



The lecture will start soon at
10:15



Aalto University
School of Business

MySQL for Data Analytics

Lecturer: Yong Liu

Contact me at: Yong.liu@aalto.fi

Hybrid Mode

- **We will deliver the course in a hybrid mode.**
- **Online lecture environment supporter:**
 - Khanal Shradha (shradha.khanal@aalto.fi)
 - Turunen Emmi (emmi.a.turunen@aalto.fi)
- Shradha & Emmi will watch the Zoom environment.

Content

- 1. Basic information of the course**
- 2. MySQL, Jobs & Business Analytics**
- 3. How to learn MySQL**
- 4. Relevance to companies & Basics of MySQL**

Section 1: Basic information of the course



MySQL for Data Analytics

- Credits: 6 cr
- No. of Admitted students: 369
- Course homepage:
 - <https://mycourses.aalto.fi/course/view.php?id=44950>

Course assistants:

- Turunen Emmi (emmi.a.turunen@aalto.fi)
- Khanal Shradha (shradha.khanal@aalto.fi)
- Sun Jiajun (jiajun.sun@aalto.fi)
- Lamberg Oskari (oskari.lamberg@aalto.fi)

In-course feedback system:

- <https://preseo.aalto.fi/mysql/>

Bonus points: a research project

- **Aim:** The lecturer wants to conduct research to understand which course delivery method (online vs. onsite) yields better study performance.
- **Method:** After the course, you will be invited to fill out a questionnaire, during which your student ID, main course-taking method (online vs. onsite lecture sessions), course perception, and grade will be collected. You are free to decide whether to participate.
- **Bonus points:** Research participants will gain additional bonus points (2 out of 100 points). You can leave your email address in the survey to get the final report if you are interested in the research results.

Content and Learning outcome

- **Course Content**

This course provides students with a comprehensive overview of MySQL. MySQL commands and examples of applying MySQL to really-life business analytics are the key content. A number of databases are provided to support you in practicing the database language and skills. Hands-on sessions provide the opportunity to practice MySQL with the assistance of the lecturer.

- **Learning Outcome**

The student taking this course learns about data management using the database language of MySQL. Students are expected to become skilful in manipulating different kinds of business data for different types of business analytics. Data manipulation and data management skills are necessary prerequisites for being able to use business analytics.

Eye and book icon

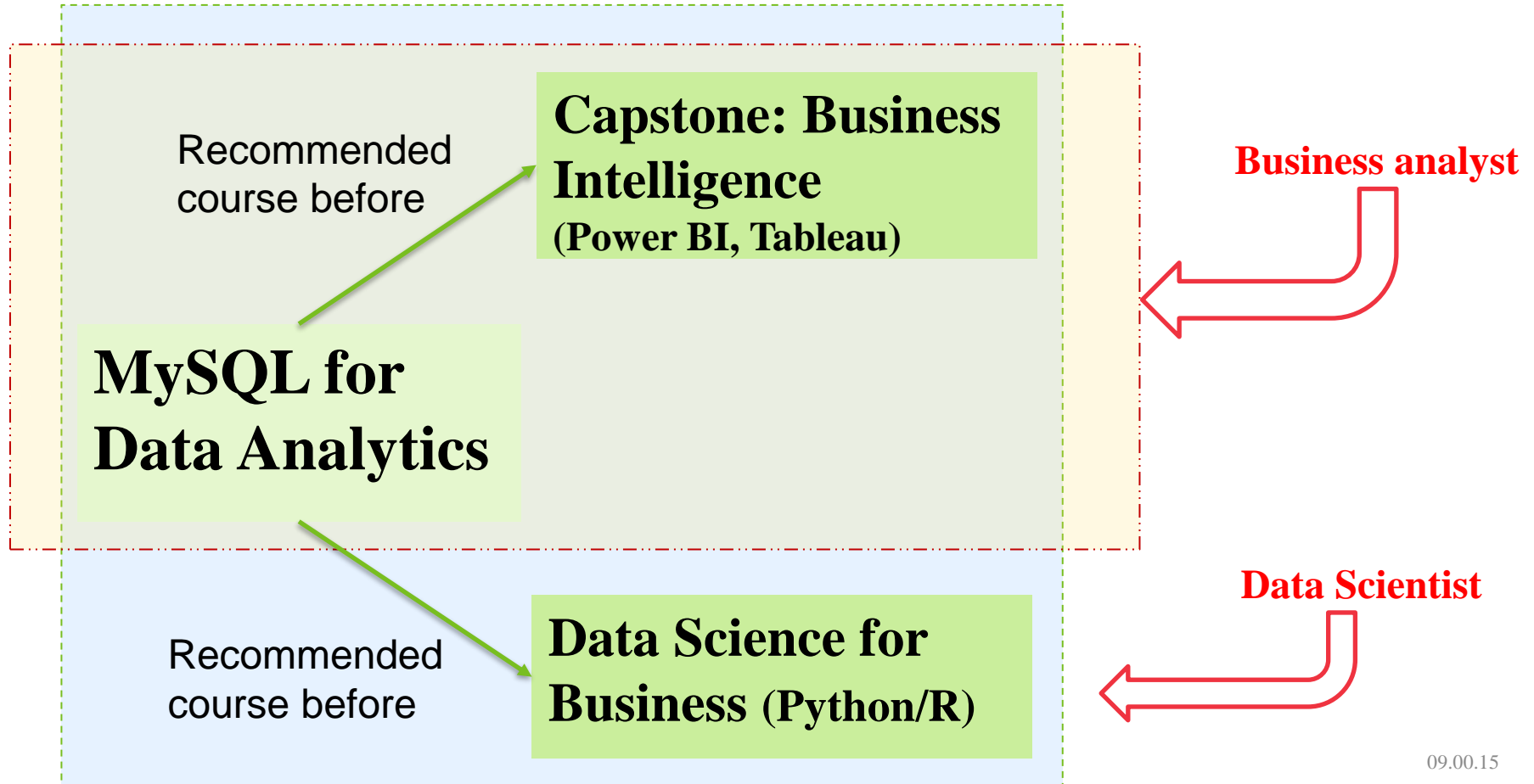


- **Extension of the course content**
- **The materials are not relevant to the big assignment!**



- **Read by yourself.**
- **The materials are useful, which might be relevant to the big assignment!**

Connection to Other Courses/Jobs



MySQL & Career Development

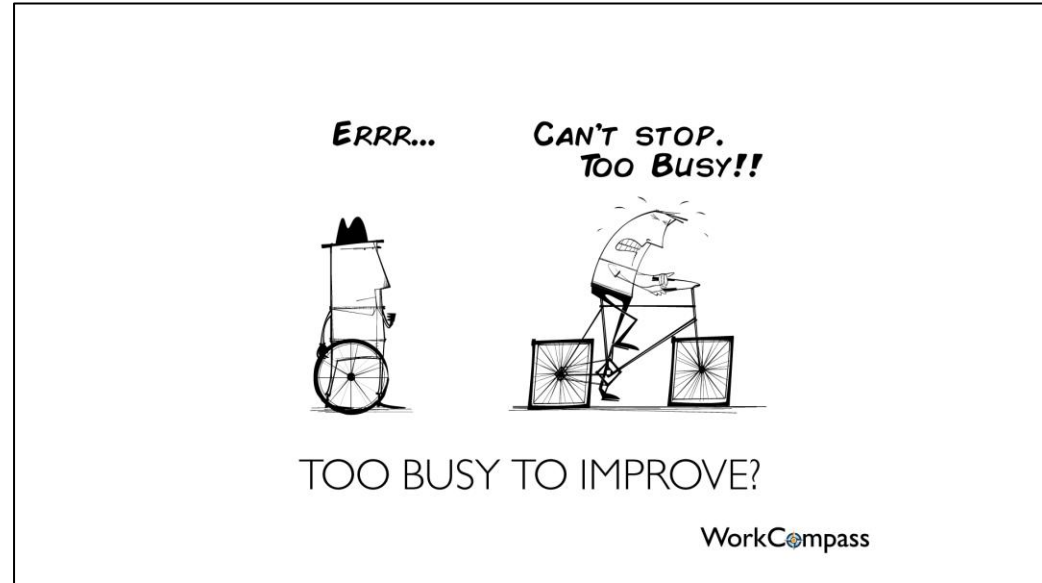
- **You will likely take an important role in enterprises a few years after graduation.**
- **Data literacy: A must-have skill for future managers or business leaders**
 - Data literacy is the ability to access, read, understand, create, and communicate data as information and use data as a resource for decision-making.



Data Literacy and Being A Manager

A lack of data literacy among enterprise employees has become a key bottleneck for enterprise making a good use of their data!

“Poor data literacy is ranked as the second-biggest internal roadblock to the success of the CDO’s office, according to the Gartner Annual Chief Data Officer Survey. By 2023, data literacy will become essential in driving business value, demonstrated by its formal inclusion in over 80% of data and analytics strategies and change management programs.”



https://commons.wikimedia.org/wiki/File:Too_Busy_To_Improve_-_Performance_Management_-_Square_Wheels.png

Suggested after-course reading:

A Data and Analytics Leader's Guide to Data Literacy

Link: <https://www.gartner.com/smarterwithgartner/a-data-and-analytics-leaders-guide-to-data-literacy>

Schedule (7 lectures + 5 Exercises)

Week	First Sessions	Time	Second Sessions	Time
1	Wed 04.09.2024	10:15-12:00	Wed 04.09.2024	13:15-15:00
2	Tue 10.09.2024	10:15-12:00	Wed 11.09.2024	10:15-12:00
3	Wed 18.09.2024	10:15-12:00	Wed 18.09.2024	13:15-15:00
4	Wed 25.10.2024	10:15-12:00	Wed 25.10.2024	13:15-15:00
5	Wed 02.10.2024	10:15-12:00	Wed 02.10.2024	13:15-15:00
6	Tue 08.10.2024	10:15-12:00	Tue 08.10.2024	13:15-15:00

Blue background: **lecture sessions (N = 7)**

Yellow background: **hands-on sessions (N = 5)**

- Course period: September 4 to October 8
- Lecture hall for lecture sessions: AS2 - 2006
- Hybrid teaching for lectures, but hands-on sessions will be online.
- **Zoom link:** <https://aalto.zoom.us/j/5138969960>
- Lecture sessions (**not** hands-on sessions) will be video-recorded.
- **Hands-on Session Materials:** You can simply start to work on the hands-on materials after the hands-on session starts – we have **NO** ‘opening speech’.

