

StarRiver Server User Manual

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1 System Requirements

StarRiver Server and its database dependencies run on the following hardware/software.

1.1 Hardware

- Minimum requirements
 - Quad-core CPU. Intel Core i5 or higher.
 - 8GB RAM
 - Fast Ethernet (100Mbps)
- Recommended setup
 - Hexa-core CPU. Intel Xeon E5 or higher.
 - 32GB ECC RAM
 - Gigabit Ethernet

NOTE: Wired network is highly recommended. A wireless connection may lead to high latency.

1.2 Software

- Minimum
 - Windows Server 2003
 - MySQL Server 5.5 (MariaDB 5.5)
- Recommended
 - Windows Server 2008 / Windows 7 or newer
 - MySQL Server 5.6+ (MariaDB 10.0+)

NOTE: As a Windows service, StarRiver Server can be remotely started

/ stopped by our client application. This feature is not supported by Windows XP.

2 Installation

StarRiver Server has two modules: database system and StarRiver communication application.

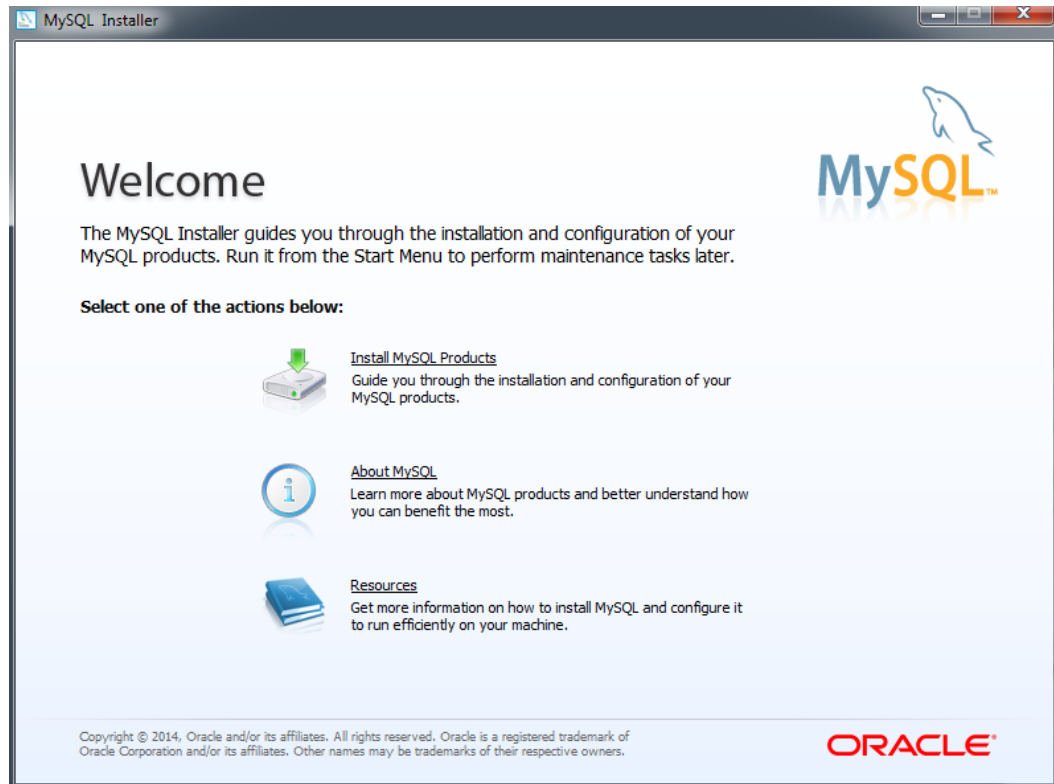
2.1 Database Installation

StarRiver works with MySQL or its compatible replacements such as MariaDB. The following guide is based on MySQL Server 5.6 as an example.

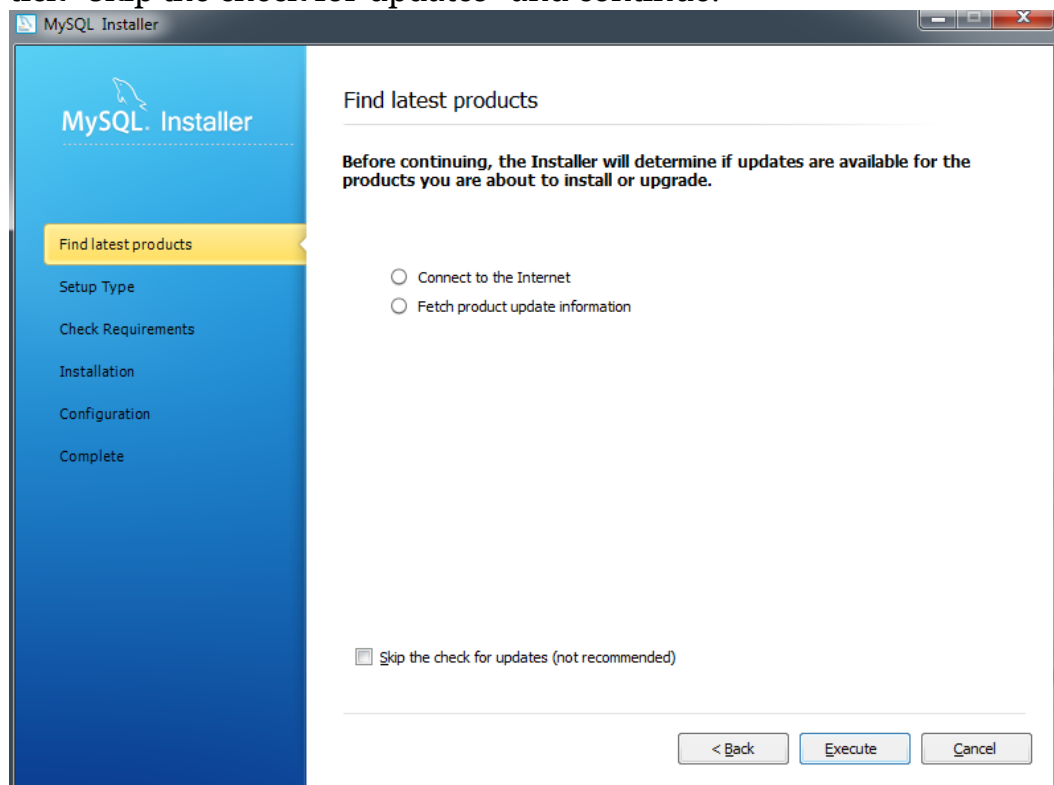
First, download the installer from the [MySQL website](#). The MySQL Installer packaged for Windows platform is recommended. [MySQL Installer 5.6.19](#) is adopted here.

Here are the installation steps.

1. The installer shows a welcome page initially. Select “Install MySQL Products”.

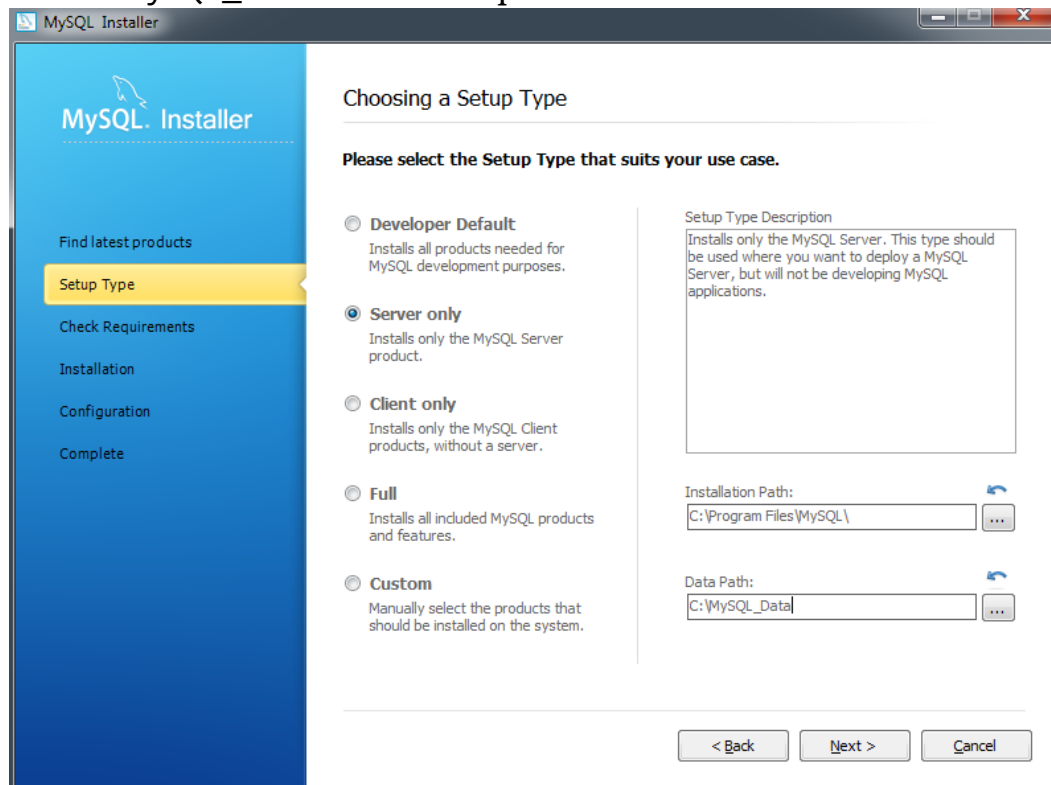


2. Now the installer checks for updates. If there is no Internet connection, tick “Skip the check for updates” and continue.

