Databases

Database Project Server Infrastructure

1. Working on a Database Server as a Team

In your database project, you will set up a database server to store and evaluate data for decision support. It is expected that you implement the project in an online resource. The following documents the process to set up a virtual machine in our Lab Services environment

2. Reserve the Server resource

In ILIAS under Administration, you find a Link to an Excel sheet where you can inscribe your team with a team name and a project tile. There, you can the domain the VM server of your team. You find all necessary infos in the Excel.

A	B	C
Team Name	**Projekttitel**	**VM**
Example Team	Example Project	win-025-dbands.ls.eee.intern

The servers are always on so no need to start them. However, don't shut the server down, because you cannot restart it yourself and you will have to contact Lab Services to reboot.

3. Connect to the university network

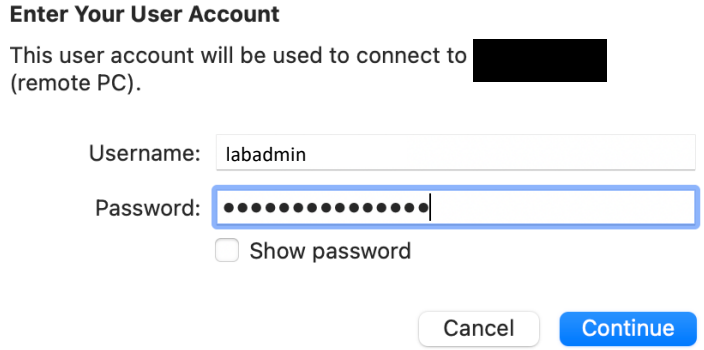
- If you're on campus, that's the case, so go on
- If you're remote, open a VPN connection. More info here:

https://www.hslu.ch/de-ch/hochschule-luzern/campus/bibliotheken/e-medien/

4. Log in to the Server

To log in to the server, you need a Microsoft remote desktop application. This is pre-installed on Windows systems (run > mstsc) and it is available vor Mac on the app store ("Windows App"). Enter public IP, User, password and connect to your server.

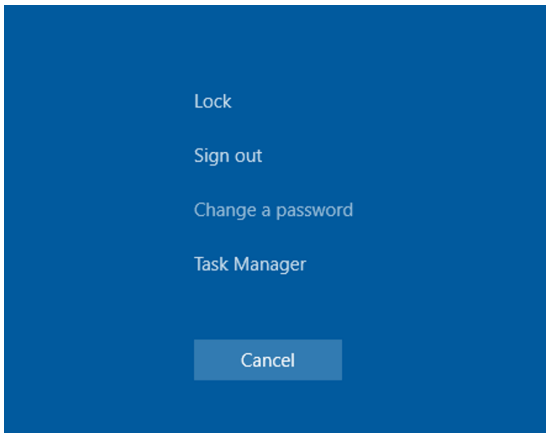
- PC name: use the Domainname (e.g. win-hs-007.xyz.ls.eee.intern) in the Inscription Excel
- User: the username is "labadmin"
- Password: you find the Password in the inscription Excel on ILIAS



