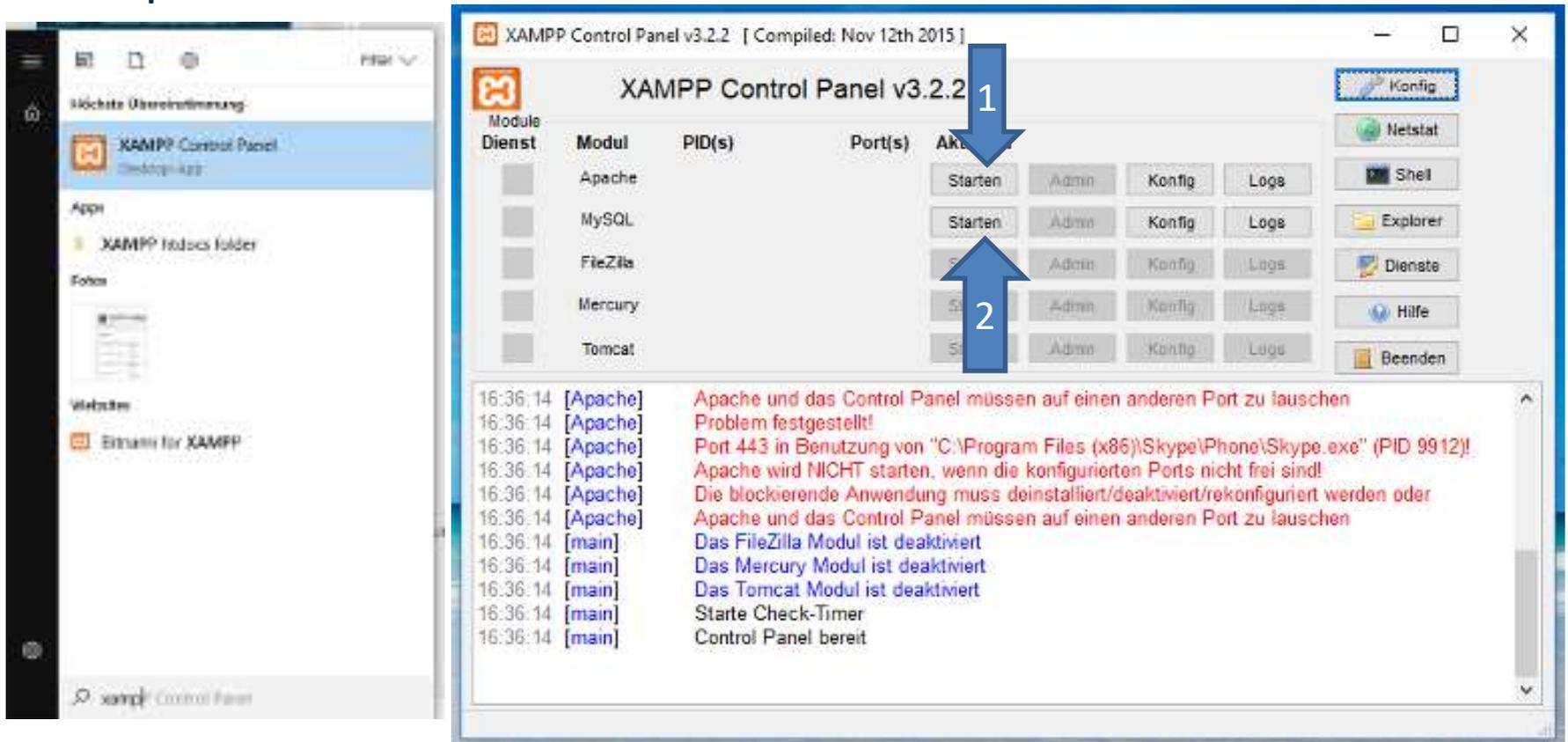


The screenshot shows the Apache Friends website's download page. The main heading is 'Download'. Below it, there is a table of XAMPP versions for Windows. The table has columns for Version, Checksum, and Size. The versions listed are 5.6.33, 7.0.27, 7.1.13, and 7.2.1. Each version has a 'Download (2 MB)' button and a size of 108 Mb, 130 Mb, 130 Mb, and 122 Mb respectively. To the right of the table, there is a 'Documentation/FAQs' section with a link to 'Download (2 MB)'. Below the table, there is a 'Requirements' section and a 'More Downloads' link. At the bottom, there is a section for 'XAMPP for Linux 5.6.33, 7.0.27, 7.1.13 & 7.2.1'.