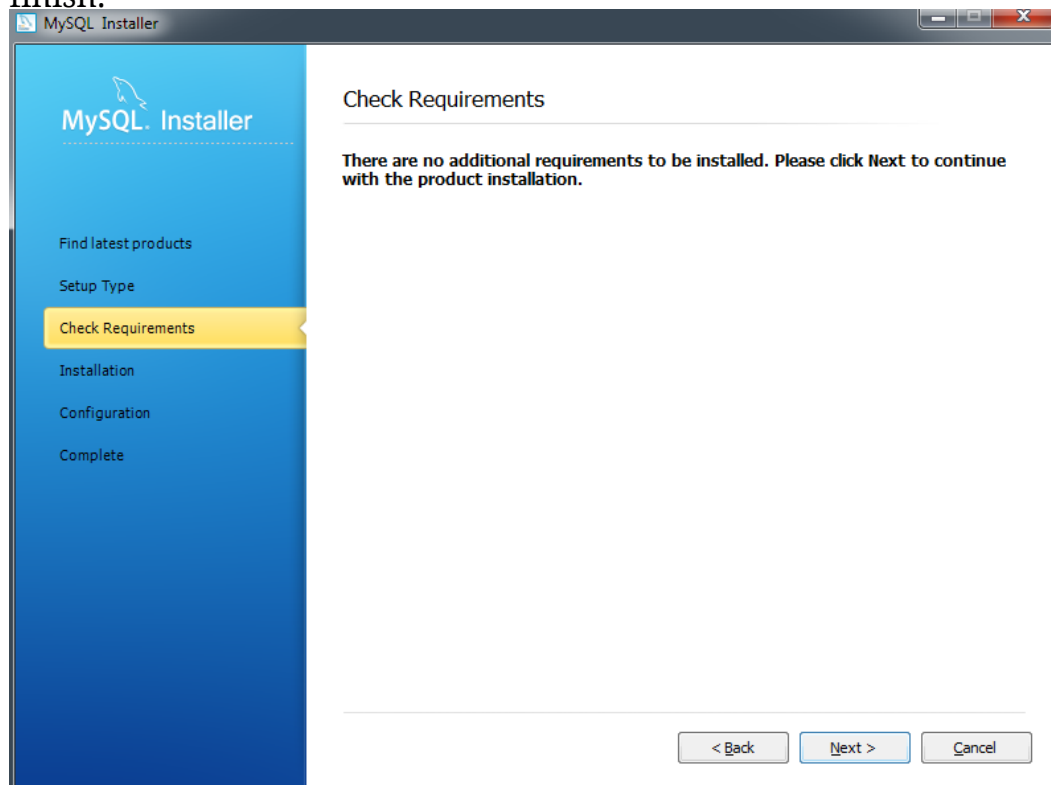


3. Select “Server only” as the setup type and specify the data path. Here we

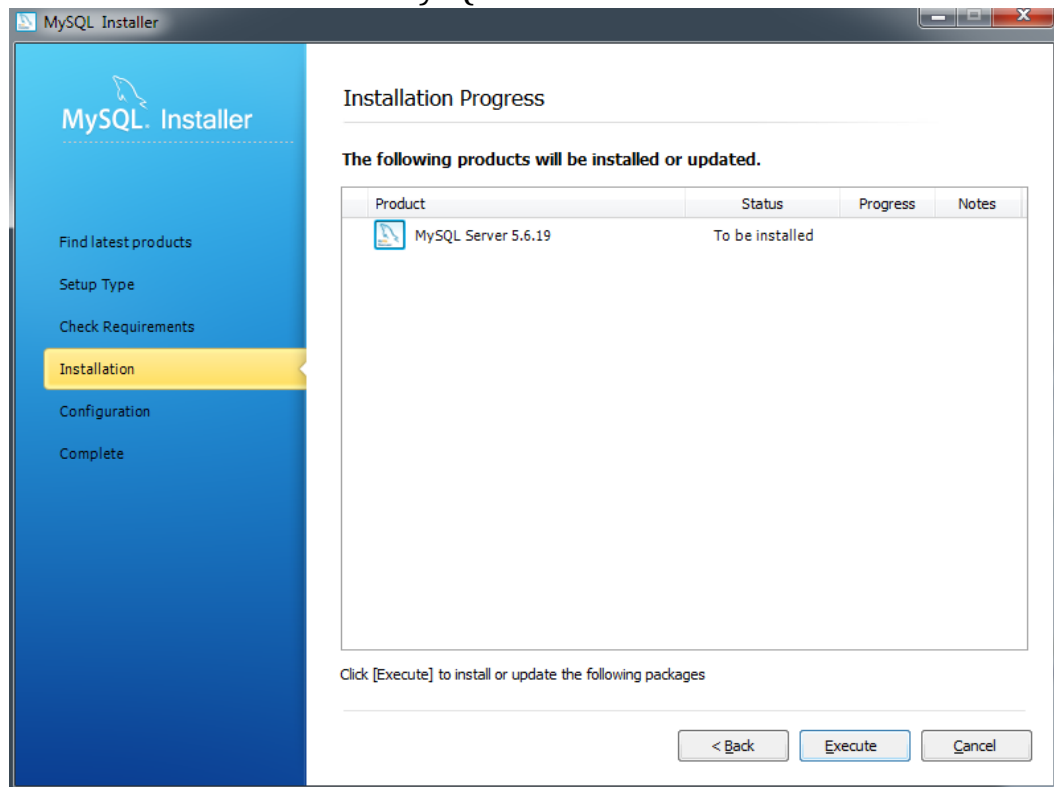
use C:\MySQL_Data as an example.



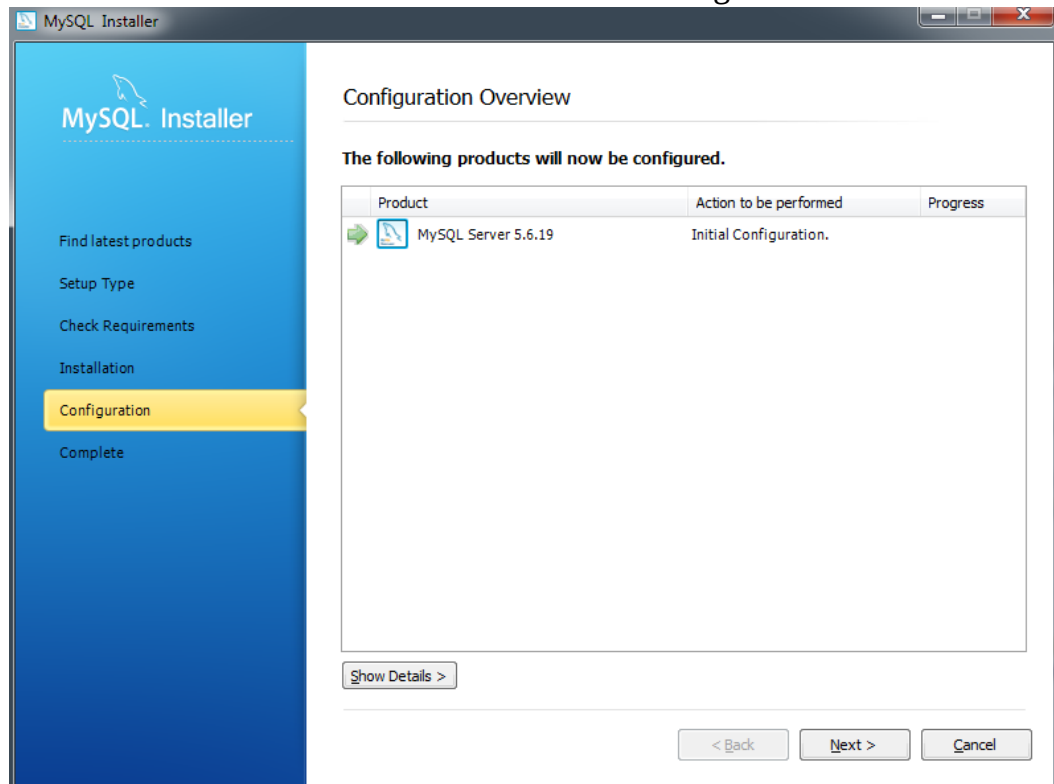
4. The installer will check for additional requirements to be installed. Let it finish.