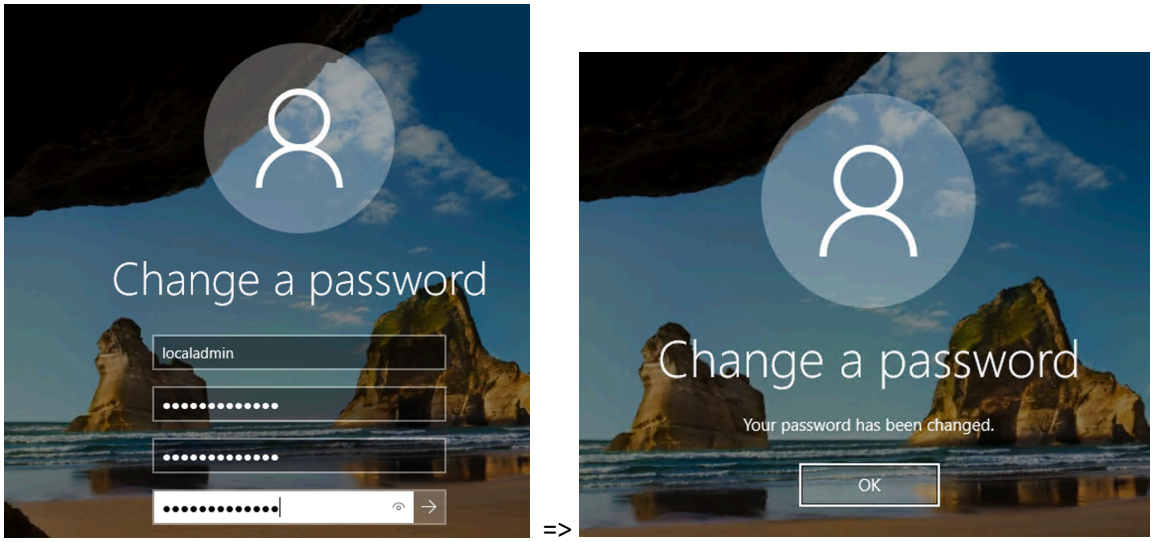
5. Change the password immediately

Now that you have reserved a VM, you need to change the password of your user for security reasons.

- Make sure you are logged in as the user for which you want to change the password.
- In the RDP Session, enter CTRL-ALT-DEL. You can do this with the onscreen keyboard:
  - On the Remote Desktop, select "Start".
  - Type "osk", then open the "On Screen Keyboard".
  - Press and hold "Ctrl" *and* "Alt" on the **physical** keyboard, and *then* select "Del" on the **On Screen Keyboard**.
  - More Info:
    - https://www.technipages.com/ctrl-alt-delete-in-rdp
    - https://answers.microsoft.com/en-us/windows/forum/all/user-tile/8faf8cb6-5a8c-43cf-abf6-00de00a80fe5



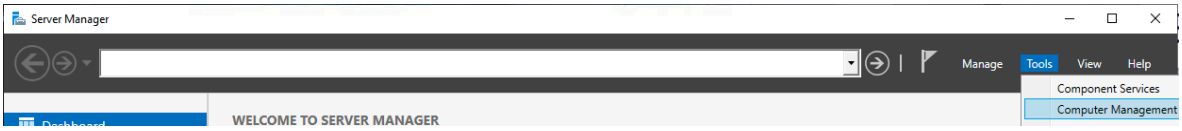
- Select Change a Password
- Enter old and new password, then click on the arrow



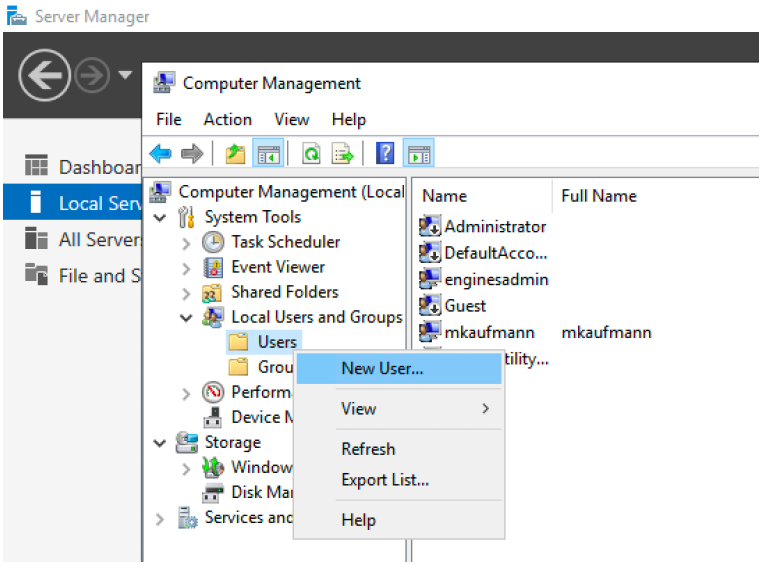
6. Add new Windows Users

If more of your team want to work on the server via RDP, you can add more Windows admin users. However, due to license restrictions, it is only possible to have two users at the same time connected to the server. It is better to use multiple MySQL users and connections in MySQL Workbench clients to work together remotely on the database system.