Version	Checksum	Size
5.6.33 + PHP 5.6.28	md5 sha1	108 Mb
7.0.27 + PHP 7.0.27	md5 sha1	130 Mb
7.1.13 + PHP 7.1.13	md5 sha1	130 Mb
7.2.1 + PHP 7.2.1	md5 sha1	122 Mb

# Installing XAMPP and importing a dataset

- Start the XAMPP Control Panel and start MySQL/MariaDB and Apache



The screenshot shows the XAMPP Control Panel v3.2.2 interface. The main window displays a table of services with their status and control buttons. A log window at the bottom shows error messages for Apache.

Module	Dienst	Modul	PID(s)	Port(s)	Akt...
<input type="checkbox"/>	Apache	Apache			Starten Admin Konfig Logs
<input type="checkbox"/>	MySQL	MySQL			Starten Admin Konfig Logs
<input type="checkbox"/>	FileZilla	FileZilla			Starten Admin Konfig Logs
<input type="checkbox"/>	Mercury	Mercury			Starten Admin Konfig Logs
<input type="checkbox"/>	Tomcat	Tomcat			Starten Admin Konfig Logs

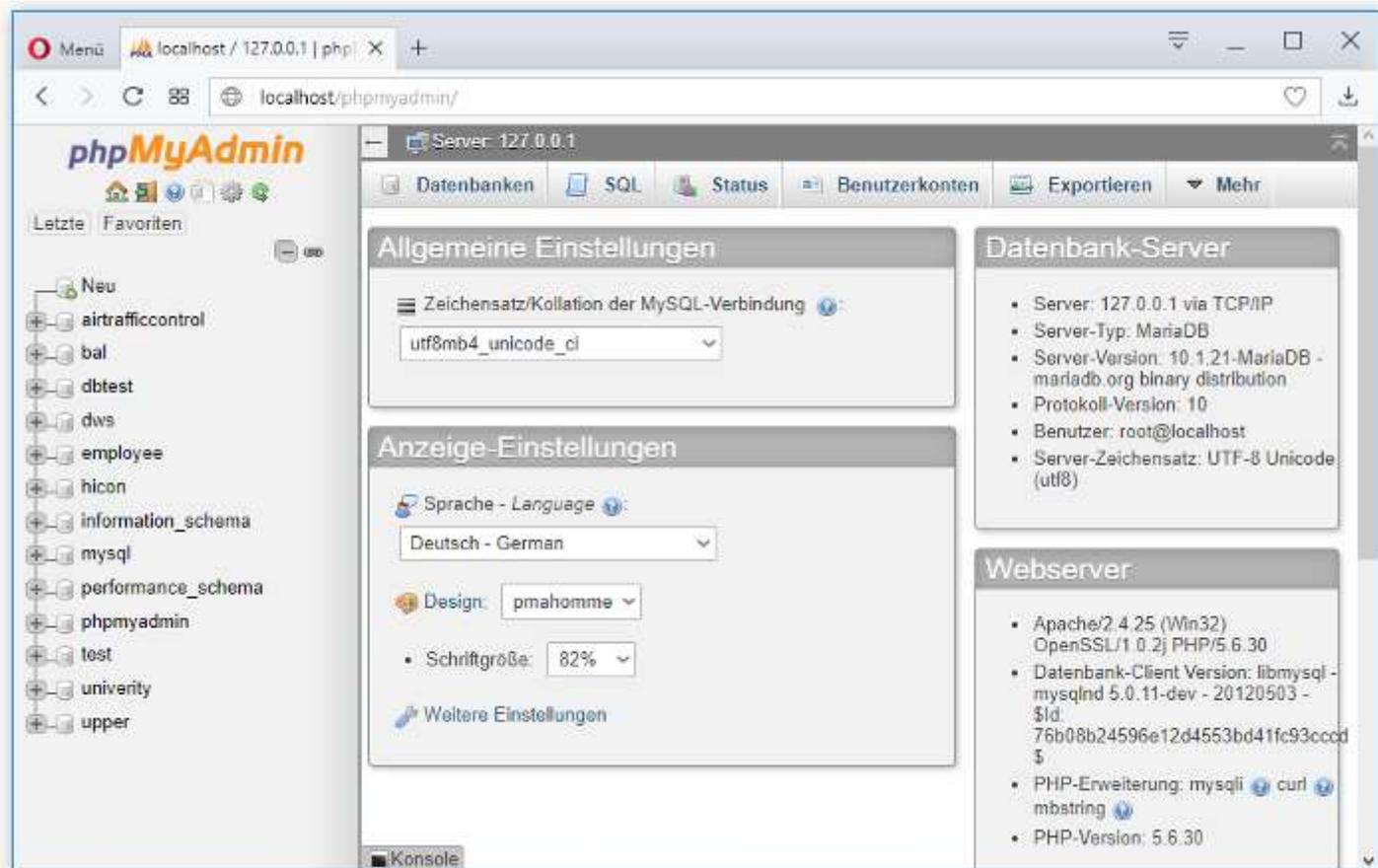
Log messages (bottom window):

```

16:36:14 [Apache] Apache und das Control Panel müssen auf einen anderen Port zu tauschen
16:36:14 [Apache] Problem festgestellt!
16:36:14 [Apache] Port 443 in Benutzung von "C:\Program Files (x86)\Skype\Phone\Skype.exe" (PID 9912)!
16:36:14 [Apache] Apache wird NICHT starten, wenn die konfigurierten Ports nicht frei sind!
16:36:14 [Apache] Die blockierende Anwendung muss deinstalliert/deaktiviert/rekonfiguriert werden oder
16:36:14 [Apache] Apache und das Control Panel müssen auf einen anderen Port zu tauschen
16:36:14 [main] Das FileZilla Modul ist deaktiviert
16:36:14 [main] Das Mercury Modul ist deaktiviert
16:36:14 [main] Das Tomcat Modul ist deaktiviert
16:36:14 [main] Starte Check-Timer
16:36:14 [main] Control Panel bereit
  