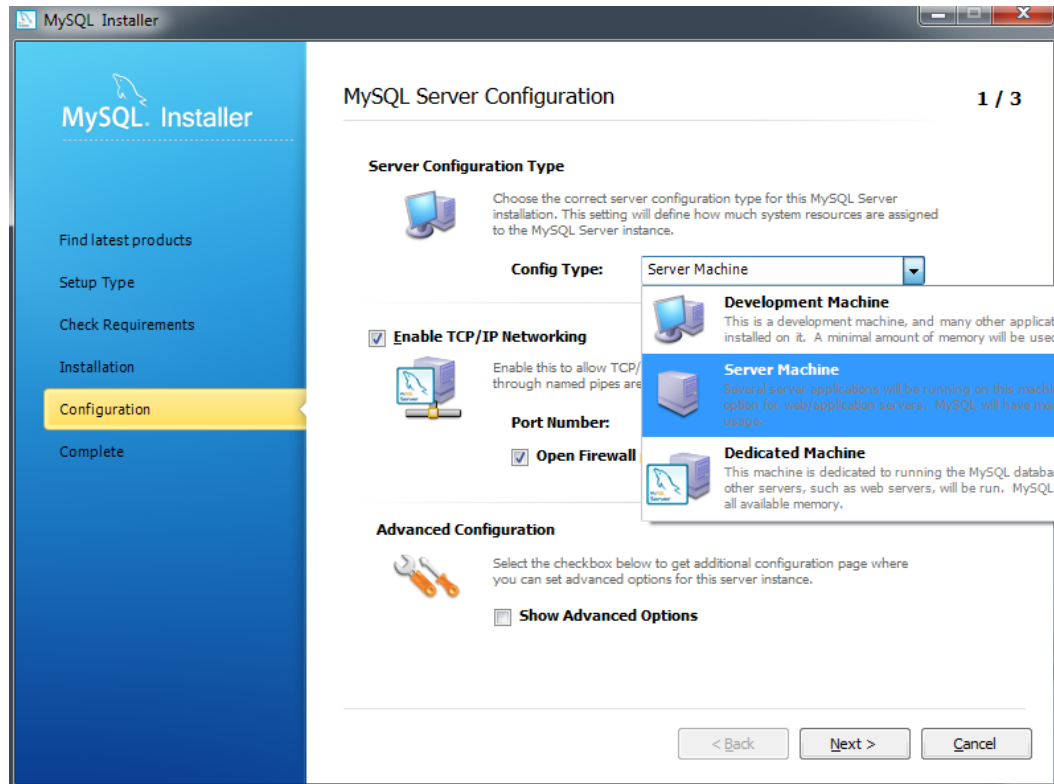
5. Click “Execute” to install MySQL Server.



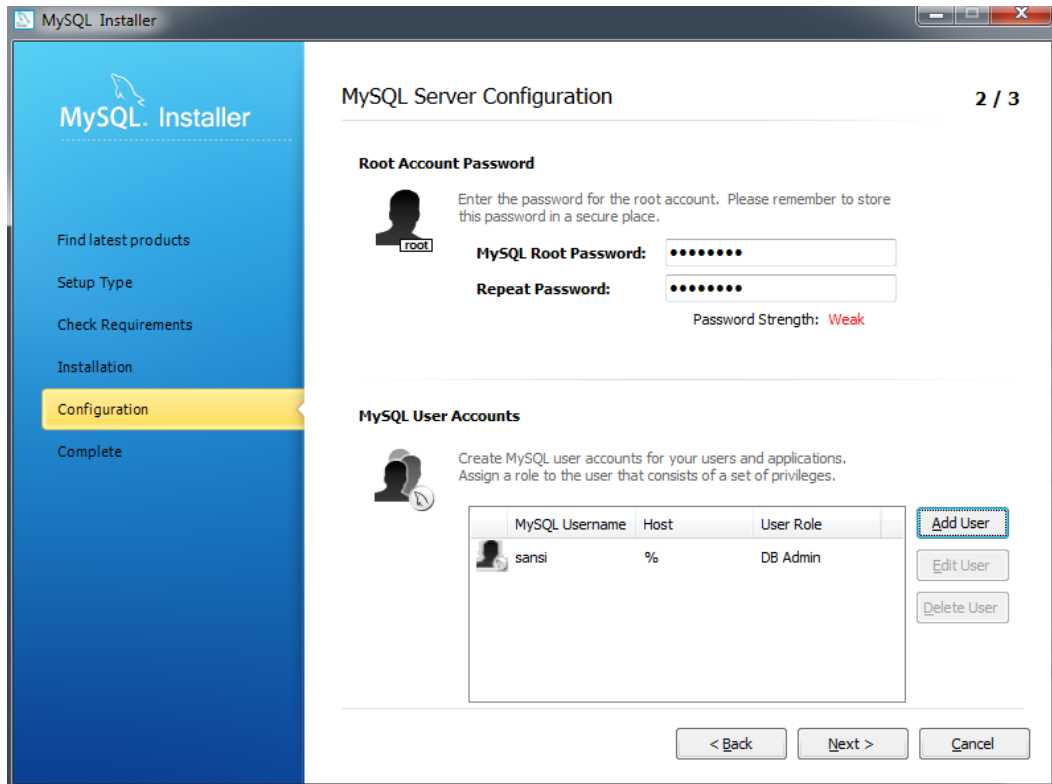
6. Installation finishes. Click “Next” to start configuration.



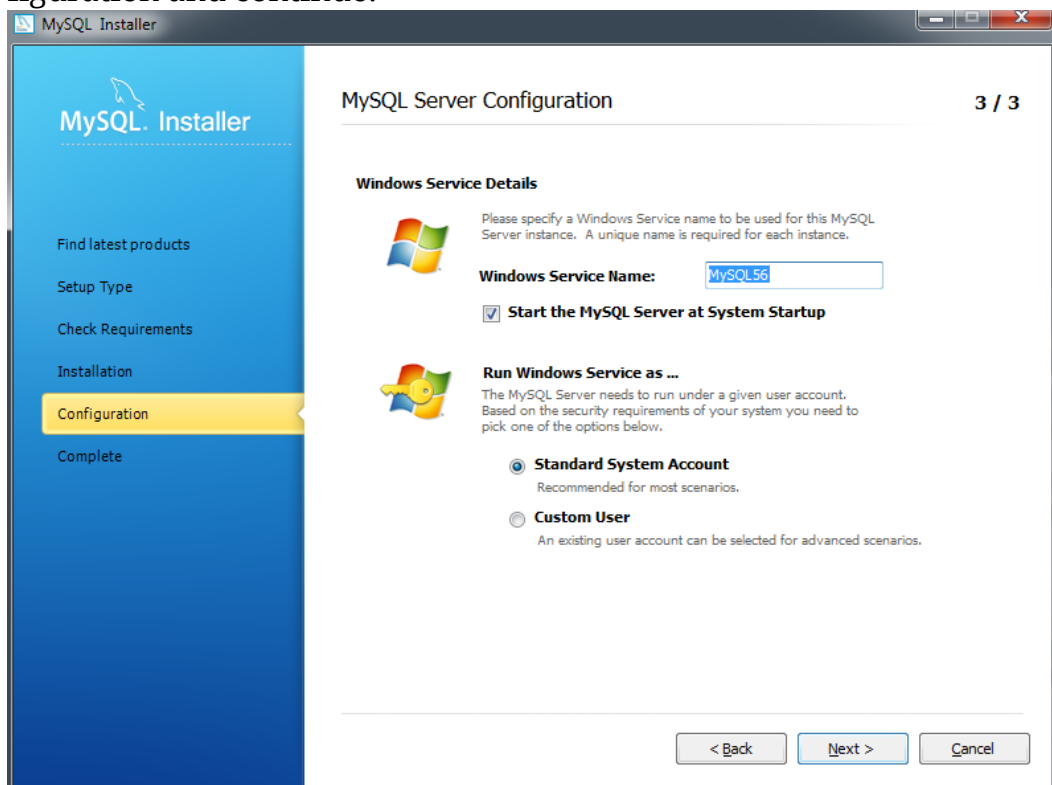
7. Select “Server Machine” as the config type and continue.