Studying Place for Hands-on Sessions

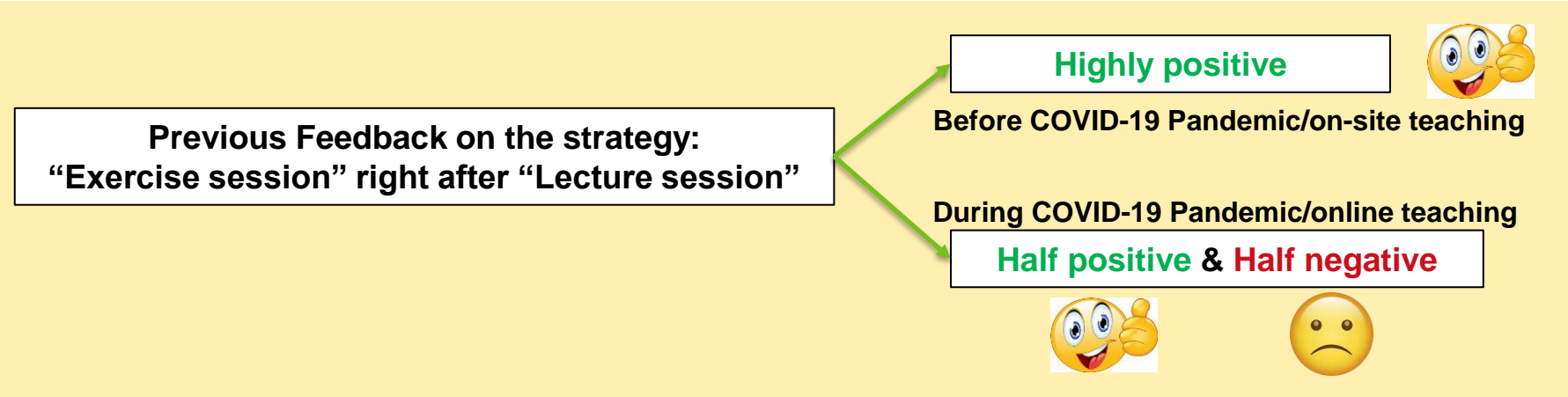
Date	Time	Classroom
04.09.2024	13:15 - 15:00	R028/ M202 M202 Ryhmäopetus
18.09.2024	13:15 - 15:00	R028/Q202 Q202 Ryhmäopetus
25.09.2024	13:15 - 15:00	R028/Q202 Q202 Ryhmäopetus
02.10.2024	13:15 - 15:00	R028/ F102 F102 Ryhmäopetus
08.10.2024	13:15 - 15:00	R028/Q202 Q202 Ryhmäopetus

Note that:

The hands-on sessions **will be conducted online.**

The classrooms reserved only **offer you a quiet place** to do your studying.

Hands-on Session: Feedbacks & Changes



• Reasons for Negative Feedback on the strategy:

1. Need to work, cook or do something else after the lecture. Thus, cannot attend the hands-on session right after the lecture.
2. Uncomfortableness to ask questions/share screen in front of others, or privacy concerns.
3. Cannot participate in the lecture or hands-on session due to e.g. work.

• Changes and Proposed Solutions

1. **Protection of Privacy**
 - Use of breakout room.
 - Instruction for the hands-on session in MyCourse.
2. **Hands-on sessions as a service**
 - If you need help, please email the lecturer or teaching assistants. We will reply to you or arrange a Zoom meeting to support you.

Performance Evaluation / Grading method

- Assignment evaluation (100%)
 - One big assignment for individuals (no teamwork!)
- Grading schema:

Grade (scale:1-100)	Final Grade (scale: 1-5)
> 90 (not including 90)	5
81 - 90 (not including 80)	4
71 - 80 (not including 70)	3
61 - 70 (not including 60)	2
51 - 60 (not including 50)	1
≤ 50	Not pass

Preparation for Big Assignment

- You will have **one-month time** to do the big assignment after the last lecture of the course.
- Nonetheless, you could do some tasks of the assignment already after a few weeks of study.
- Practice is very important! (like getting a driving license)



Settings of the course

- 1. The course aims at helping **beginners**.
- 2. Students **without** programming background can attend the course.

Course book

- **Pratt, P.J. and Last, M.Z. (2005). A guide to MySQL, Thomson.**

Online Materials for Learning MySQL

- **MySQL 9.0 Reference Manual**
<https://dev.mysql.com/doc/refman/9.0/en/>
- **Inquiry on how to use MySQL**
<http://stackoverflow.com/>
- **Google is always a friend!**

Section 2. MySQL & Jobs



Database as a useful skill (salary)

Find Jobs Company Reviews Find Salaries Find Resumes Employers / Post Job

indeed

What
Job title, keywords, or company
Good excel Skills

Where
City, state, or zip code

Good excel Skills jobs

My recent searches

Good database Skills

» clear searches

Sort by:
relevance - date

Salary Estimate

\$30,000+ (119187)

\$40,000+ (91111)

\$45,000+ (78968)

\$60,000+ (48294)

\$75,000+ (28007)

Job Type

Full-time (123684)

Part-time (15379)

Contract (5136)

Temporary (2658)

Commission (1847)

Tip: Enter your zip code in the "where" box to show results in your area.

[Upload your resume](#) - Let employers find you

Page 1 of 138,500 jobs

Show: all jobs - [138,503 new jobs](#)

2019-2020 Yearlong Internship

Chicago Transit Authority ★★★★★ 628 reviews
Chicago, IL

\$12 - \$17 an hour

Strong Excel and Word skills. Good oral and written communication skills. Good analytical and critical thinking skills. SharePoint development skills a plus.

30+ days ago [save job](#) more...

Data Entry Operator

Miss Utility ★★★★★ 4 reviews
Hanover, MD 21076

Ability to talk and type at the same time. Ability to work (8) hour shifts starting at/between 7:00 through 9:00 a.m.

7 days ago [save job](#) more...

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indeed

What
Job title, keywords, or company
Good database Skills

Where
City, state, or zip code

Good database Skills jobs

My recent searches

Good Excel Skills

» clear searches

Sort by:
relevance - date

Salary Estimate

\$35,000+ (21224)

\$45,000+ (18001)

\$65,000+ (12621)

\$80,000+ (9240)

\$100,000+ (5088)

Job Type

Full-time (23243)

Part-time (1755)

Contract (1216)

Temporary (551)

Internship (297)

Commission (225)

Tip: Enter your zip code in the "where" box to show results in your area.

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Page 1 of 25,552 jobs

Specialist-Database

Methodist Hospital ★★★★★ 1,714 reviews
Indianapolis, IN 46202

Requires extensive knowledge of computer desktop skills. Requires knowledge of database management and supporting work flow.

Indiana University Health 5 days ago [save job](#) more...

DB2 z/OS Database Administrator
(JR1007909)

Broadridge ★★★★★ 642 reviews
Newark, NJ 07102 (Central Business District area)

Resolve complex database performance issues, database capacity issues, replication and other distributed data issues. If so, we urge you to read below.

2 hours ago [save job](#) more...

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Information retrieved on August 7, 2019

 sql analytics finland

Find jobs

Release date ▾

Type of work ▾

Location ▾

Company ▾

Language of the workplace ▾

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sql asluansing a jobs in Finland

Sort by: **Corresponding** - [Date](#)22 jobs 

Game Analyst, Hay Day

Supercell
Helsinki

Full-time job +1

- First and foremost, help make Hay Day better.
- Help stay on top of game performance and lead investigations into unexpected trends.

Published 24 days ago [More...](#)

Web Analyst


Veikkaus Oy
Helsinki

Full-time job +1

- With the upcoming legislative changes, digital channels and **analytics** tracking will be significantly reformed.




Game Analyst, Hay Day


[Supercell](#)  · 3.0 ★

Helsinki

You must create an Indeed account before you can apply for a job on a company site.

[Find a job on the company's site](#) 

Job data

See how workplace information matches [your profile](#) .

Type of work

In-sound

Full-time job

Location



Helsinki

Game Analyst, Hay Day

Supercell  | Helsinki

You must create an Indeed account before you can apply for a job on a company site.

[Find a job on the company's site](#) 



excellence

Requirements

- Several years of experience working as a product scientist or similar role in the games or adjacent industry
- Ability to engage with a wide range of stakeholders
- Ability to own analytics work from hypotheses to communicating actionable insights
- Great communication skills, both written and spoken, especially for non-technical audience
- Coding skills with R or python, and SQL at a profile level
- Proactive drive to improve our games and yourself, too

Nice-to-haves

- Prior experience working in a live service game team
- Experience running and evaluating frequent A/B tests
- Relevant background and advanced knowledge of statistics, visualisation, programming, or related sk

