

## ***„MySQL - Database administration – basic training”***

### ***Course description:***

MySQL training – database administration – basic training is addressed to users who want to start their adventure with databases. The training is from scratch. The course is led by an expert in the field of data processing and reporting who has years of experience.

During MySQL training - database administration - basic training you will learn how the process of MySQL database administration looks like. You will also get to know how to install a base, how to perform basic operations. You will learn the basic tools to manage and administer MySQL database.

### ***Skills acquired during the training:***

- o Installation and configuration of a database
- o The basics of database creation
- o Working with different types of users, giving the right permissions
- o Database maintenance and service
- o Work and configuration on different servers
- o MySQL security rules

### ***Training program:***

1. **MySQL server files and startup scripts**
  - Available scripts and utilities,
  - Startup script mysqld\_safe,
  - Startup script mysql.server,
  - Program to manage multiple servers on one machine mysqld\_multi.
2. **MySQL server configuration**
  - Command Options mysqld,
  - SQL Server Mode,
  - Server System Variables,

- Dynamic System Variables,
- Server Status Variables,
- Shutdown Process.

### 3. **MySQL server security**

- Security against attacks,
- Options of mysql program concerning security,
- Security and the LOAD DATA LOCAL command.

### 4. **MySQL permission system**

- How the permission system works,
- Structure of the MySQL permission system,
- Stages of connecting to MySQL server,
- Access Control, Stage 1: Connection Verification,
- Access Control, Stage 2: Request Verification,
- Most common causes of Access denied Errors.

### 5. **Managing user accounts**

- Users and passwords,
- Adding new user account,
- Deleting user account,
- Limiting account resources,
- Changing user account password.

### 6. **Maintaining and repairing MySQL database**

- Creating backups,
- Maintenance and Crash Recovery,
- Syntax for calling myisamchk program,
- Option of myisamchk program (checking tables consistency, repairing tables, others),
- Optimizing tables,
- Getting information about the table.

### 7. **MySQL local settings**

- Sorting and polish characters,
- Selecting message language,
- Adding a new language,
- The most common problems with polish characters,
- Specifying the server's time zone.

### 8. **MySQL Log Files**

- Error Log,
- General Query Log,
- Update Log,
- Binary Log,
- Slow Query Log,

- Maintaining log files.

**9. Running multiple servers on one device**

- Running multiple servers on Windows,
- Running multiple servers from the command line,
- Running multiple servers as a service,
- Running multiple servers on Unix-like,
- Using programs in a multi-server environment.

**10. MySQL Query Cache**

- How Query Cache works,
- Query Cache Options for SELECT clause,
- Configuring Query Cache,
- Checking Query Cache Status.

***Methodology:***

- PowerPoint mini lectures
- working on computers (each participant works on a separate computer)
- mini training videos

***Organizational information:***

Number of training hours: 35 hours / 5 days

Time of training 9:15-16:15

Place of training: Łódź, Piotrkowska 125 – KM Studio - trainings