

Oslo ENCODE Intensive Training Workshop:

Building a MySQL Relational Database for Your Data

Oslo, 10-13 October 2022

The workshop is organised in collaboration with the Digital Scholarship Centre of the University of Oslo Library and will offer an intensive hands-on training in building a MySQL relational database for humanistic data, with a focus on philological, linguistic, literary and historical data, as well as introducing data visualization, interface design (including UX) and sustainability issues.

CONTENT OF THE WORKSHOP

- Introduction to the use of databases for the research in the humanities
- Relational databases and relational databases management systems (RDBMS)
- MySQL databases and MySQL Workbench
- How to build a relational database: principles, problems and best practices
- Data visualization, querying and manipulation in MySQL Workbench
- Introduction to visualization tools (Nodegoat, Gephi)
- introduction to designing a graphic user interface (GUI) and user experience (UX) issues.
- Introduction to sustainability issues.

LEARNING OUTCOMES

At the end of the workshop trainees:

- understand the relevance, for their studies and research, of making use of making use of databases for modelling, storing and querying their data.
- understand the basic principles of data modelling and are familiar with the basic concepts and terminology needed in designing and creating a relational database.
- understand the relevance of learning how to create and use a database without the need of intermediary actors.
- can design a relational database according to the needs of their data and their research questions.
- can set up a MySQL relational database using MySQL Workbench as graphic user interface.
- can import external data into the database and are aware of the relative formatting requirements.





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- have been introduced to the MySQL querying language and are able to perform queries in MySQL Workbench, in order to visualize, search and manipulate their data.
- have built an elementary MySQL database with real data from their own research and have acquired the knowledge and skill necessary to develop it further after the workshop.
- are aware of the technical knowledge needed to build a graphical user interface for a relational database and understand.
- are familiar with tools (Nodegoat, Gephi) to which data can be exported and visualized and further manipulated.
- are aware of issues of technical, economical and ecological sustainability connected to the development of relational databases and their publication through (usually online) graphic user interfaces.

COMPETENCES

The workshop has been organised taking into account the Digital Competence Framework for Citizens (DigComp.2.1: <http://europa.eu/!Yg77Dh>) and, more specifically, aimed at providing training in the following areas and levels:

Competence area 1: Information and data literacy

- 1.3 MANAGING DATA, INFORMATION AND DIGITAL CONTENT: can model, organise, manipulate and adapt own research data in a MySQL relational database in the most appropriate way, for storage, retrieval and further enrichment. Can guide others in learning this competence. (DigComp2.1: 1.3 level 5).

Competence area 2: Communication and collaboration

- 2.2 COLLABORATING THROUGH DIGITAL TECHNOLOGIES: can share data, information and digital content with others through appropriate digital technologies, i.e. knows export and import procedures of MySQL Workbench and knows how to select the appropriate data formats. (DigComp2.1: 2.2 level 4)

Competence area 3: Digital content creation

- 3.1 DEVELOPING DIGITAL CONTENT: can independently create and edit well-defined content in well-defined and routine formats solving straightforward and more advanced issues (i.e. can create new tables, columns and populate a MySQL database using the right data format) (DigComp1: 3.1 level 4)
- 3.2 INTEGRATING AND RE-ELABORATING DIGITAL CONTENT: can modify, refine, improve and integrate information and content into an existing body of



knowledge to create new, original and relevant content and knowledge. (DigComp2.1: 3.2 level 4)

- I can plan and develop a sequence of understandable instructions for a computer to solve a given problem or perform a specific task (i.e. using the MySQL language to retrieve and manipulate data).
(DigiComp2.1/3.4 level 4/5).

Competence area 4: Safety

can recognise and indicate the environmental impacts of the storage and maintenance of databases and online graphic users interface.
(DigiComp2.1/4.2 level 3)

Competence area 5: Problem solving

- 5.1 SOLVING TECHNICAL PROBLEMS: can identify technical problems when operating devices and using digital environments, and solve them (from troubleshooting to solving more complex problems), e.g. is aware and can use forums, tutorials and handbooks to find out why a query does not work.
(DigComp2.1: 5.1 level 3/4)
- 5.3 CREATIVELY USING DIGITAL TECHNOLOGIES: can use digital tools and technologies to create knowledge and to innovate processes and products, to engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments. (DigComp2.1: 5.3 level 3/4)
- 5.4 IDENTIFYING DIGITAL COMPETENCE GAPS: Can understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development. (e.g. is aware and can use forums, tutorials and handbooks to learn more advanced MySQL queries and ways to manipulate the data).
(DigComp2.1: 5.4 level 4)

ENTRY REQUIREMENTS

According to the Calohee competence framework (<https://www.calohee.eu/>) trainees were required to show at entrance a level 7 of the Humanistic competences with special reference to the following sub-dimensions:

- **DIM 2 - TEXT AND CONTEXT**
 - Show knowledge of their own research data and of its nature and structure. Can define and describe the different types of data in relation to typology, source, area and time period.
 - Can retrieve metadata from different relevant sources for their own field of research.
 - Can analyse different aspects of their material and specific research questions which can guide the modelling of their data.





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- **DIM. 3: THEORIES AND CONCEPTS**
 - Apply appropriate theoretical and clear conceptual approaches to humanities research.
- **DIM. 4: INTERDISCIPLINARITY**
 - Have a good understanding of the role of Digital Humanities within the broader context of the humanities.
 - Are aware of methods of different areas of research within the humanities.
- **DIM. 5: COMMUNICATION**
 - Demonstrate an active knowledge of English as a second language.
 - Demonstrate a good knowledge of digital and communication technologies and their uses.
- **DIM. 6 INITIATIVE AND CREATIVITY**
 - Demonstrate an active knowledge of English as a second language
 - Understand the dialogic nature of the humanities within scientific and public debate: approach issues with critical awareness; think in scientific terms; pose problems.