Section 3. MySQL & Business Analytics



A day in the life of Consultant

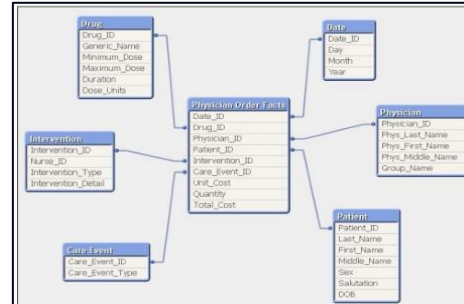


Tuukka Pesonen



Jesse Rajala

Data transformation and modelling ~ 70 %



Front end development ~ 20 %



Meetings ~ 10 %



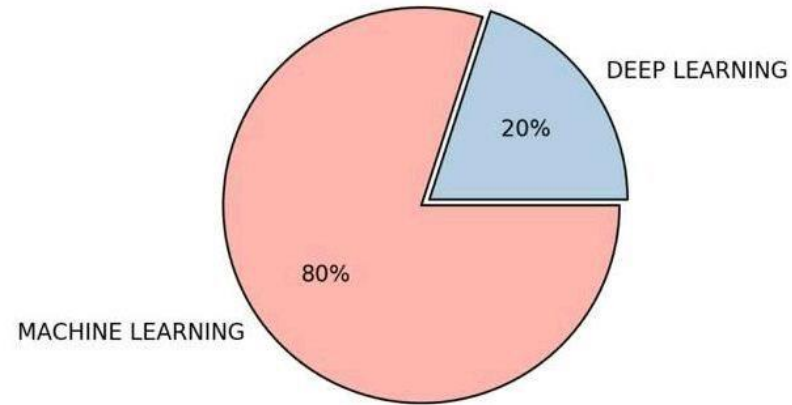
Breakdown of working hours

A day in the life of a data scientist

https://twitter.com/michael_warren/status/1346281975594721280

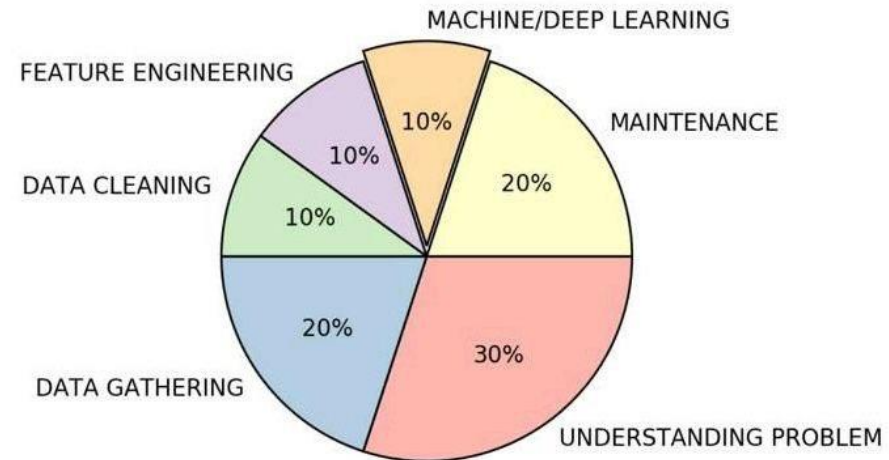
DATA SCIENTIST JOB - EXPECTATION

@drangshu

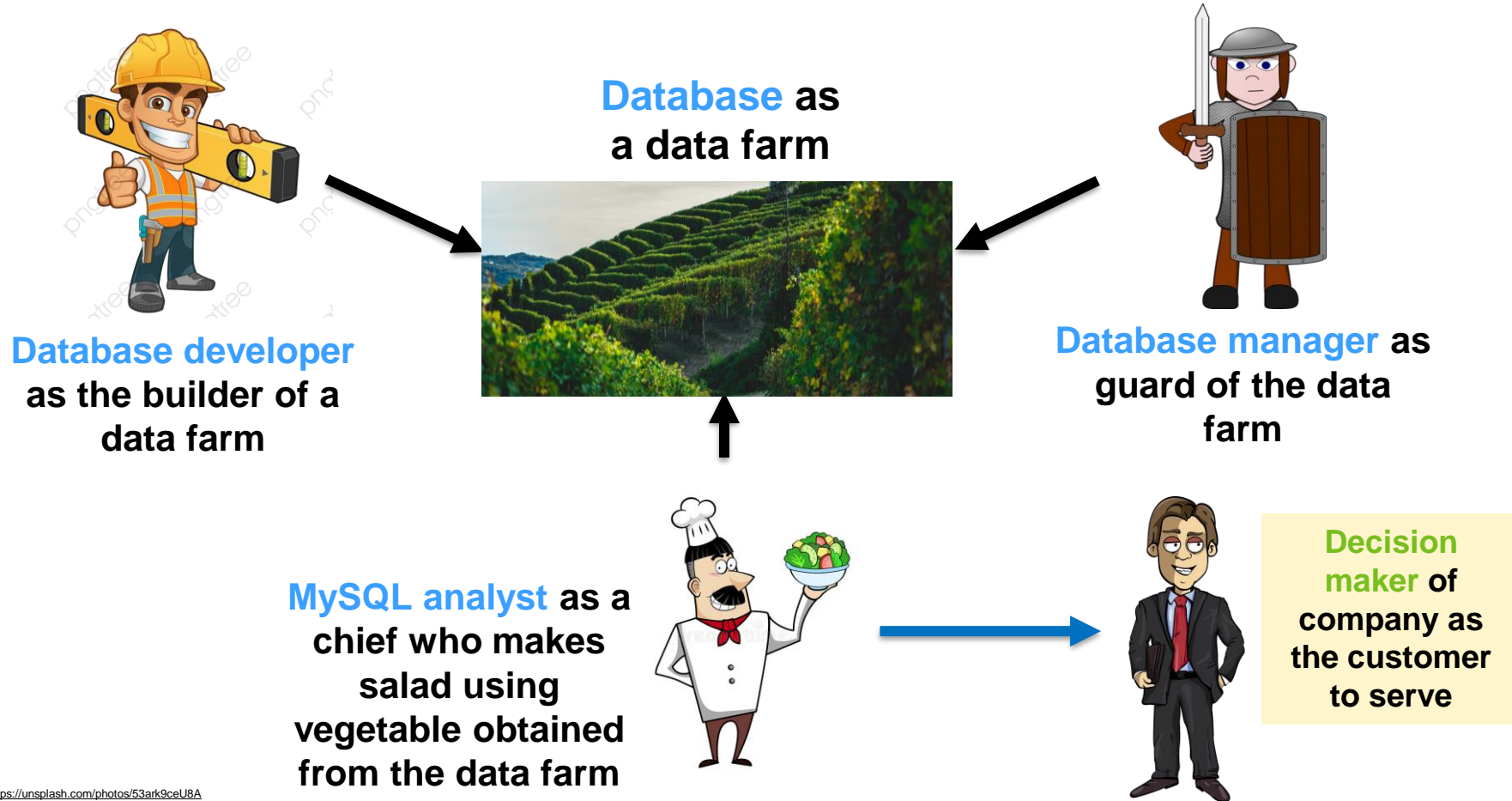


Follow: Dr. Angshuman Ghosh

DATA SCIENTIST JOB - REALITY



People Working with Database



An Analytical Mind/Data Literacy?

- **Why it is important?**
- **How to obtain an analytic mind?**
 - You will understand what is an analytic mind via doing the *big assignment*.



Data



SQL

SQL + analytic mind



More organized
data



Business insights

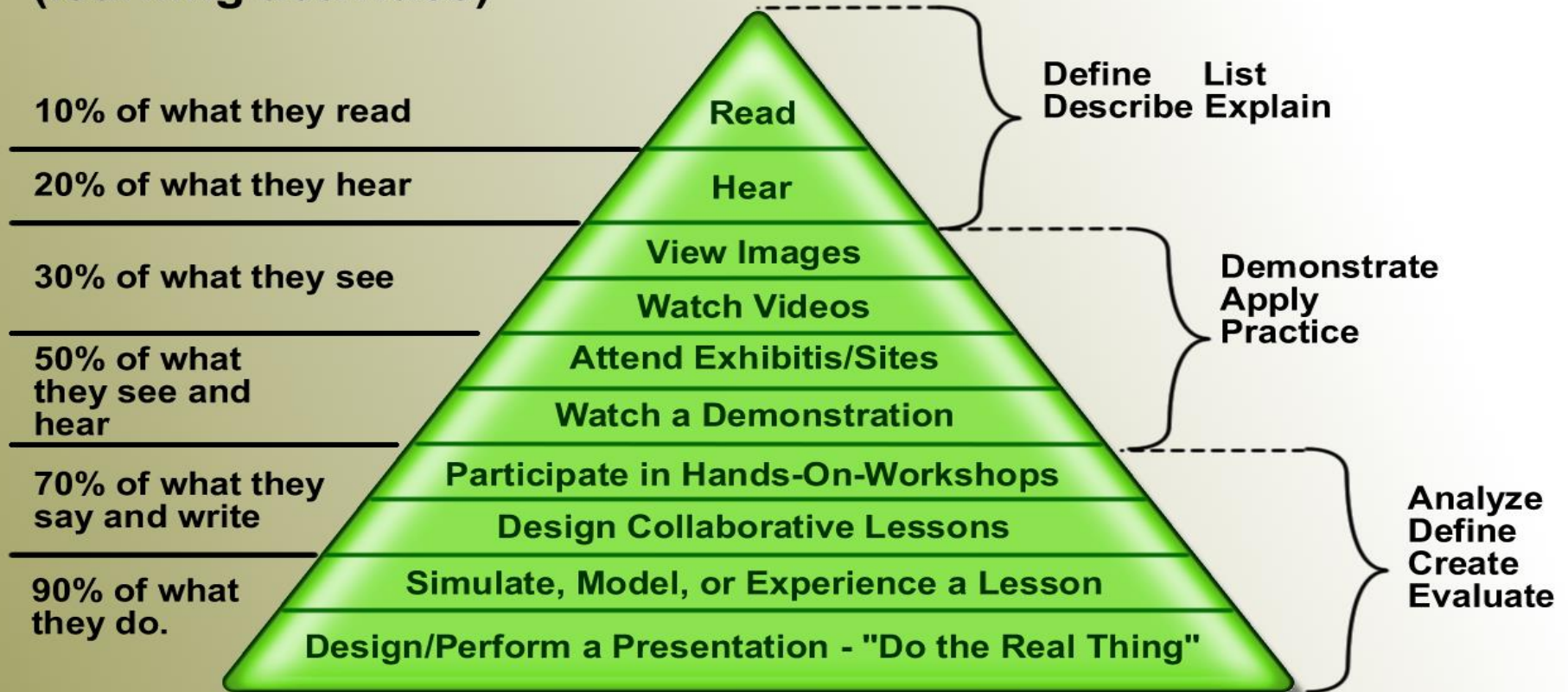
Section 4. How to learn MySQL



Edgar Dale's Cone of Experience

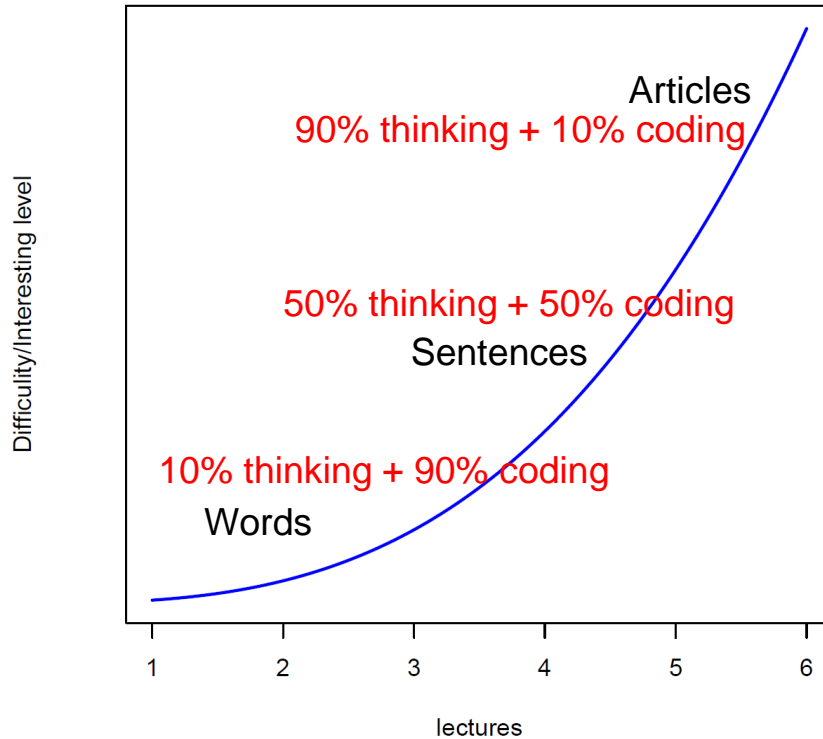
People generally remember...
(learning activities)

People are able to...
(learning outcomes)



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MySQL as a language



- The first few lectures demand more memorization work, and very limited critical thinking.
- The last few lectures demand more critical thinking, in addition to some memorization work.

Advices:

- **Keep pace with the lectures.** Otherwise, you will find the course tremendously difficult in the last few lectures, if you do not get familiar with basic MySQL vocabulary.