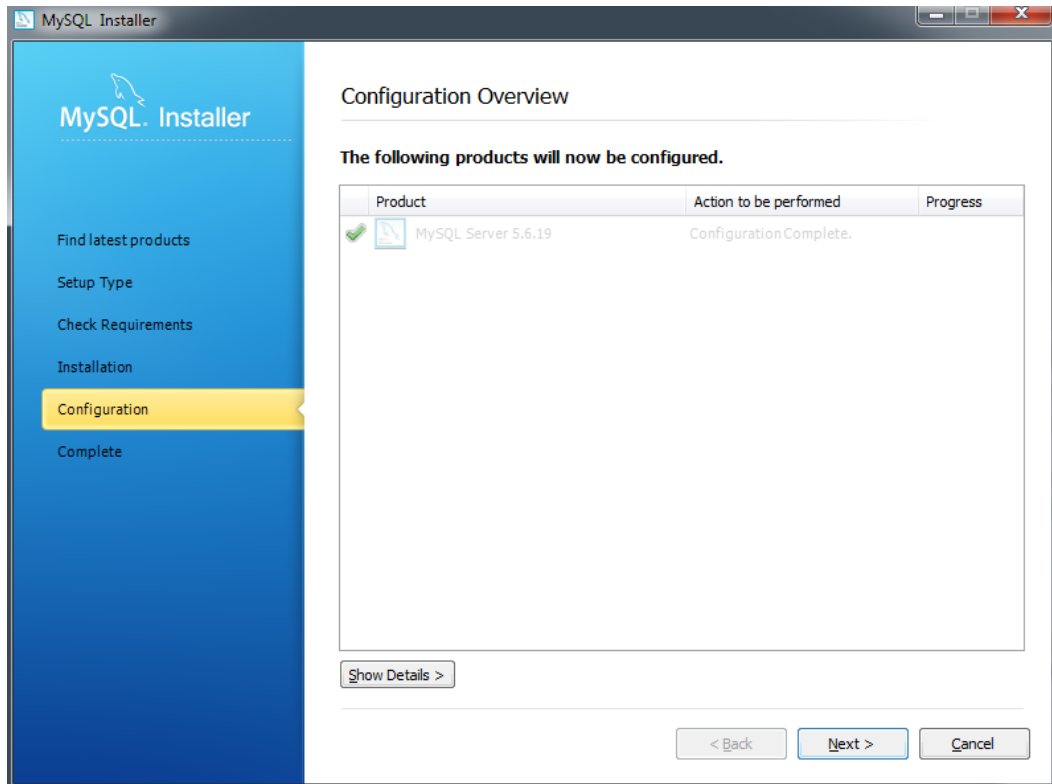
8. Now we create users. Enter a password for the root user. **Please remember the password set here.** Click “Add User” to create a dedicated user for StarRiver. Use `sansi` as the username and `starriver` as the password. **If you customize the username or password, make sure you remember what is set here as the information will be used later.**



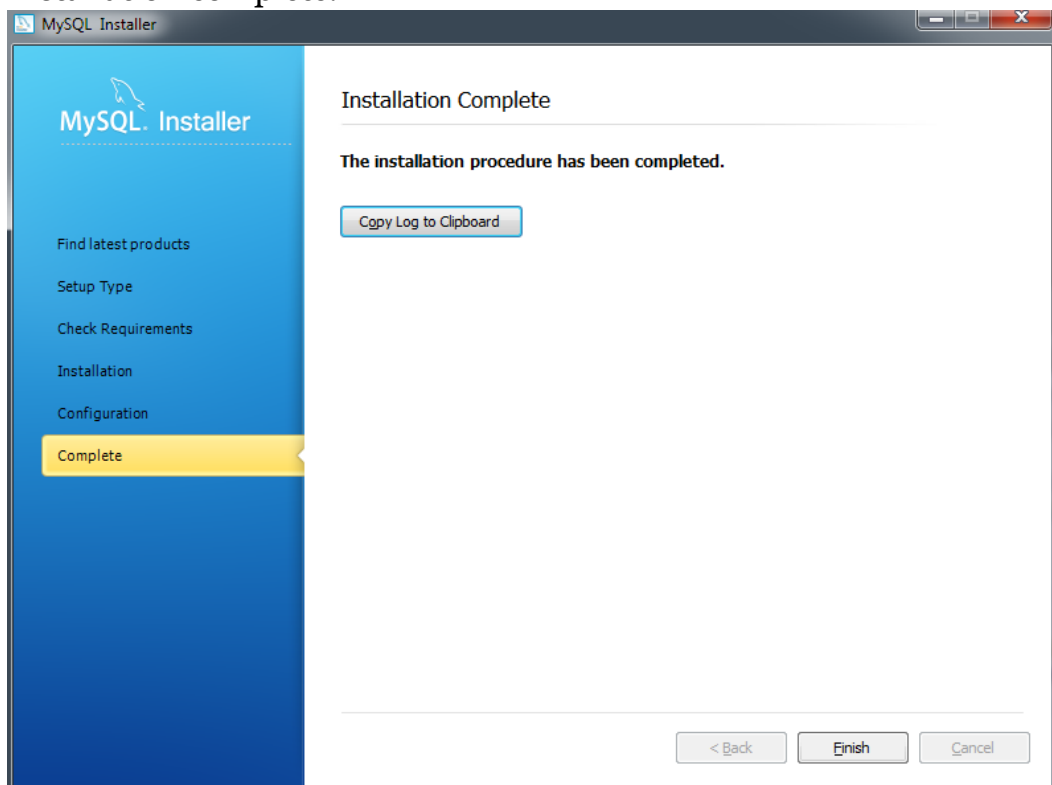
9. MySQL Server starts as a Windows service. Just accept the default configuration and continue.



10. Continue after the configuration procedure finishes.



11. Installation complete.

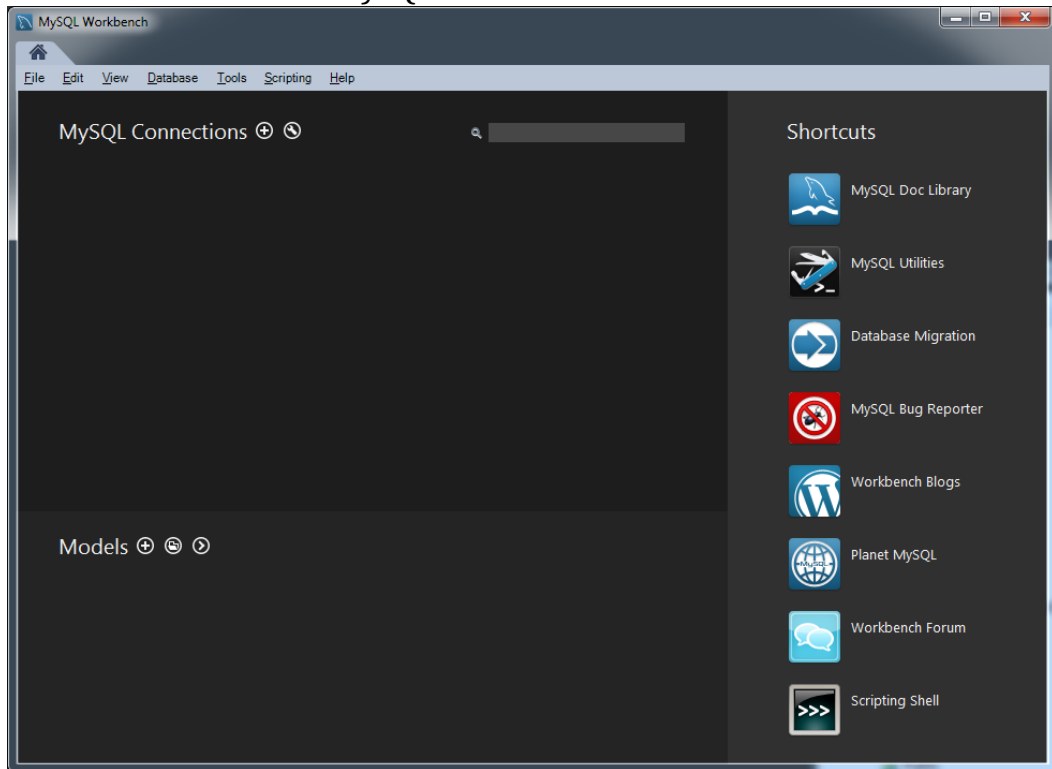


Then install **MySQL Workbench**, a GUI management tool. MySQL Workbench

6.1.7 is adopted in this example. Accept all defaults during installation.