```

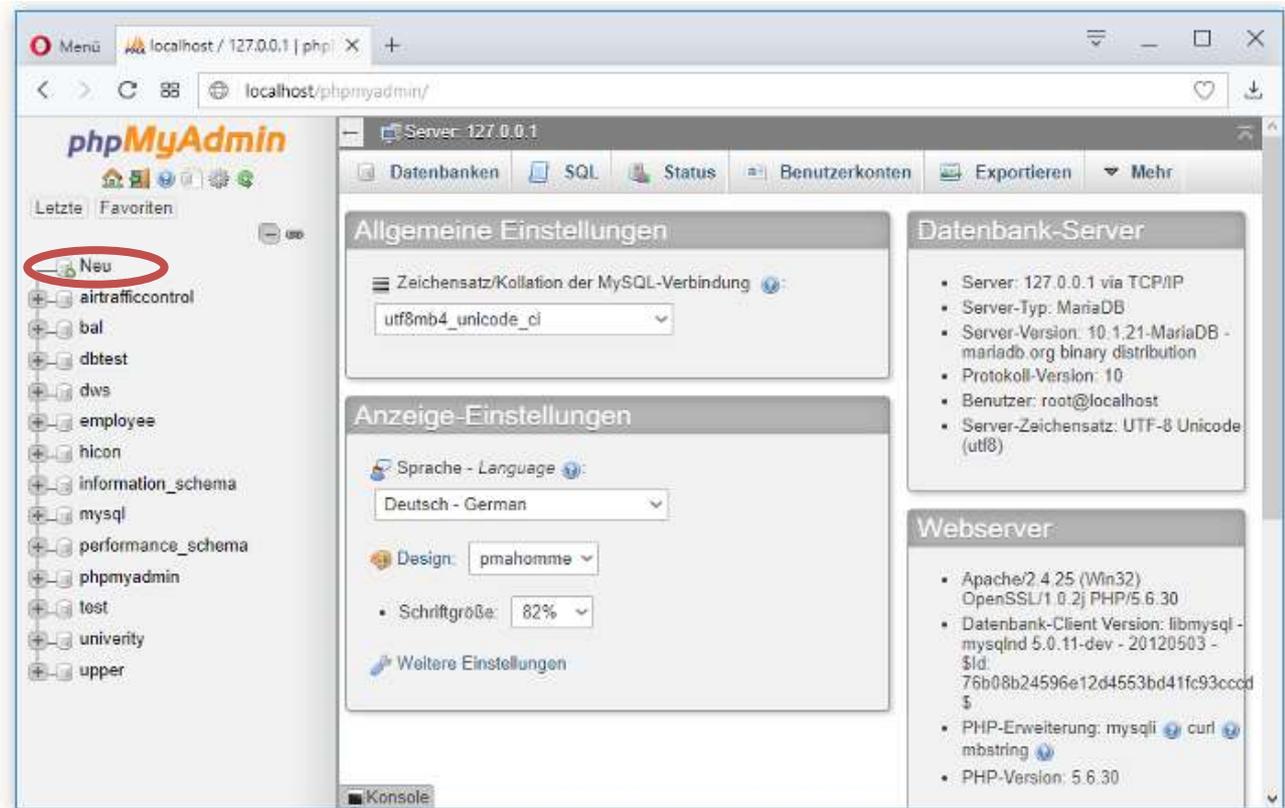
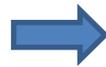
# Installing XAMPP and importing a dataset

- Open your Browser and browse to <http://localhost/phpmyadmin>



# Installing XAMPP and importing a dataset

- You see all databases on the left – create a new one and name it “university”