MySQL as a language: Words → Sentences → Articles

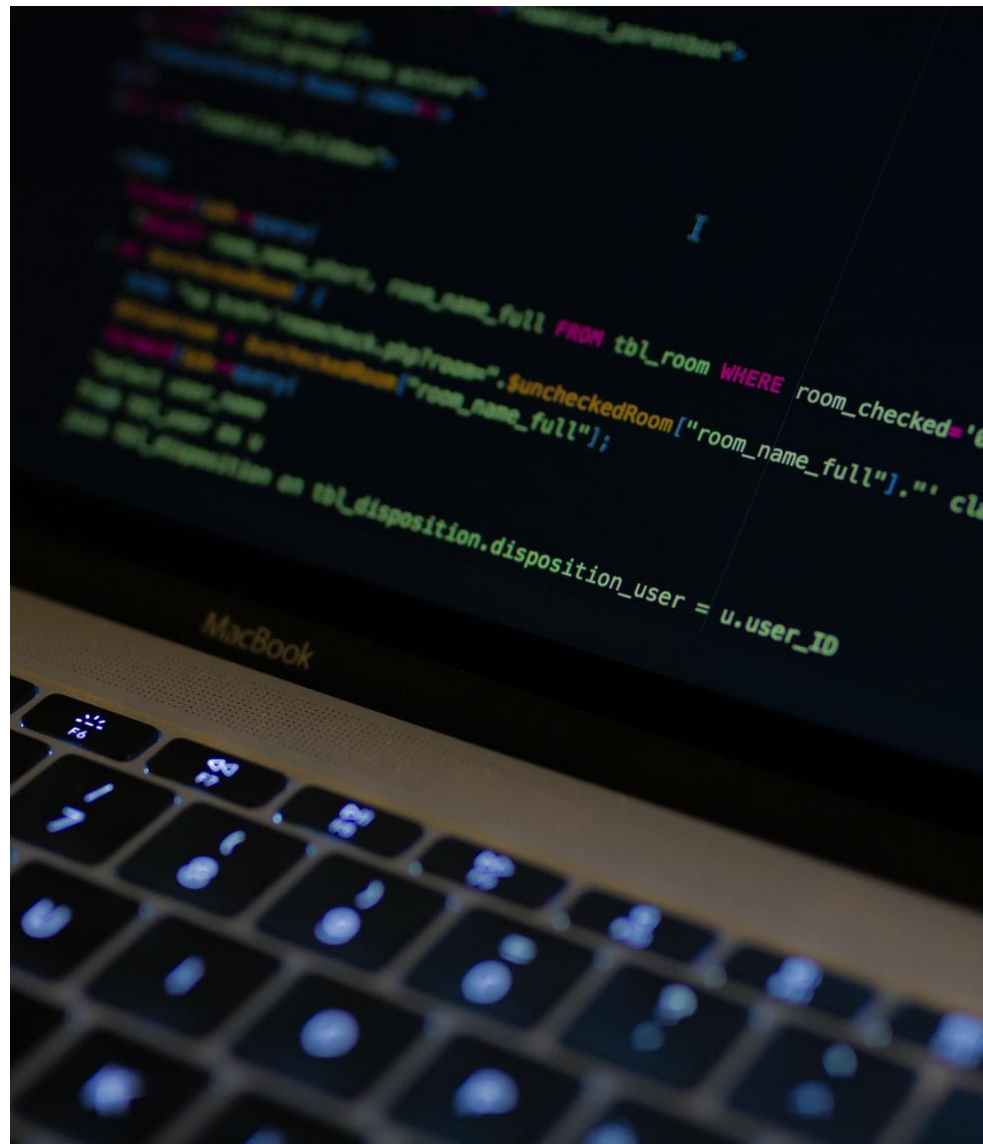
In order to be benefited!

- **Practicing the software** is the only way to gain the skills!
- Using MySQL as your main working station to host and manipulate dataset! **Make it to be your own habit!**
- You need to spend **sufficient time** together with MySQL so that the software becomes **a friend of** you in your future career development!

Programming is not necessary a difficult thing, but I need your confidence plus some efforts of ‘hard working’!

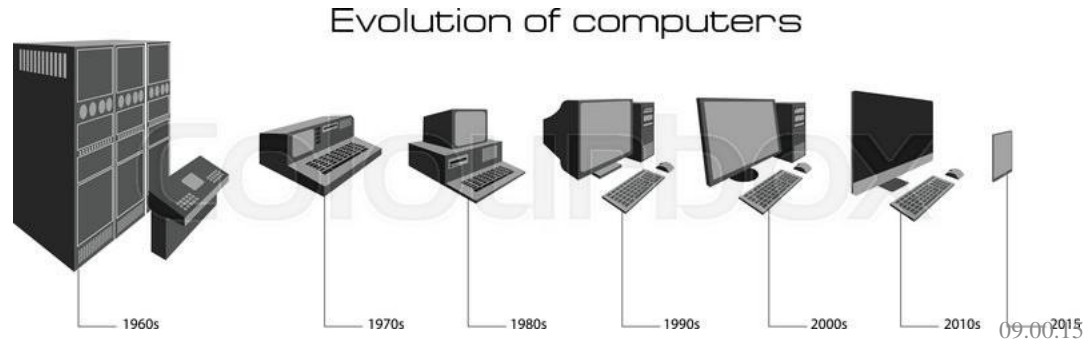


Section 5. Relevance & Basics of MySQL



Relevance of DB to company (1)

- 1. Nowadays, (electronic) data can be easily collected and stored, to form a **big data**!
- 2. For companies, they do not lack data—they lack employees who can use the data (or **analyzing the data**)!
- 3. Top business schools are gambling the future on business analytics!



Relevance of DB to company (2)

- **Make unorganized raw data to be organized so that it is ready for analysis.**
 - Most time, raw data cannot be used directly.

It can only be used after being 'cleaned' or summarized.
 - Most time, raw data is too big to be used (e.g., too many unnecessary variables, data are scattered and saved in different tables or places)

Thinking about this example

- 1. You have access to the database of a retailing company who operates tens of supermarkets across many cities.
- 2. You want to investigate the relationship between **revenues of individual supermarkets** and **populations of the residential areas** where the supermarkets are located.

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SPRING ROLLS	1.00	
PIZZA	1.75	
YORKIE BAR *	0.56	
CRUNCHY STICKS *	0.85	
PREGNANCY TEST *	3.57	
TOTAL	12.58	
Visa Debit SALE	12.58	
AID : A0000000031010		
NUMBER : *****8042	ICC	
PAN SEQ NO : 01		
AUTH CODE : 091040		
MERCHANT : 46200802		
START : 03/08 EXPIRY : 02/11		
Cardholder PIN Verified		
CHANGE DUE	0.00	

CLUBCARD STATEMENT

CLUBCARD NUMBER 63400402404076806*

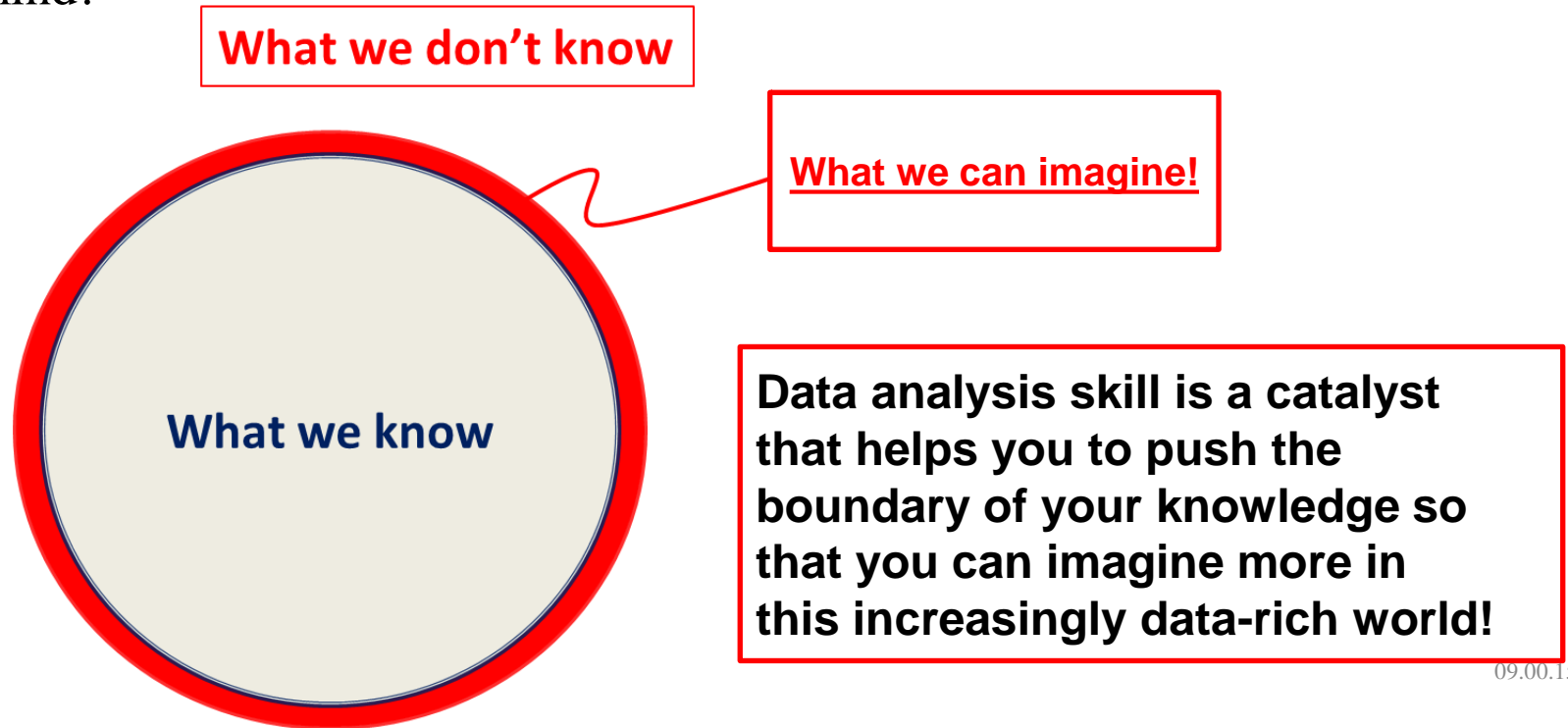
POINTS THIS VISIT	24
INCLUDES :	
DOUBLE POINTS	12
TOTAL UP TO 06/12/10	54
TOTAL INCLUDES :	
GREEN CLUBCARD POINTS	0

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7/12/10 17:52 2008 074 9074 7113