Finally, create the database structure StarRiver uses.

1. Open MySQL Workbench. Click the “+” button next to “MySQL Connection” to create a new MySQL connection.



2. Enter “StarRiver” for connection name, “sansi” for username. Click “Store in Vault” and enter “starriver” for password. (If you use a custom database user in step 8 during MySQL installation, use that instead.)

Setup New Connection

Connection Name: Type a name for the connection

Connection Method: Method to use to connect to the RDBMS

Parameters ☒ SSL ☐ Advanced


Hostname: Port: Name or IP address of the server host. - TCP/IP port.

Username: Name of the user to connect with.

Password: The user's password. Will be requested later if it's not set.

Default Schema: Store the password for this connection in a secured vault Use as default schema. Leave blank to select it later.

Store Password For Connection

 **Please enter password for the following service:**

Service: Mysql@127.0.0.1:3306


User: sansi

Password:

Click

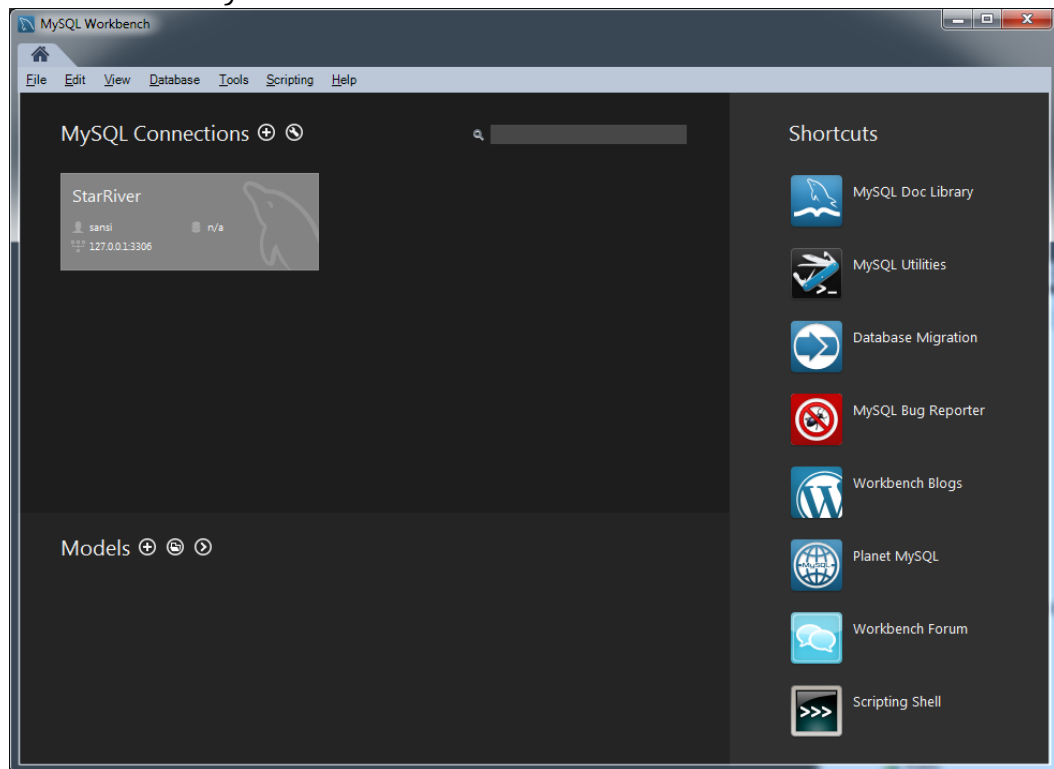
“Test Connection”. If there is an error, check username and password entered.

MySQL Workbench

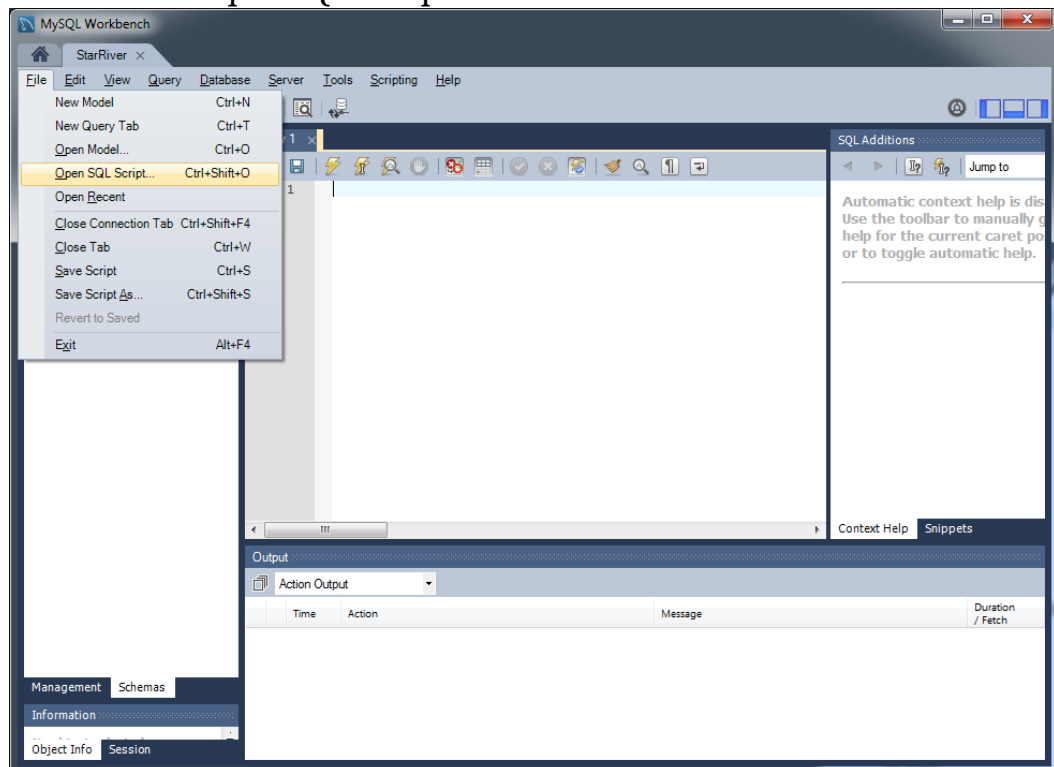
 **Connected to MySQL at 127.0.0.1:3306 with user sansi**

Connection parameters are correct.

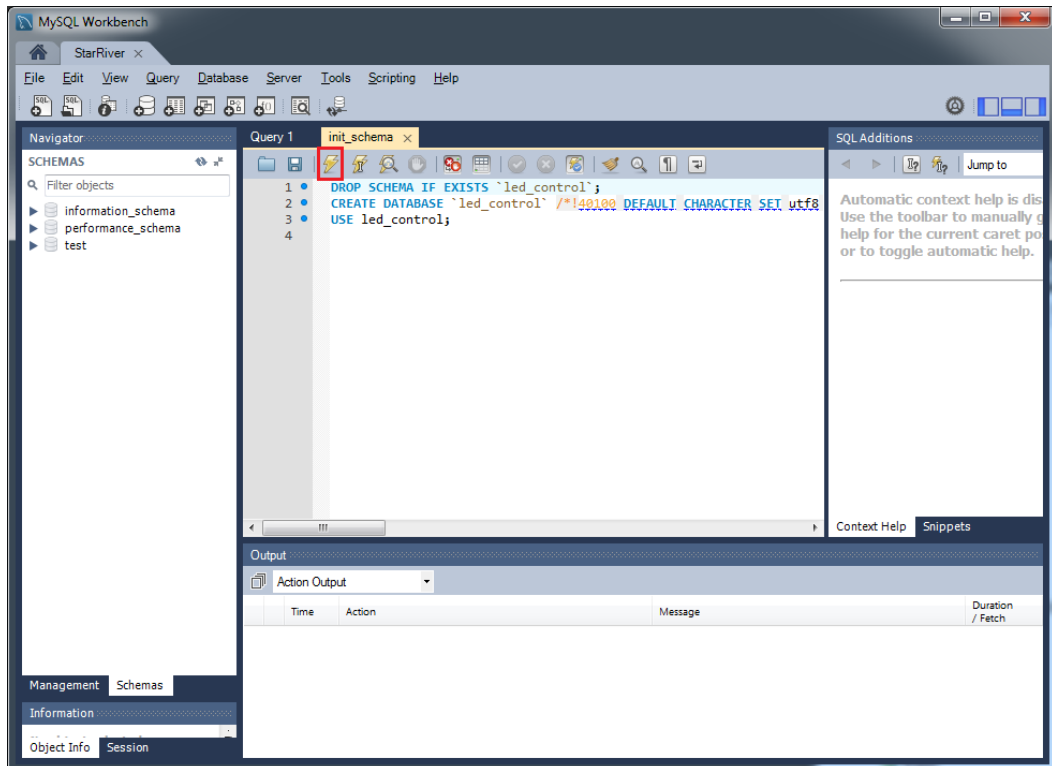
3. Click the newly created connection to connect to the database.