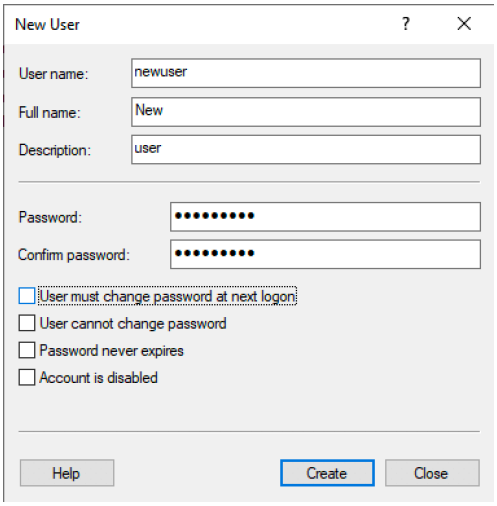
- In the Server Manager, select Tools > Computer Management



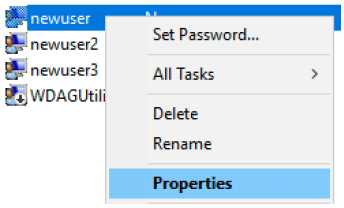
- In Computer Mangement, select > Local Users and Groups > Users > [right click] New User.



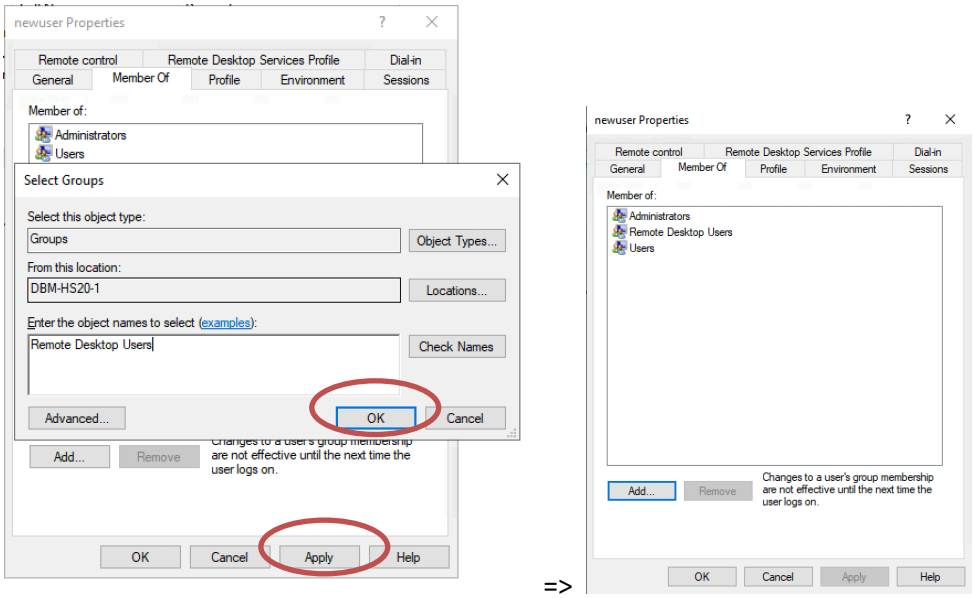
- Add credentials for new user: Username and Password.



- Right-click new User in the List.



- select Properties > Member Of > Add “Administrators” (for the right to install new software and manage the server) and “Remote Desktop Users” (for the right to login via Remote Desktop). Make sure you spell the group names right.



- click > OK , then > Apply (do not forget to click “Apply” ;-)

7. Download DBMS Installation Software

Here we will install a MySQL DB Server. There is a more detailed description in the MySQL workbook, Chapter 2, on ILIAS.

- Open Edge browser
- Go to download Address: https://dev.mysql.com/downloads/mysql
- Download the MSI Installer.
- Also download the Visual C++ redistributable.

8. Install the MySQL Server

Make sure you run the Installation files as Administrator (right-click on the file, then select run as administrator)

Here's the short version:

Tl;dr:

- ⇨ Install Visual C++: https://www.google.ch/search?q=visual+c+++redistributable
- ⇨ Install MySQL: https://dev.mysql.com/downloads/
- ⇨ Download Windows Installer (64 Bit) incl. all files (600MB)
- ⇨ Start Installer and follow instructions
- ⇨ Choose "Server only" or "Custom" (Developer default might not work)
- ⇨ For Custom Installation, select Server and MySQL workbench
- ⇨ Important: Enable "Open Windows Firewall ports for network access"
- ⇨ Add root password (remember that!). The root cannot access the DB server over a network.
- ⇨ Add admin user that can connect remotely (All Hosts, %)

9. Establish remote Connection from local MySQL Workbench to Remote MySQL Server

- ⇨ Install MySQL Workbench on your local client computer
- ⇨ Open VPN connection to University Network (Pulse Secure)
- ⇨ Make sure your server is reachable: in Terminal, enter ping <your Server IP>
- ⇨ In local MySQL-Workbenk, add new Connection with <your Server IP> and the admin user you created.