Relevance of DB to your career

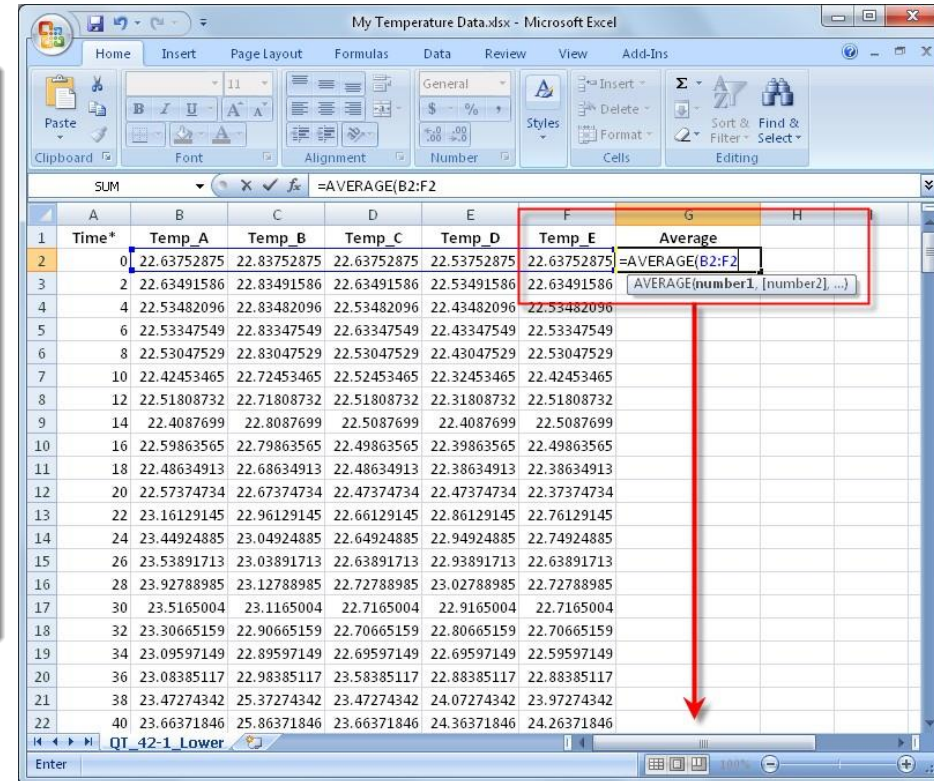
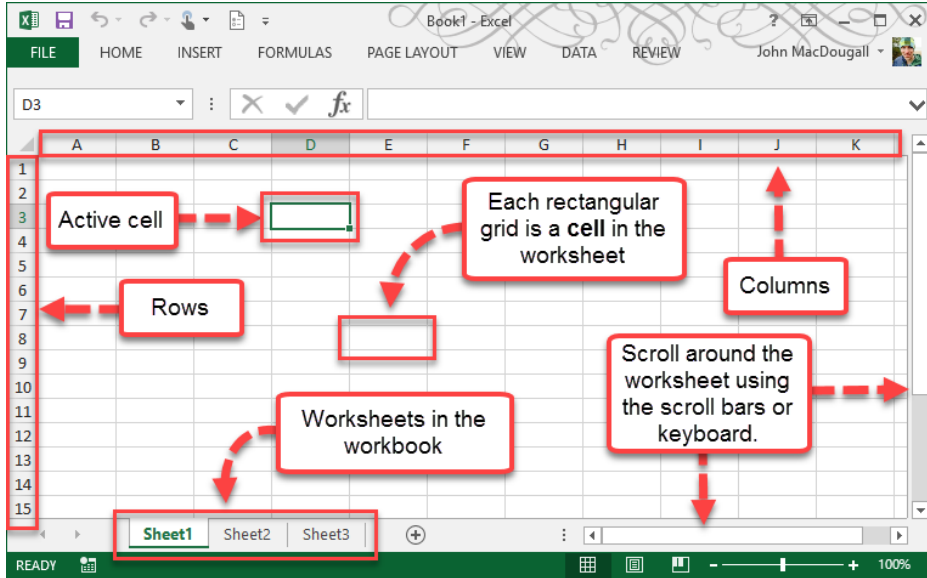
- An important skill to understand the future business practice.
- You will start to see the beauty of programming and to cultivate an analytic mind!



**Finally, it is nice to be capable of
exploring this world via data!**



First Impression on MySQL



A simple comparison between SQL and Excel

	Excel	SQL
Avoid accidental changes to data		👍
Complexity of vocabulary		👍
Capability to replicate previous analysis		👍
General speed of data manipulation		👍
Access to high computing power		👍
Manipulation of large data files		👍
Calculation capability	👍	

First Impression on MySQL

Statistic analysis capability



SPSS®



Excel



Data manipulation/management
capability

*Mainly operated
through clicking
on menu*

*Mainly operated
through writing
code*



What is database? (e.g., Youtube)

A database is a structured collection of data.

What is an unstructured collection of data?

User(author)	Gender	Video title	Time of uploading	User(reviewer)	Comments
UserA	Male	MySQL tutorial 1	05/05/2022 18:56	UserB	First comment
UserA	Male	MySQL tutorial 1	05/05/2022 18:56	UserB	Second comment
UserA	Male	MySQL tutorial 1	05/05/2022 18:56	UserC	Third comment
UserA	Male	MySQL tutorial 1	05/05/2022 18:56	UserD	Forth comment
UserA	Male	MySQL tutorial 1	05/05/2022 18:56	UserF	Fifth comment

What is database? (e.g., Youtube)

A database is a structured collection of data.



On average, how many 'likes' on the videos upload by a user – *John*, have received?

Importance of database language (an example of Youtube)

Whether females receive more comments/feedbacks on their videos than males do on average?

- To answer the above question, you need to:
 - Find **the list of** videos uploaded by the users (**ID**) who specified their gender as female. — **table User and Videos**
 - Count the number of **comments on the videos that appear in the above list.** — **table User and Videos and Comments**
 - Count the number of the users (**ID**) who specified their gender as females — **table User**
 - Get the average value for female users
(number of comments / number of females)
 - Repeat the analysis for males.

Market share



DB-Engines Ranking

The DB-Engines Ranking ranks database management systems according to their popularity. The ranking is updated monthly.

Read more about the [method](#) of calculating the scores.



423 systems in ranking, August 2024

Rank			DBMS	Database Model	Score		
Aug 2024	Jul 2024	Aug 2023			Aug 2024	Jul 2024	Aug 2023
1.	1.	1.	Oracle +	Relational, Multi-model ⓘ	1258.48	+18.12	+16.39
2.	2.	2.	MySQL +	Relational, Multi-model ⓘ	1026.86	-12.60	-103.59
3.	3.	3.	Microsoft SQL Server +	Relational, Multi-model ⓘ	815.18	+7.52	-105.64
4.	4.	4.	PostgreSQL +	Relational, Multi-model ⓘ	637.39	-1.52	+17.01
5.	5.	5.	MongoDB +	Document, Multi-model ⓘ	420.98	-8.85	-13.51
6.	6.	6.	Redis +	Key-value, Multi-model ⓘ	152.71	-4.06	-10.26
7.	7.	↑ 11.	Snowflake +	Relational	135.97	-0.56	+15.34

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MySQL and Oracle are similar

Create a customer database in MySQL:

```
CREATE DATABASE customers;
```

Create a customer database in Oracle:

```
CREATE DATABASE customers;
```

Selecting records from the customer table

In MySQL:

```
SELECT * FROM customer;
```

In Oracle:

```
SELECT * FROM customer;
```

Updating records in the customer table

In MySQL:

```
UPDATE customer SET branch="main" WHERE custage > 2;
```

In Oracle:

```
UPDATE customer SET branch="main" WHERE custage > 2;
```

Database Languages (Oracle vs. MySQL)

- **Oracle is designed for enterprise customers with a big enough budget and more complex business needs.**
- **MySQL is a lower-cost database that is most used for database-driven websites and non-mission critical applications.**

History of MySQL



- **MySQL was created by a Swedish company, MySQL AB and the first version of MySQL appeared on 23 May 1995.**
- **In January 2008, Sun Microsystems bought MySQL for \$1 billion.**
- **In April 2009, Oracle Corporation entered into an agreement to purchase Sun Microsystems, then owners of MySQL copyright and trademark.**
- **Two different editions: the open source MySQL Community Server and the proprietary Enterprise Server.**

Key features of MySQL

1. MySQL is a database management system (DBMS).

- To add, access and process data stored in a computer database, we need a database management system such as MySQL server.
- The SQL part of “MySQL” stands for “Structured query language”.

2. MySQL databases are relational.

- A relational database stores data in **separate tables** rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed.
- You set up rules governing the **relationships** between different data fields, such as one-to-one, one-to-many, unique between different tables.

Key component of relational database

- **Relational database consists of tables.**
- **Table consist of row (records, or observations, samples) and column (attributes, or variables)**
- **Tables are ‘connected’ via foreign key.**
 - Example: Table 1 records user ID, users’ names, age, gender. Table 2 records user ID and users’ videos. Both tables are ‘connected’ by user ID (unique for each user).
- **Records in a table can have unique identifier—
Primary key.**

Characteristics of a table

- A two-dimensional structure with rows and columns.
- Each table must have an attribute to uniquely identify each row **[Primary key]**.
 - There are no duplicate rows.
- Column values all have the same data type.
- Order of the rows and columns is immaterial to the DBMS.

🔑 employeeNumber	lastName	firstName	extension	email	🌿 officeCode	🌿 reportsTo	jobTitle
1 002	Murphy	Diane	x5800	dmurphy@classicmodelcars.com	1	(NULL)	President
1 056	Patterson	Mary	x4611	mpatterso@classicmodelcars.com	1	1 002	VP Sales
1 076	Firrelli	Jeff	x9273	jfirrelli@classicmodelcars.com	1	1 002	VP Marketing
1 088	Patterson	William	x4871	wpatterson@classicmodelcars.com	6	1 056	Sales Manager (APAC)