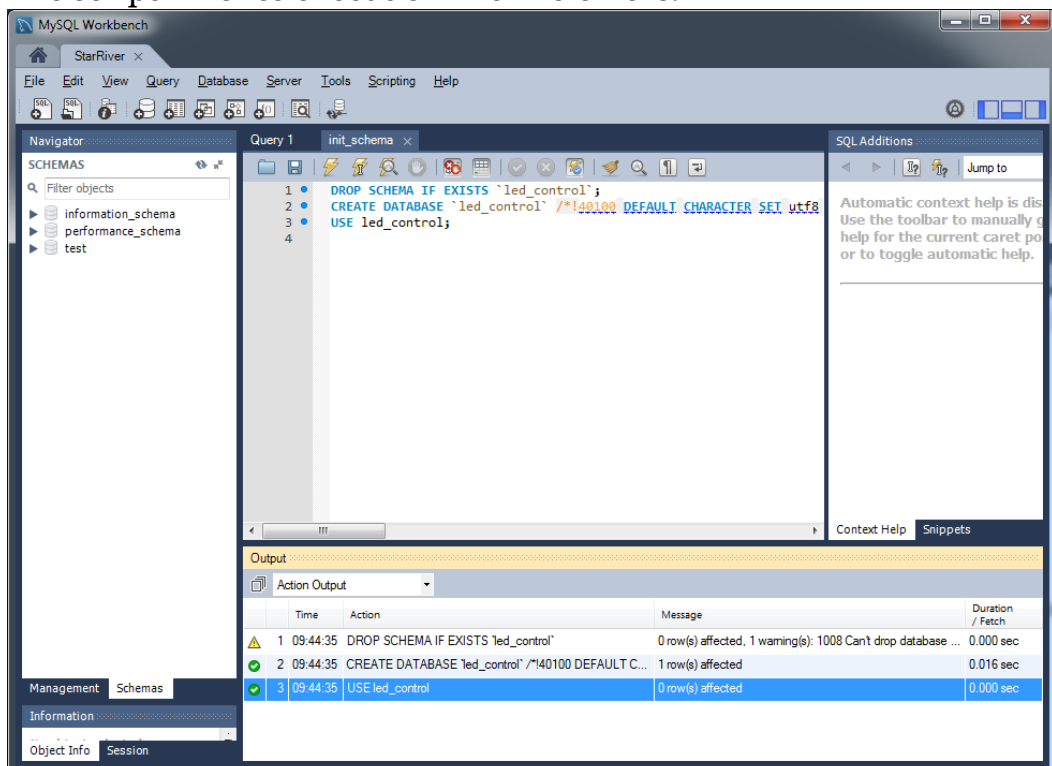
4. Select “File->Open SQL Script”.



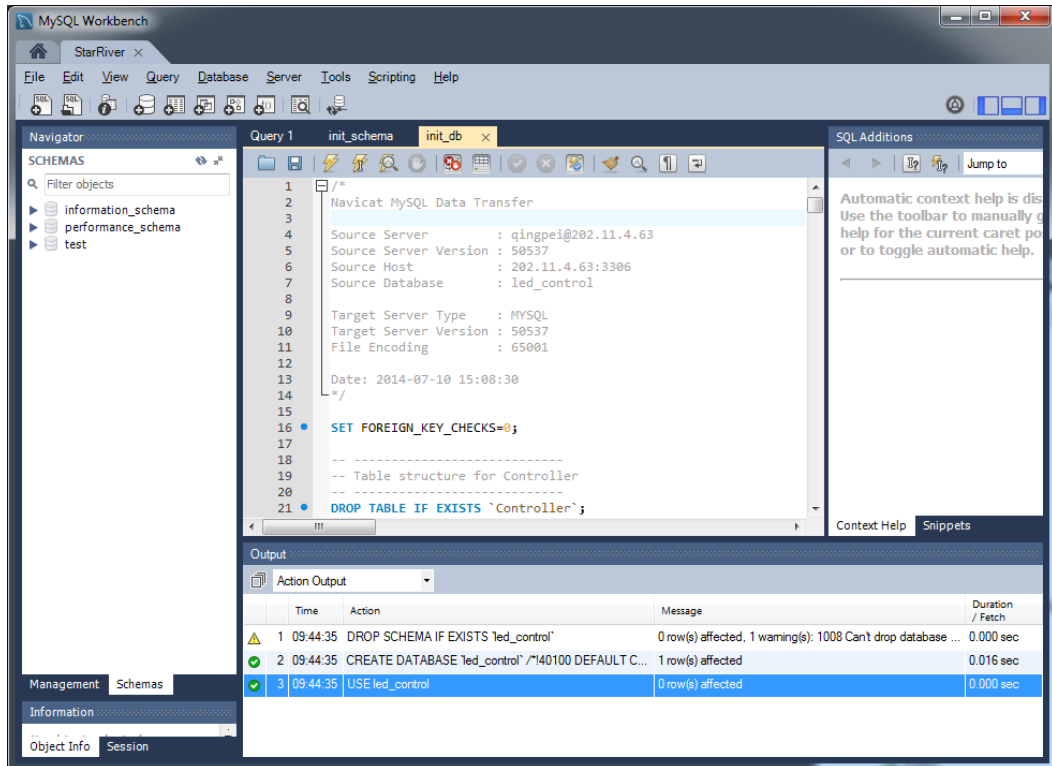
5. Open `init_db.sql`. Click the execute button highlighted with a red box below.



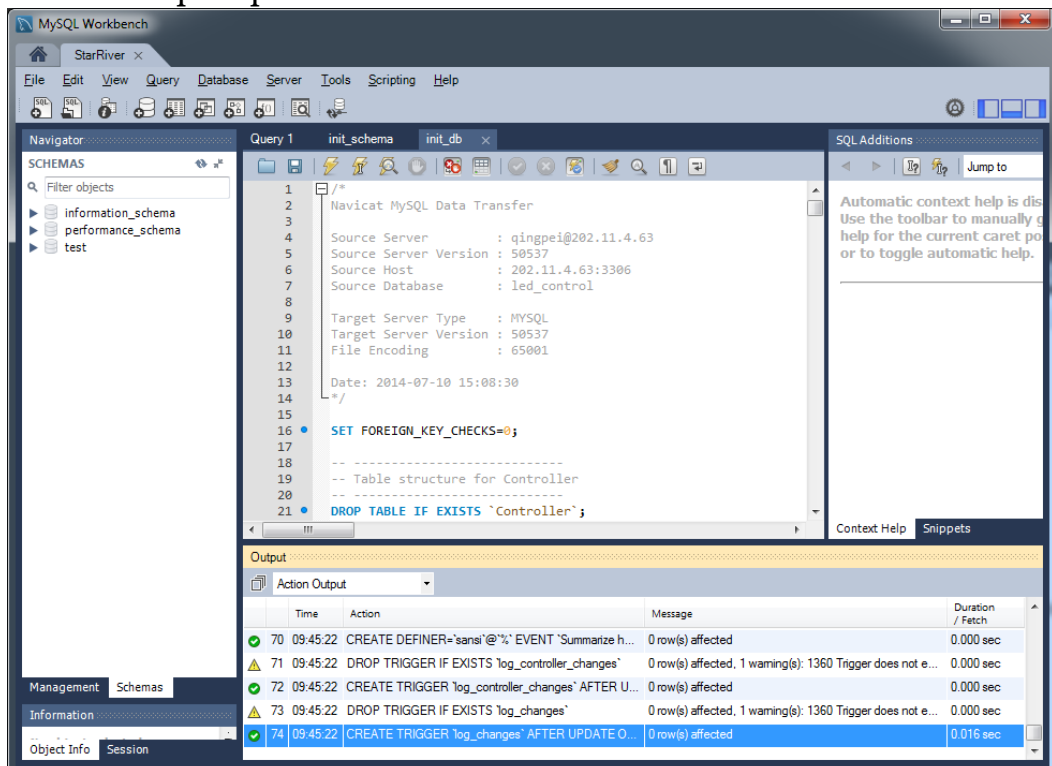
6. The script finishes execution with no errors.