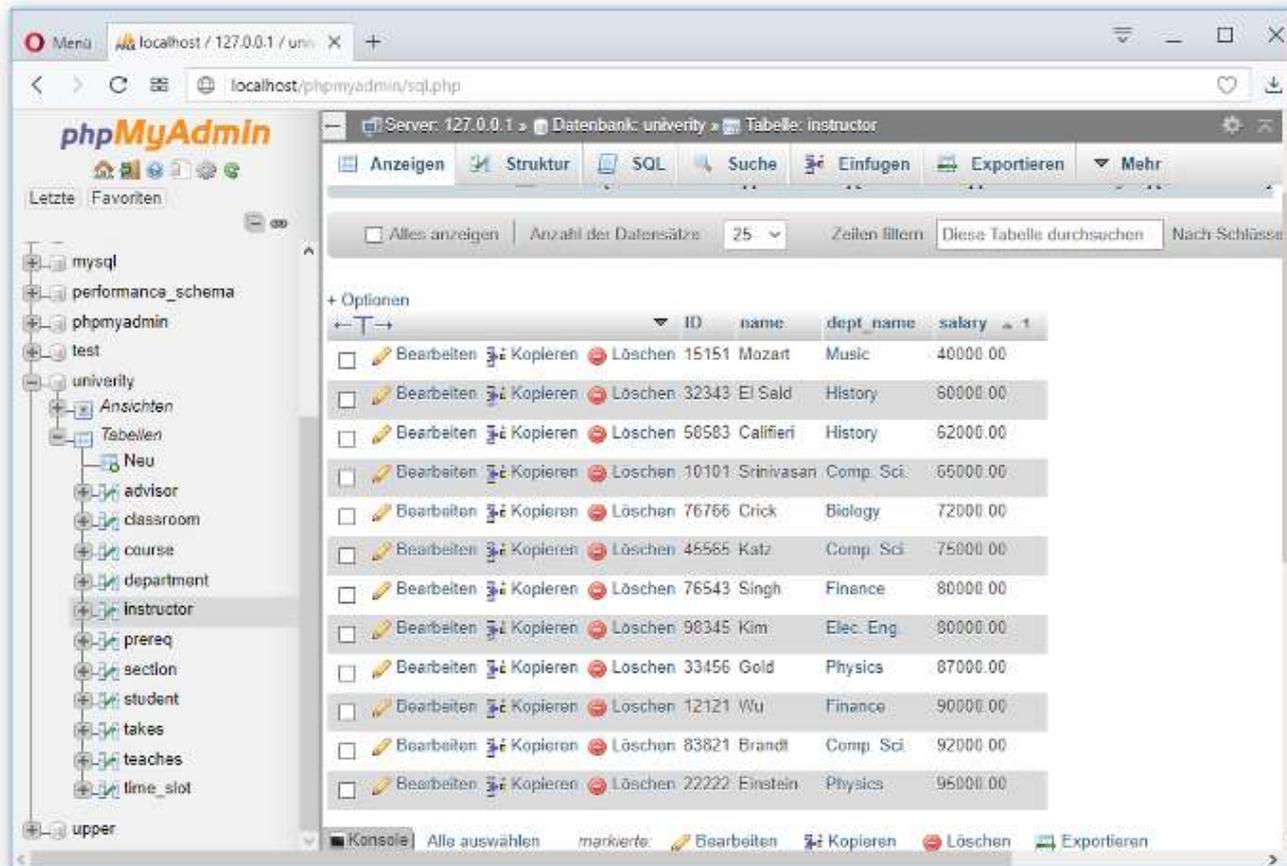


# Installing XAMPP and importing a dataset

- Click on the import tab and load
  - file “DB\_Exercise\_1\_Schema.sql”
  - file “DB\_Exercise\_1\_Small\_Instances.sql”

# Installing XAMPP and importing a dataset

- Search for the instructor table and have a look at the instances



The screenshot shows the phpMyAdmin interface for a MySQL database named 'university'. The 'instructor' table is selected, and its data is displayed in a table view. The table has columns for ID, name, dept\_name, and salary. The data is as follows:

ID	name	dept_name	salary
15151	Mozart	Music	40000.00
32343	El Sald	History	60000.00
50583	Califieri	History	62000.00
10101	Srinivasan	Comp. Sci.	65000.00
76766	Grick	Biology	72000.00
45565	Katz	Comp. Sci.	75000.00
76543	Singh	Finance	80000.00
98345	Kim	Elec. Eng.	80000.00
33456	Gold	Physics	87000.00
12121	Wu	Finance	90000.00
83821	Brandt	Comp. Sci.	92000.00
22222	Einstein	Physics	95000.00