# **MySQL Instance Creation and Configuration Guide**

Version 1.0

Index

1. Introduction
   * Overview of MySQL Instance Creation for SAS Opera
   * Prerequisites
2. Setting up Directories
   * Creating Company Directory
   * Creating Subdirectories
   * Organizing SQL Scripts and Batch Files
3. Creating Instance Folders
   * Manually Creating Instance Folders
   * Using Batch Scripts for Instance Folders
4. Configuring MySQL Instance
   * Copying my.ini File
   * Modifying my.ini Configuration
   * Initializing Data Folder
5. Creating and Starting Services
   * Installing MySQL Services
   * Starting MySQL Services
6. Configuring MySQL User
   * Connecting to MySQL
   * Creating Application User
   * Creating .instance.cnf File
7. Stopping and Removing Services (Optional)
   * Stopping MySQL Service
   * Removing MySQL Service
8. Conclusion
   * Summary of the Setup Process
9. Appendix
   * Detailed Configuration Steps

# **MySQL Instance Creation and Configuration Guide for SAS Opera**

This document describes the steps for creating and configuring MySQL instances for the SAS Opera product, including setting up directories, files, and necessary configurations to run multiple instances under the C:\SAS Opera\Companies directory.

### **Prerequisites:**

* MySQL Server installed on the machine.
* Administrator privileges for file system access and MySQL configurations.
* SAS Opera product installed and running in the C:\SAS Opera\Companies directory.
* Batch files, Python scripts, and .sql files located in the C:\SAS Opera\Companies\Company\_X\system\config\schema\scripts directory.

### **1. Setting up Directories**

1. **Create a new company directory under Companies:**
   1. Navigate to C:\SAS Opera\Companies and create a directory for the new company (e.g., Company\_2).
   2. The full path will be:

C:\SAS Opera\Companies\Company\_2.

1. **Create subdirectories under the new company folder:**
   1. Inside the Company\_2 directory, create the following directories:
      1. system
      2. system\application
      3. system\config
      4. system\db\_instances
2. **Create subdirectories under system\config:**
   1. Create the following subdirectories under C:\SAS Opera\Companies\Company\_2\system\config:
      1. instance
      2. schema
      3. schema\scripts
3. **Create subdirectories under schema\scripts:**
   1. Create the following directories under C:\SAS Opera\Companies\Company\_2\system\config\schema\scripts:
      1. create
      2. delete
4. **Place SQL scripts in the create directory:**
   1. Place all .sql files (e.g., 000\_create\_schemas.sql to 0014\_fin\_purchase\_invoice\_tables.sql) into the create directory.
5. **Place the delete script in the delete directory:**
   1. Place 0000\_delete\_schemas.sql in the delete directory.
6. **Place .py and .bat files in the schema directory:**
   1. Place the following files in C:\SAS Opera\Companies\Company\_2\system\config\schema:
      1. create\_schemas\_py.py
      2. create\_schemas\_bat.bat
      3. delete\_schemas\_bat.bat
      4. delete\_schemas\_py.py

### **2. Creating Instance Folders**

1. **Manually Create Instance Folders** (or use the batch script):
   1. Navigate to C:\SAS Opera\Companies\Company\_2\system\config.
   2. Create instance directories manually (e.g., instance0, instance1, instance2, instance3).
   3. Alternatively, you can use the batch file 01create\_instance\_folders.bat to automatically create the following directories:
      1. C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance0
      2. C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1
      3. C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance2
      4. C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance3

**Note**: This batch file will also create the data, logs, and uploads directories inside each instance folder.

### **3. Configuring MySQL Instance**

1. **Copy my.ini to the instance folder:**
   1. Manually copy my.ini from the MySQL installation directory (C:\ProgramData\MySQL\MySQL Server 8.0) to the C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1 folder.
   2. Alternatively, run 02\_copy\_config\_file.bat from C:\SAS Opera\Companies\Company\_2\system\config.
2. **Modify my.ini File:**
   1. Open my.ini in C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1 and modify the port number and other necessary configurations.
   2. Example: Update the port entry to a unique value, such as 3322.

**Note**: The batch script 03\_change\_myini\_manually.bat can help automate parts of this process, but it may require manual adjustments.

1. **Initialize Data Folder:**
   1. To initialize the data directory for the instance:
      1. Open a command prompt and run the following command:

mysqld --initialize --datadir=C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1\data

* + 1. Alternatively, run the batch file

04\_initialize\_data\_folder.bat from C:\SAS Opera\Companies\Company\_2\system\config.

**Note**: The initialization will create a DELPHI-K.err file in the data directory, containing the root password for the MySQL instance (e.g., bfXda>\*=9jk).

### **4. Creating and Starting Services**

1. **Install MySQL Services:**
   1. To install the service for the MySQL instance, run the following command:

mysqld --install VEDAM\_instance1 --defaults-file=C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1\my.ini

* 1. Alternatively, run the batch file 05\_create\_services.bat from C:\SAS Opera\Companies\Company\_2\system\config.

1. **Start MySQL Services:**
   1. To start the MySQL service for instance1, run:

net start VEDAM\_instance1

* 1. Alternatively, run the batch file 06\_start\_services.bat from C:\SAS Opera\Companies\Company\_2\system\config.

### **5. Configuring MySQL User**

1. **Connect to MySQL as root:**
   1. Use the root password obtained from the DELPHI-K.err file to log into MySQL:

mysql -u root -p -P 3322

1. **Create Application User:**
   1. Create a new MySQL user for the application:

ALTER USER 'root'@'localhost' IDENTIFIED BY 'welcome';  
CREATE USER 'vedamc0in1'@'localhost' IDENTIFIED BY 'welcome';  
GRANT ALL PRIVILEGES ON \*.\* TO 'vedamc0in1'@'localhost' WITH GRANT OPTION;

**Note**: Adjust the port number (3322 in this example) based on the instance you are configuring.

1. **Create .instance.cnf File:**
   1. In the C:\SAS Opera\Companies\Company\_2\system\db\_instances\instance1 folder, create the .instance.cnf file with the following content:

[client]  
user=vedamc0in1  
password=welcome  
host=localhost  
port=3322

### **6. Stopping and Removing Services (Optional)**

1. **Stop MySQL Service:**
   1. To stop the MySQL service for a specific instance:

net stop VEDAM\_instance1

* 1. Alternatively, run the batch file 07\_stop\_services.bat from C:\SAS Opera\Companies\Company\_2\system\config.

1. **Remove MySQL Service:**
   1. To remove the MySQL service:

mysqld --remove VEDAM\_instance1

* 1. Alternatively, run the batch file 08\_remove\_services.bat from C:\SAS Opera\Companies\Company\_2\system\config.

### **Conclusion**

This document outlines the necessary steps for creating and configuring MySQL instances for the SAS Opera product. Follow these instructions carefully to ensure a smooth setup of MySQL services, user configurations, and database instances.

### **6. Appendix**

More detailed steps can be found in the mysql instances configuration.txt file