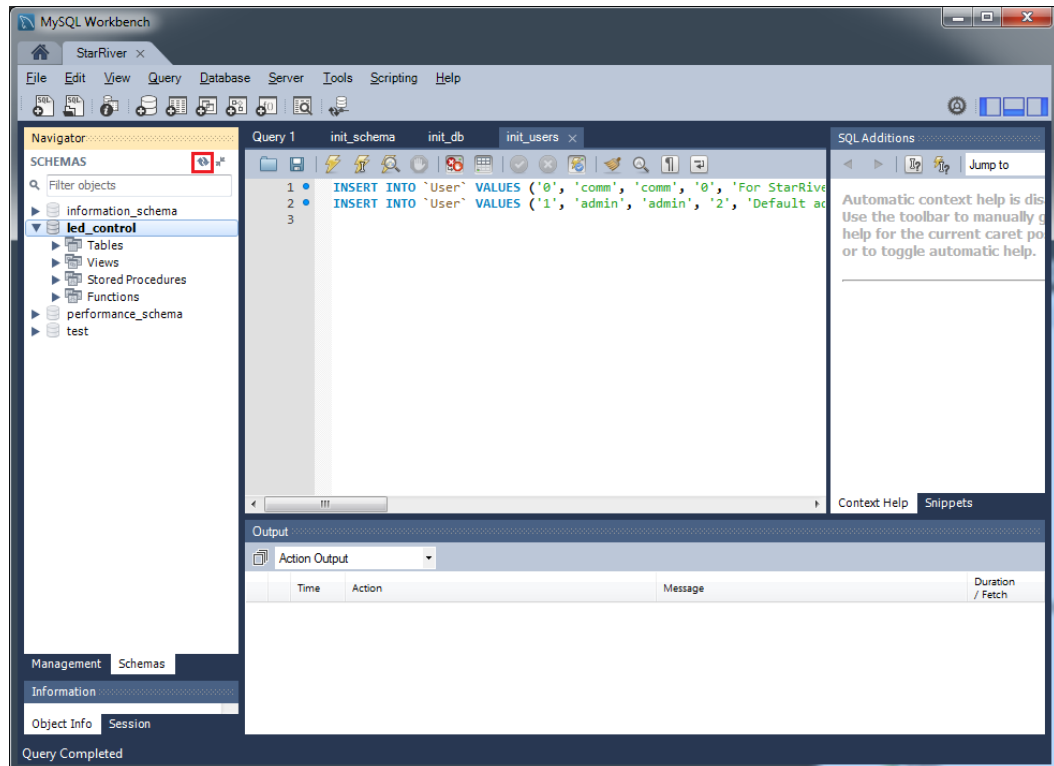
7. Execute events.sql the same way.



8. Check “Output” panel for errors.



9. Click the refresh button in “Schemas” panel. Verify the a database named led_control has been setup.



Some extra configuration is necessary for the database server by editing `my.ini` in MySQL data path (which is `C:\MySQL_Data` in this example.)

Add the following lines under `[mysqld]` section.

```
event-scheduler=on
```

```
lower_case_table_names=2
```

```
collation-server=utf8_general_ci
```

```
init-connect='SET collation_connection=utf8_unicode_ci'
```

```
init-connect='SET NAMES utf8'
```

```
skip-character-set-client-handshake
```

The new configuration will take effect after rebooting the system or restarting MySQL service.

```
#
# The following options will be read by the MySQL Server. Make sure that
# you have installed the server correctly (see above) so it reads this
# file.
#
# server_type=3
[mysqld]
event-scheduler=on
lower_case_table_names=2
# The next three options are mutually exclusive to SERVER_PORT below.
# skip-networking
# enable-named-pipe
# The Pipe the MySQL Server will use
# socket=mysql
# The TCP/IP Port the MySQL Server will listen on
port=3306
# Path to installation directory. All paths are usually resolved relative to this.
# basedir="C:/Program Files/MySQL/MySQL Server 5.6/"
# Path to the database root
datadir="C:/MySQL_Data/data\"
# The default character set that will be used when a new schema or table is
# created and no character set is defined
character-set-server=utf8
collation-server=utf8_general_ci
init-connect='SET collation_connection=utf8_unicode_ci'
init-connect='SET NAMES utf8'
skip-character-set-client-handshake
# The default storage engine that will be used when create new tables when
default-storage-engine=INNODB
# Set the SQL mode to strict
sql-mode="STRICT_TRANS_TABLES,NO_AUTO_CREATE_USER,NO_ENGINE_SUBSTITUTION"
# Enable windows Authentication
```

Figure 1:

2.2 Install StarRiver Communication Application

Run `setup.exe` and it just works.

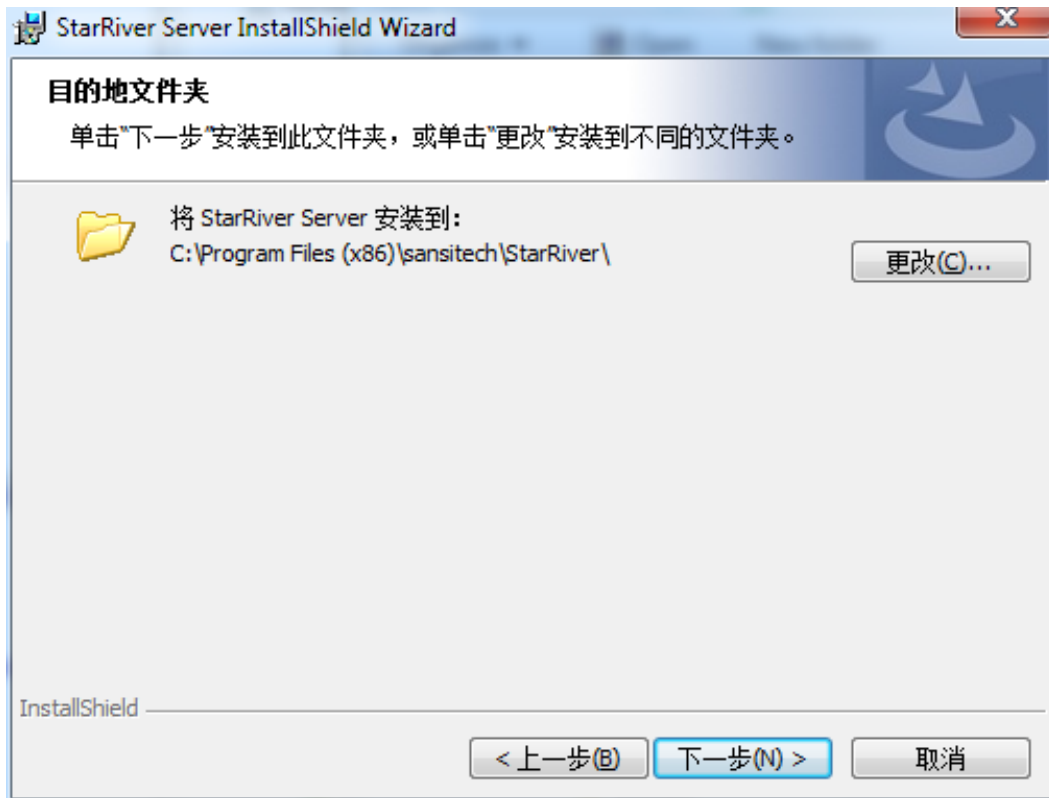


Figure 2:

If you use custom user to connect to the database, you need to edit `config.ini` in StarRiver installation path.

Change the values to allow StarRiver to connect to the database successfully.