Key features of MySQL

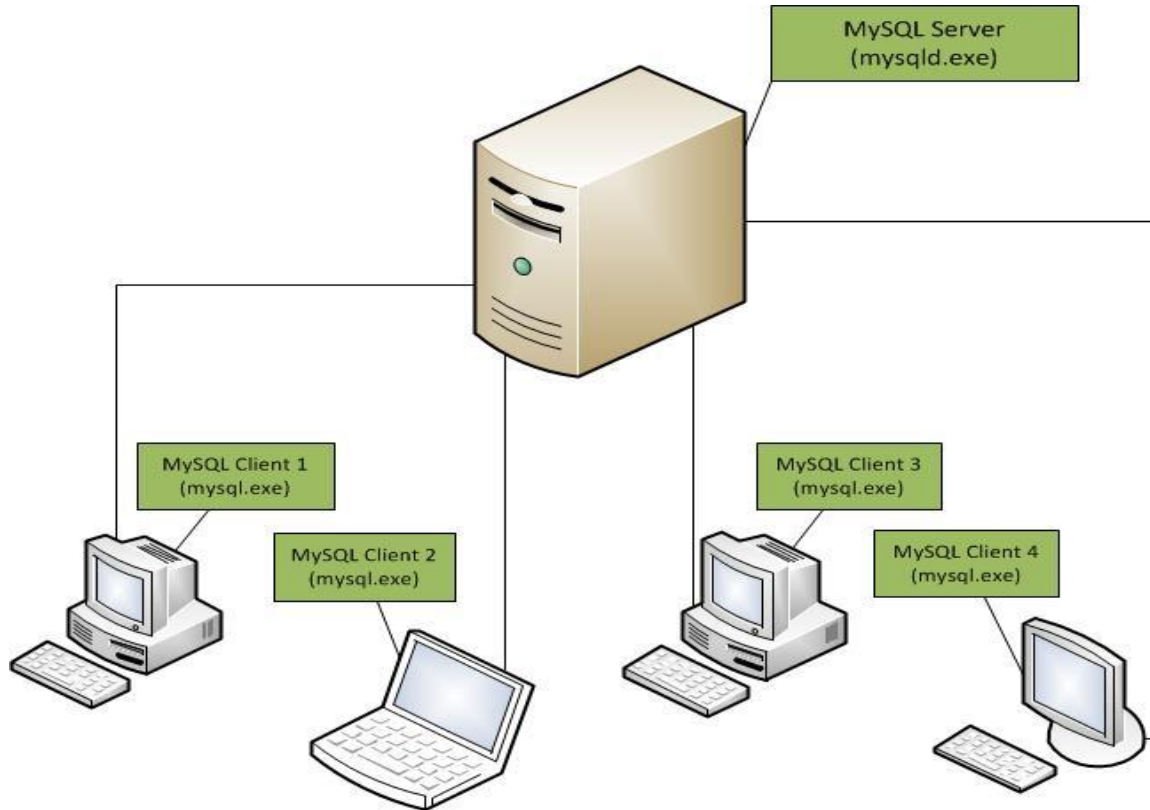
3. MySQL software is Open Source.

- **Open source: anyone can use and modify the software**
- **Free (community version)**
- **You may change the source code to suit your need.**

4. The MySQL Database Server is very fast, reliable, and easy to use.

5. MySQL Server works in client/server or embedded systems.

MySQL client/server



- Enabling you to take advantages of high-performance computers or servers.
- You can also set up a local server in your personal PC.

MySQL client/server - Kill a process



1. A worker sends a command to a MySQL server to do a time-consuming task via his/her **office** computer on Thursday afternoon.



2. S/he checked the status of the command at home via her/his personal computer in the evening, which is not completed.



3. The command is still not completed on Friday morning, so s/he decides to cancel the command to free the server.



- Very often that a command takes hours to operate when using big data. MySQL server will operate the command [e.g., create a new table] from you, irrespective of whether you closed HeidiSQL (or MySQL) from your own computer or not.
- A very useful function to free your server from a resource-consuming command sent by you or by other users (if you are an administrator). You can “tell” a server to cancel the command through any computer via your MySQL account.

MySQL licensing

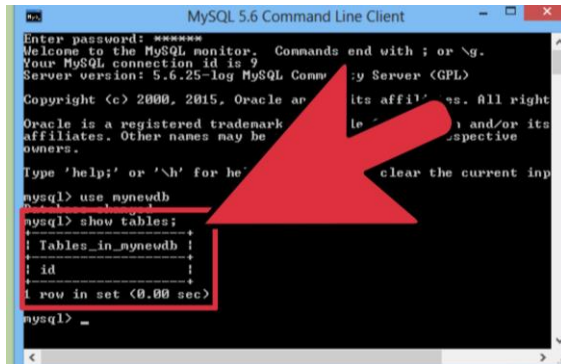
- **Open source license (MySQL Community Edition):**
MySQL is available via the GNU Public License (GPL) for no charge.
 - For instance, if you are using MySQL as a database on a website, MySQL is free for you, even if you are making money with your website.
- **Commercial license (MySQL Enterprise Edition):**
 - If you use MySQL as a part of a new software product and wants to sell the new product, you needs to purchase a commercial license.

The 'nature' of MySQL (personal feeling)

- **Learning MySQL is like learning a language with 30-50 most common-used vocabulary and a few simple grammars.**

Prerequisites to use MySQL

- **MySQL**
 - MySQL is available on computers in many of the school's computer labs and VDI.
- **MySQL GUI** (graphical user interface)
- **An account to access a MySQL server**
 - An account to access a **remote** server
 - A root account: Setup your own computer as a **local** server



```
MySQL 5.6 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 5.6.25-log MySQL Comm...y Server (GPL)

Copyright (c) 2000, 2015, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help; Type '\c' to clear the current input statement.

mysql> use mynewdb
mysql> show tables;
+-----+
| Tables_in_mynewdb |
+-----+
| id                 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

MySQL Graphical User Interface (GUI) tools

1. Workbench (Free)
2. Navicat (US\$ 149 for Standard edition)
3. Sequel Pro (Free, Mac OS)
4. phpMyAdmin (A browser-based tool)
5. **HeidiSQL** (This tool is free, which will be used in our course)
6. A+ (Aalto) ? (cannot change value, add/remove column or build key – not good for beginner)

We have prepared for you...

- *MySQL has been installed on the computers in several labs.*
- **MySQL database accounts** to the remote server have been created for you.
- MySQL server can also be **used at home via VDI**
 - Instruction on how to use VDI (Virtual Desktop Infrastructure) is available at MyCourse.
 - *MySQL & HeidiSQL has already been installed to your VDI.*
 - You can set up a root account by installing MySQL on your own computer! However, this is actually NOT encouraged.

If you want to install MySQL at your personal computer, it will be your own responsibility to handle the installation errors, because of a lack of labor to deal with these errors.

Reasons: It may take 1 – 3 hours to find the solution to an error (e.g., forgotten password) if lucky.

Facts: MySQL updates every few months while solutions to reset a root password are different for different operating systems.



Installation of MySQL community version

- **Go to:**
<https://dev.mysql.com/downloads/mysql/>
- **How to install:** please check more recent Youtube video about how to install MySQL.

MySQL Community Server 8.0.21

Select Operating System:
Microsoft Windows

[Looking for previous GA versions?](#)

Recommended Download:

MySQL Installer
for Windows

**All MySQL Products. For All Windows Platforms.
In One Package.**

Starting with MySQL 5.6 the MySQL Installer package replaces the standalone MSI packages.

Windows (x86, 32 & 64-bit), MySQL Installer MSI

[Go to Download Page >](#)

Other Downloads:

Windows (x86, 64-bit), ZIP Archive <small>(mysql-8.0.21-winx64.zip)</small>	8.0.21	111.1M	Download
<small>MD5: 06d745c77b254e160807bdc2f5245352 Signature</small>			
Windows (x86, 64-bit), ZIP Archive Debug Binaries & Test Suite	8.0.21	510.6M	Download



Sign up or not?

MySQL Community Downloads

Login Now or Sign Up for a free account.

An Oracle Web Account provides you with the following advantages:

- Fast access to MySQL software downloads
- Download technical White Papers and Presentations
- Post messages in the MySQL Discussion Forums
- Report and track bugs in the MySQL bug system

Login »

using my Oracle Web account

Sign Up »

for an Oracle Web account

MySQL.com is using Oracle SSO for authentication. If you already have an Oracle Web account, click the Login link. Otherwise, you can sign up for a free account by clicking the Sign Up link and following the instructions.

No thanks, just start my download.



Download HeidiSQL 12.8, released on 11 Jul 2024



Installer, 32/64 bit combined



Portable version (zipped): 32 bit 64 bit

Stable link to latest portable version: 32 bit 64 bit



Sourcecode



Previous releases



Windows Package Manager

Donate

Support making HeidiSQL better and better

Compatibility notes

- HeidiSQL runs fine on Windows 10 and 11 (and on Windows 7 + 8 with some minor issues)
- Running HeidiSQL on Wine can have various issues, depending on the version of Wine and HeidiSQL.

Nightly Builds of heidisql.exe

Latest automatically compiled main executable and installers for HeidiSQL. Just download and overwrite your existing `C:\Program Files\HeidiSQL\heidisql.exe`. Be aware that these builds are not official releases and therefore probably have more bugs, possibly serious ones.

Revision
12.8.0.6925

Issue #2011: pre-select a reasonable collation if the servers default collation is not set or not yet supported by Heidi

committed: 25 Aug 2024 13:37 compiled: 25 Aug 2024 14:25

64bit build 23.2 MB

Revision
12.8.0.6924

Issue #1907: fix missing assignments in TDBObject.Assign, causing a default AvgRowLen of -1 which slows down the SQL export

committed: 17 Aug 2024 13:00 compiled: 17 Aug 2024 13:25

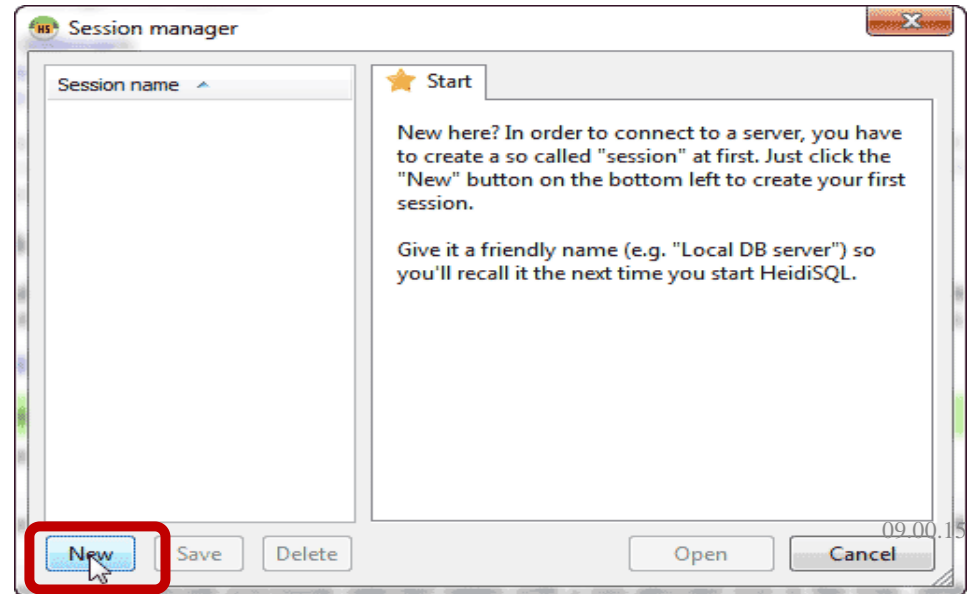
64bit build 23.2 MB

09.00.15

<https://www.heidisql.com/download.php>

Connecting MySQL server with HeidiSQL

- Icon for HeidiSQL
- Step 1: Open Heidi SQL.
- Step 2: Click New.

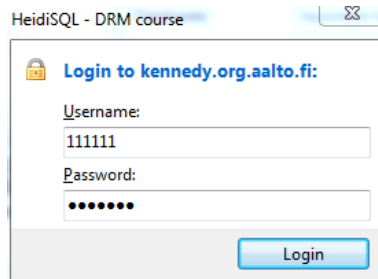


Setup a remote connection

- Network type: **MySQL (TCP/IP)**.
Hostname / IP: **johnson.org.aalto.fi**
- User ID: **studentnumber**
- Password: **P + studentnumber**
- Port: **3306**
- Databases: Leave as
“Separated by Semicolon”
- Comment: Leave it blank

You can access this server via a university computer OR via VDI

Such as: P123456



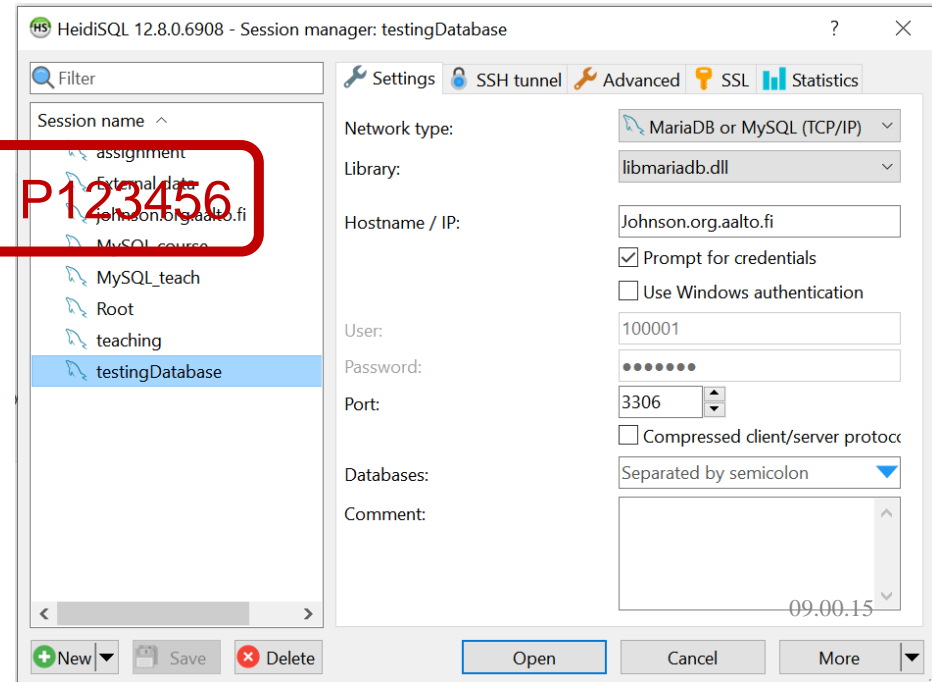
HeidiSQL - DRM course

Login to kennedy.org.aalto.fi:

Username:
111111

Password:
••••••

Login



HeidiSQL 12.8.0.6908 - Session manager: testingDatabase

Filter

Session name ^

- assignment
- External data
- johnson.org.aalto.fi
- MySQL course
- MySQL_teach
- Root
- teaching
- testingDatabase

Settings SSH tunnel Advanced SSL Statistics

Network type: MariaDB or MySQL (TCP/IP)

Library: libmariadb.dll

Hostname / IP: Johnson.org.aalto.fi

☒ Prompt for credentials

☐ Use Windows authentication

User: 100001

Password: ••••••

Port: 3306

☐ Compressed client/server protocol

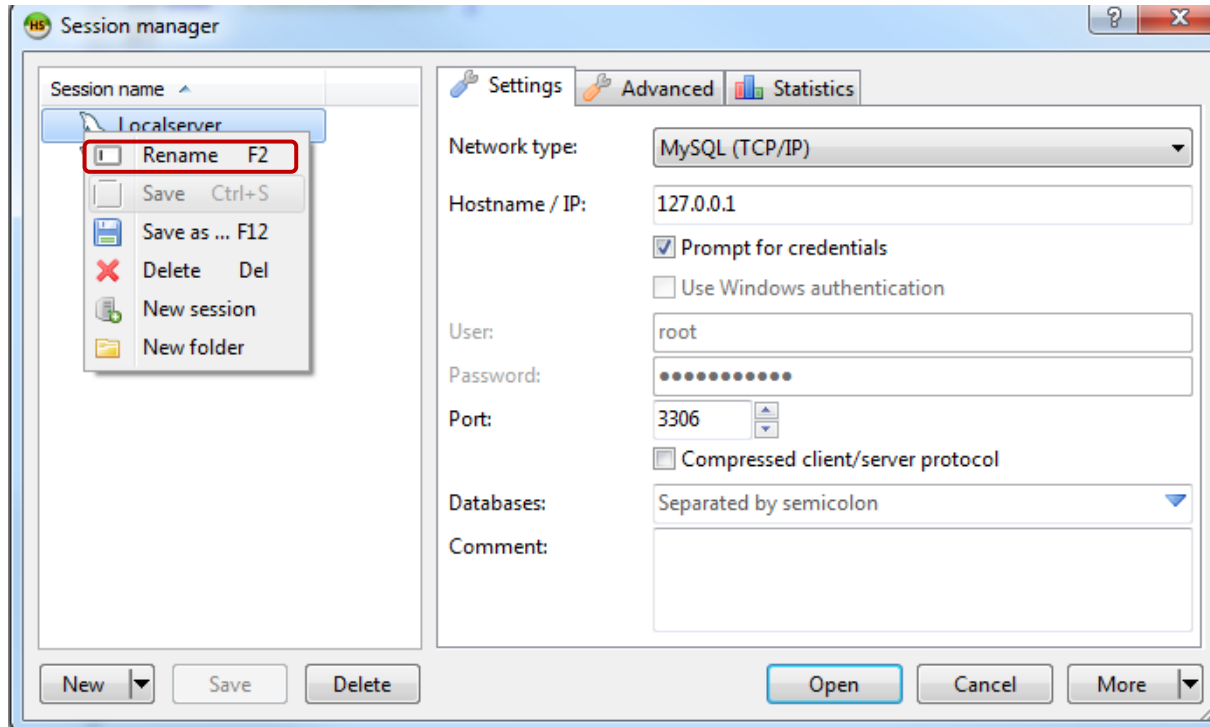
Databases: Separated by semicolon

Comment:

09.00.15

New Save Delete Open Cancel More

Rename database session

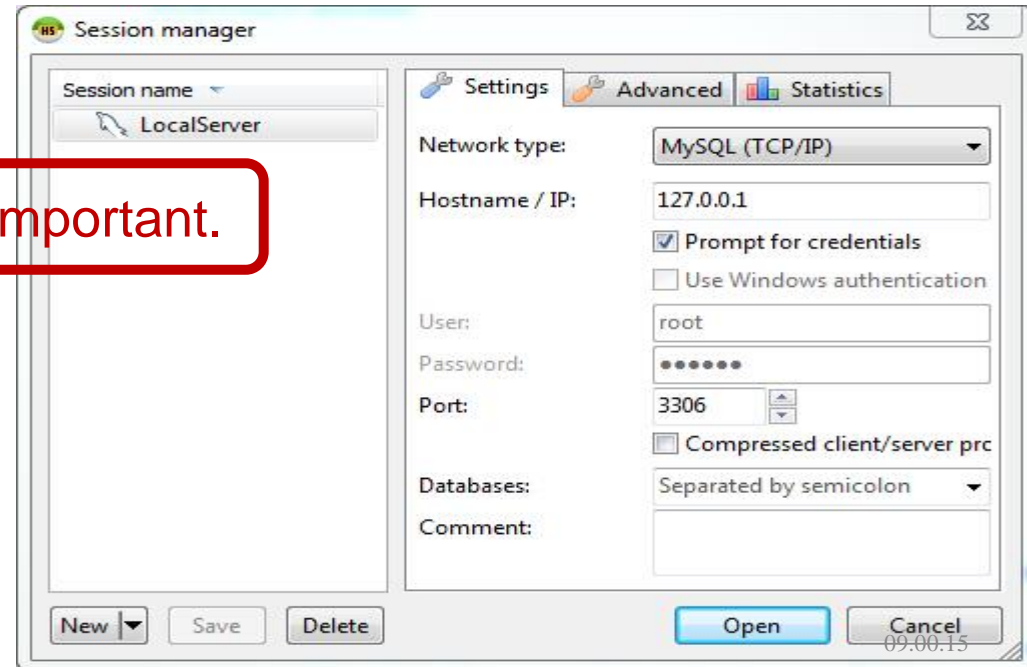
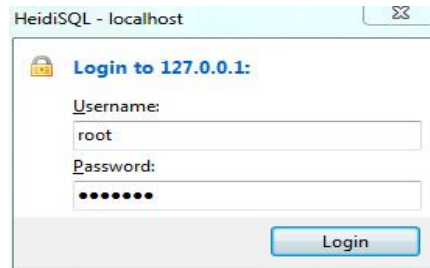


Setup a local server

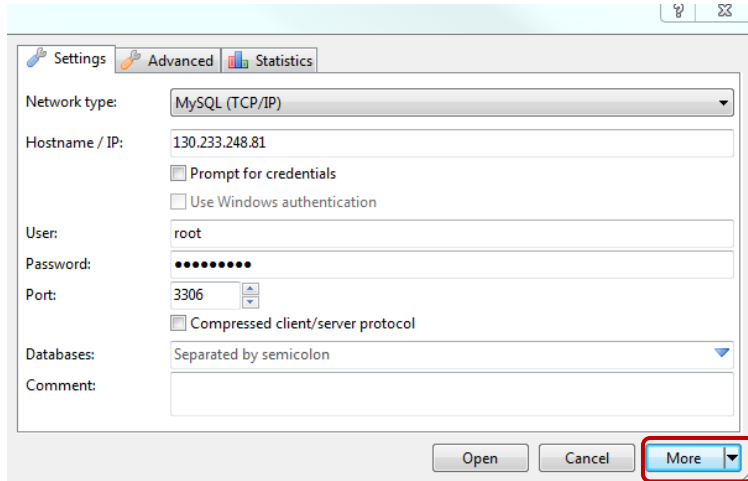
- Network type: MySQL (TCP/IP).
Hostname / IP: **127.0.0.1**
- User: **root**
- Password:
- Port: **3306**
- Databases: Leave as
“Separated by Semicolon”
- Comment: Leave it blank

Local server works, if you have actually installed MySQL to your own computer.

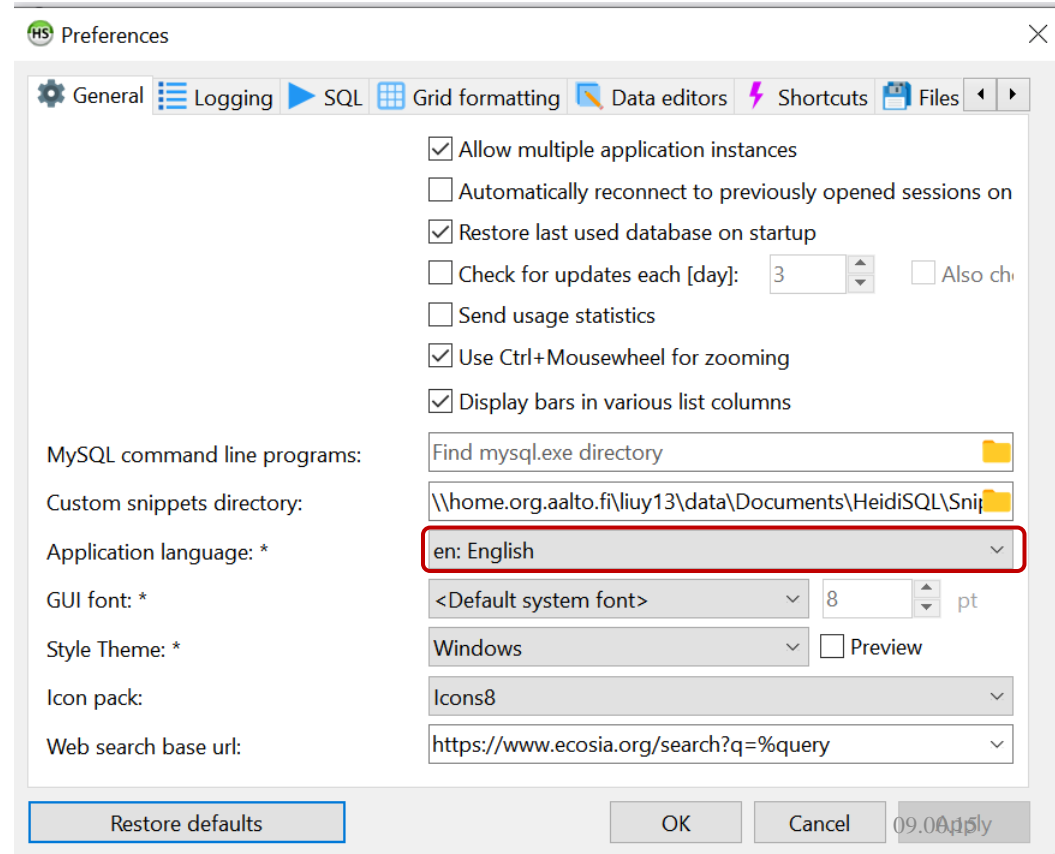
This is important.



Change interface language



More → Preference



DRM course\dl111111\ - HeidiSQL 9.3.0.4984

File Edit Search Tools Help

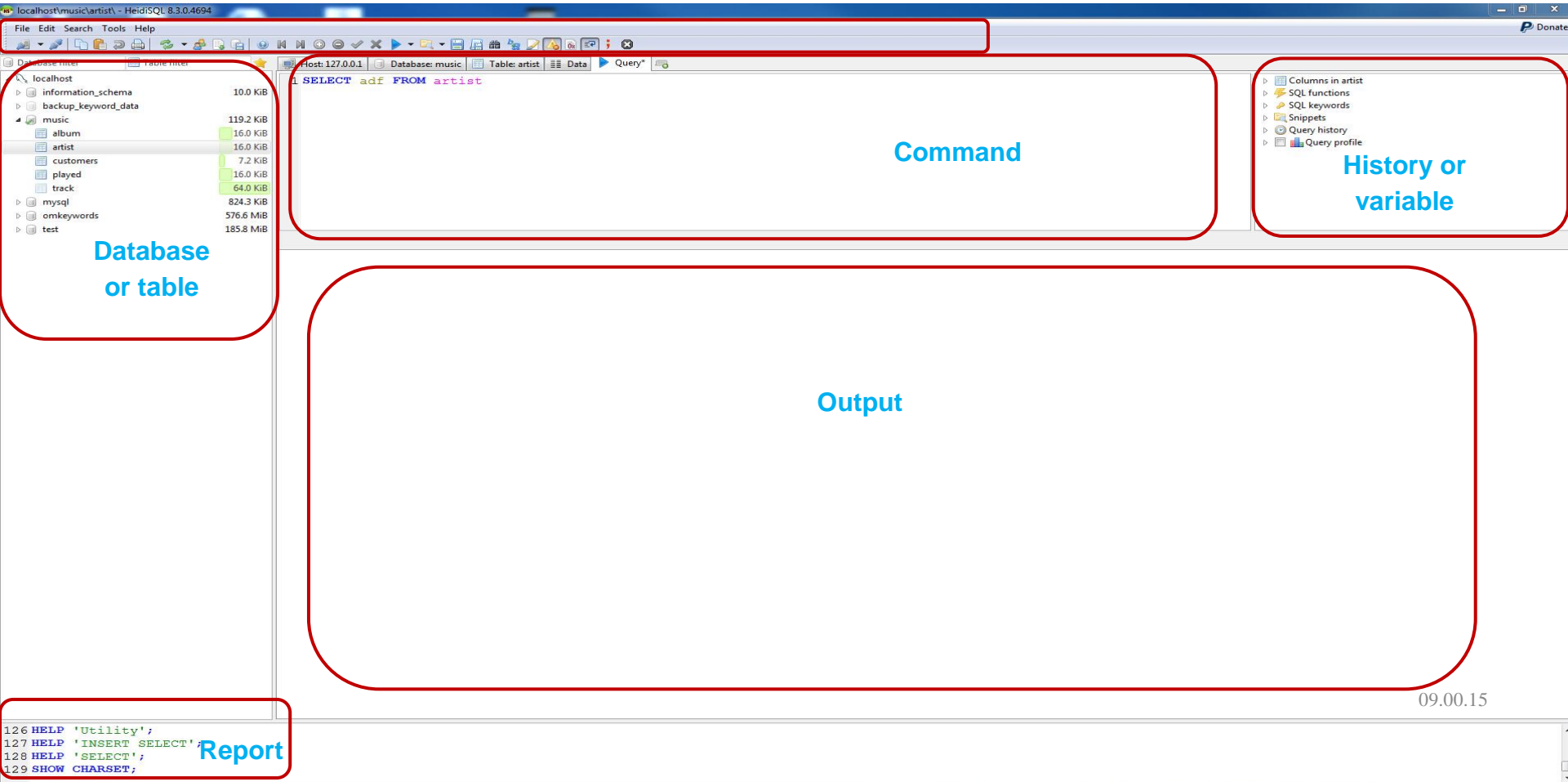
Database filter Table filter Host: kennedy.org.aalto.fi Database: dl111111 Query

Database	Size
DRM course	8.0 KiB
information_schema	8.0 KiB
d111111	0 B

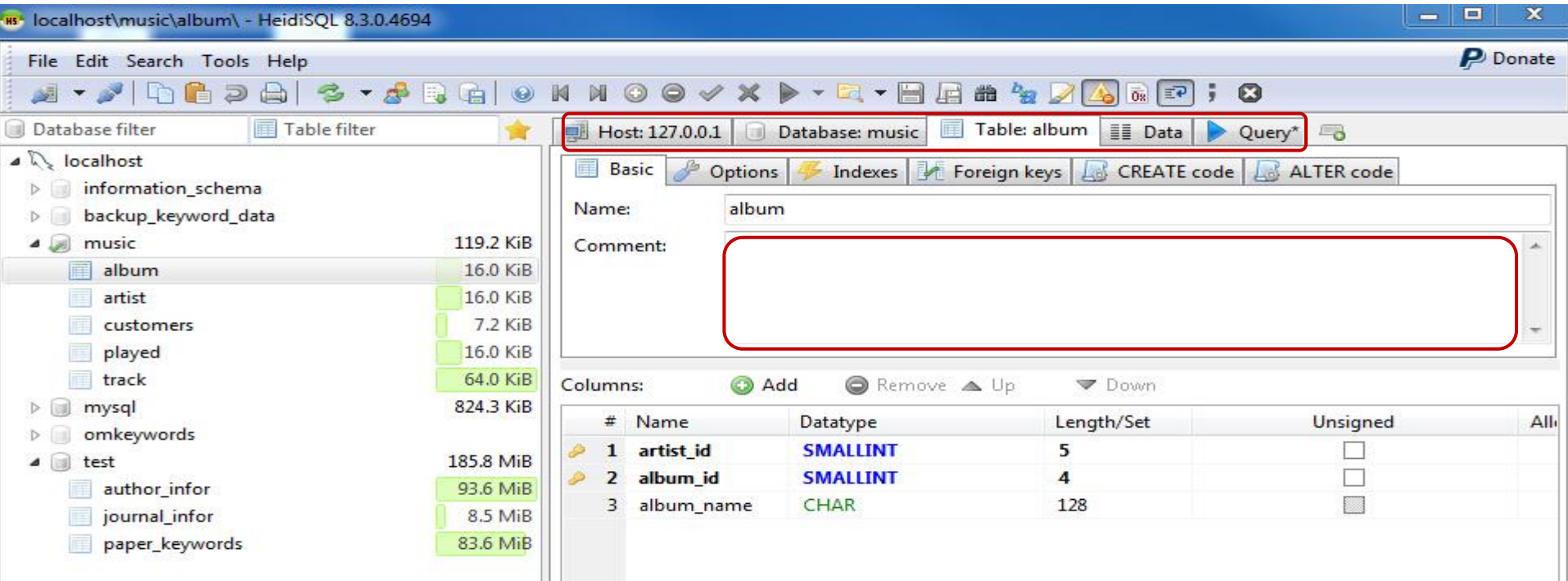
Information_schema is a system database, recording system information. You **cannot** use this database.

The database named with your student ID is the one that you should use. **Left-click on the database** to activate it so that it becomes a default database for your future operation

Basic interface of HeidiSQL



One big advantage of using HeidiSQL.



- It will be a good habit to save the command that you used to create tables here.

For the hands-on session

- **Please read two instructions for hands-on sessions that are available at:**
<https://mycourses.aalto.fi/course/view.php?id=44950>
 - Method to access course database server via VDI.docx
 - Instructions on hands-on session.pdf
- **Please watch the video on how to import the ‘classicmodels’ database**
 - You can find the **database file** at: Mycourse → Exercises and database files → Data and database files → classicmodels (using PCs in the lab or at home).sql
 - **Link to the video:** <https://mycourses.aalto.fi/course/view.php?id=44950§ion=3>
 - **Please install VDI** on your computer and access the MySQL server via VDI (see course homepage for tutorial).
- **Hands-on learning materials are available on MyCourse**
- **After watching the video, please follow the hands-on learning materials to do the exercise.**
- **Hands-on sessions are simply a venue to offer (question-answering) assistance to support your practice with MySQL.**

Denied Access & Late registration

- If you registered for the course after September 1, your MySQL account may not yet be created. If your access to the MySQL server is denied, please contact the lecturer to create an account for you by sending your student ID or TA to obtain an account.