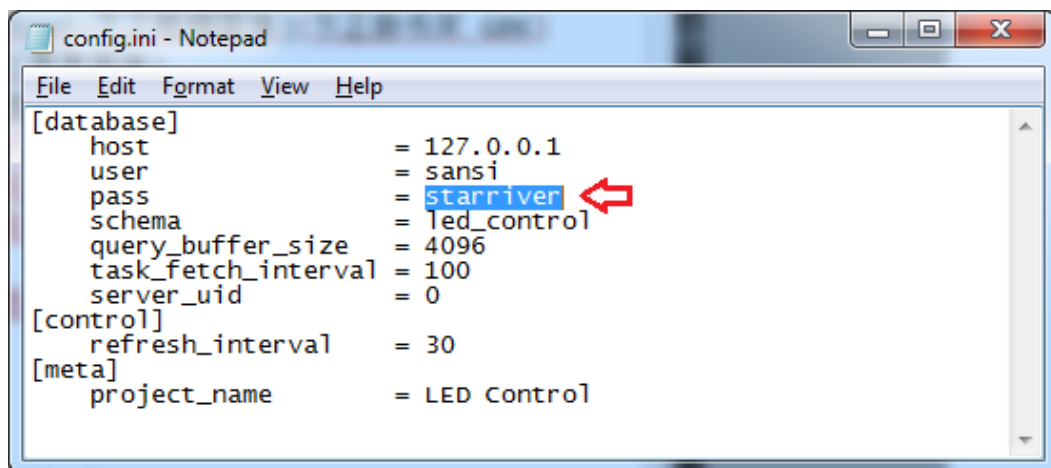


Figure 3:

3 Uninstallation

Uninstall StarRiver Server with “Add/Remove Programs” in Control Panel. This would be “Programs and Features” in Windows 7 or newer systems.

If no other application uses the MySQL database installed, you are free to uninstall “MySQL Server” as well.

4 Start/Stop StarRiver Service

StarRiver Server runs in background as a service. You could manually start or stop the service via shortcuts in Start Menu.

Five shortcuts created during installation are:

- **Install server as service:** Install StarRiver Server as a Windows service. This has been done during installation.
- **Restart service:** Manually restart StarRiver service.
- **Start service:** Manually start StarRiver service.
- **Stop service:** Manually stop StarRiver service.
- **Uninstall service:** Remove the StarRiver Windows service. StarRiver communication application will not be removed. But it will no longer starts with the system.

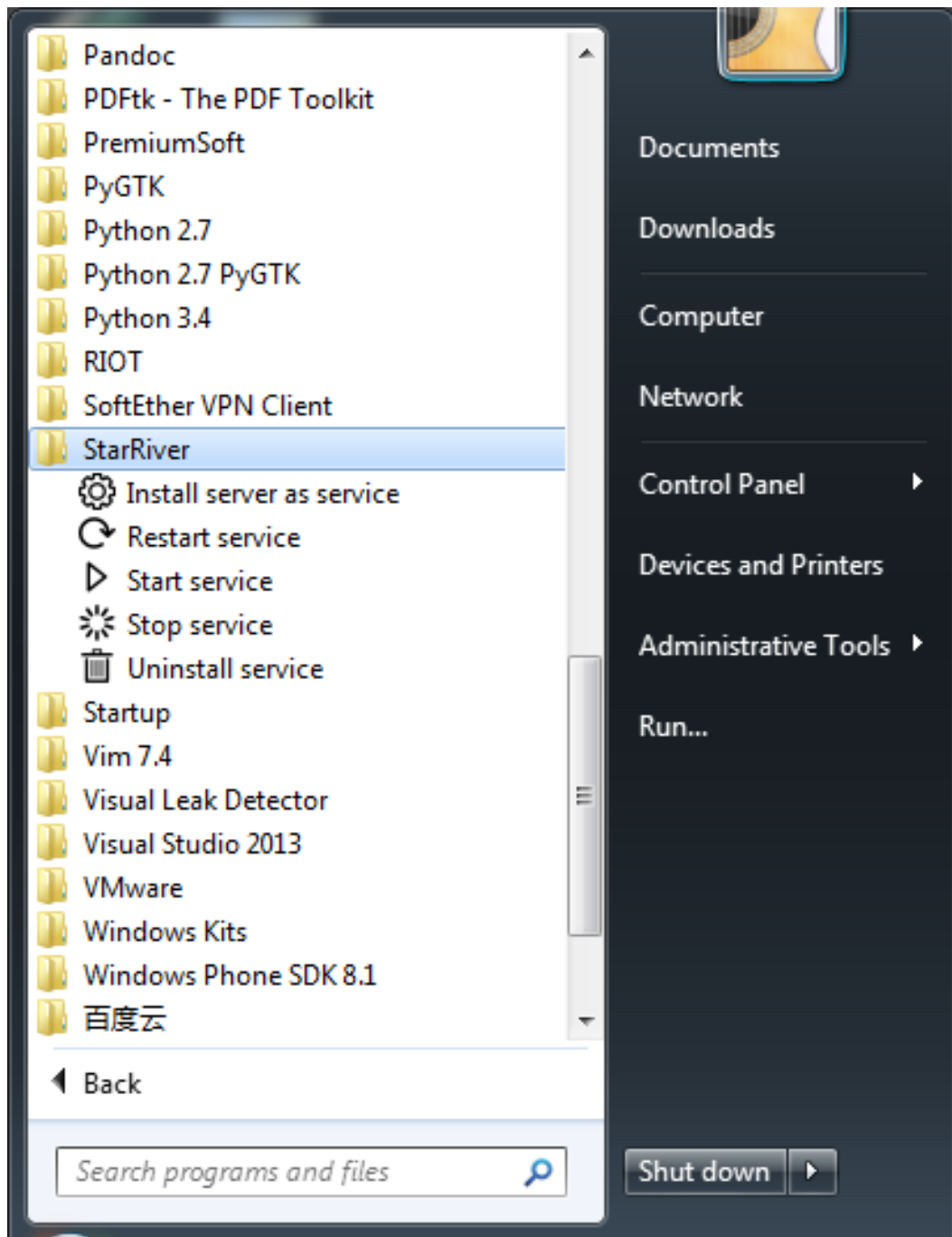


Figure 4:

5 Server Logging

StarRiver Server keeps its logs when it is running. The logs are stored in the installation path. Log files are names by the following format.

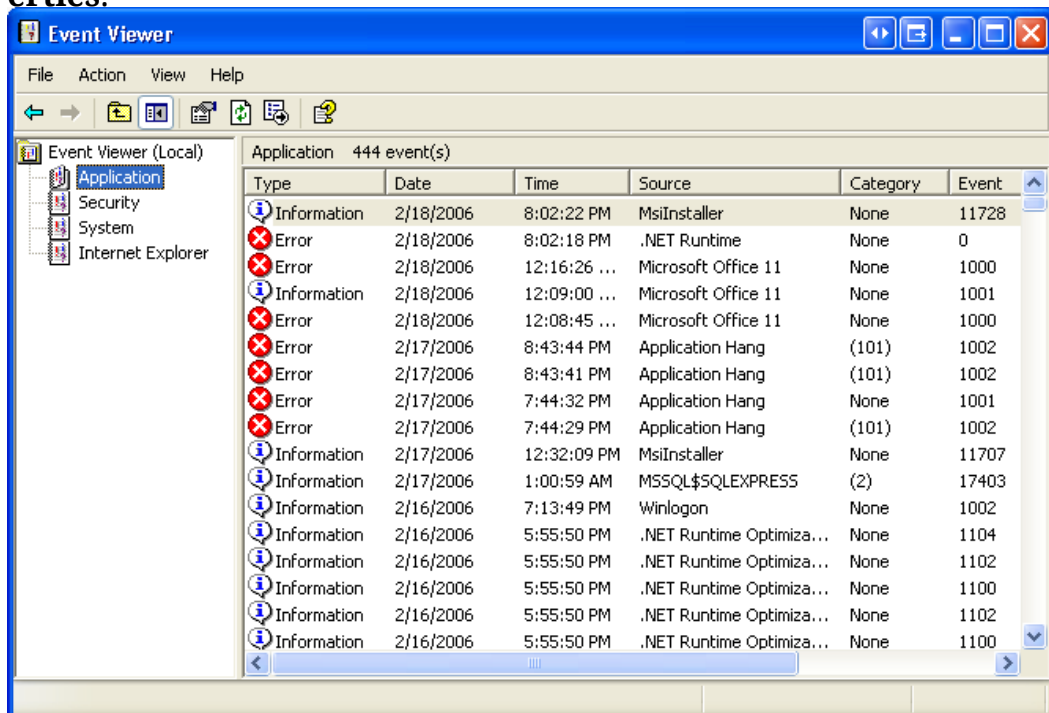
`LED_Control_Communicator_date_time.counter.log`

6 Troubleshooting

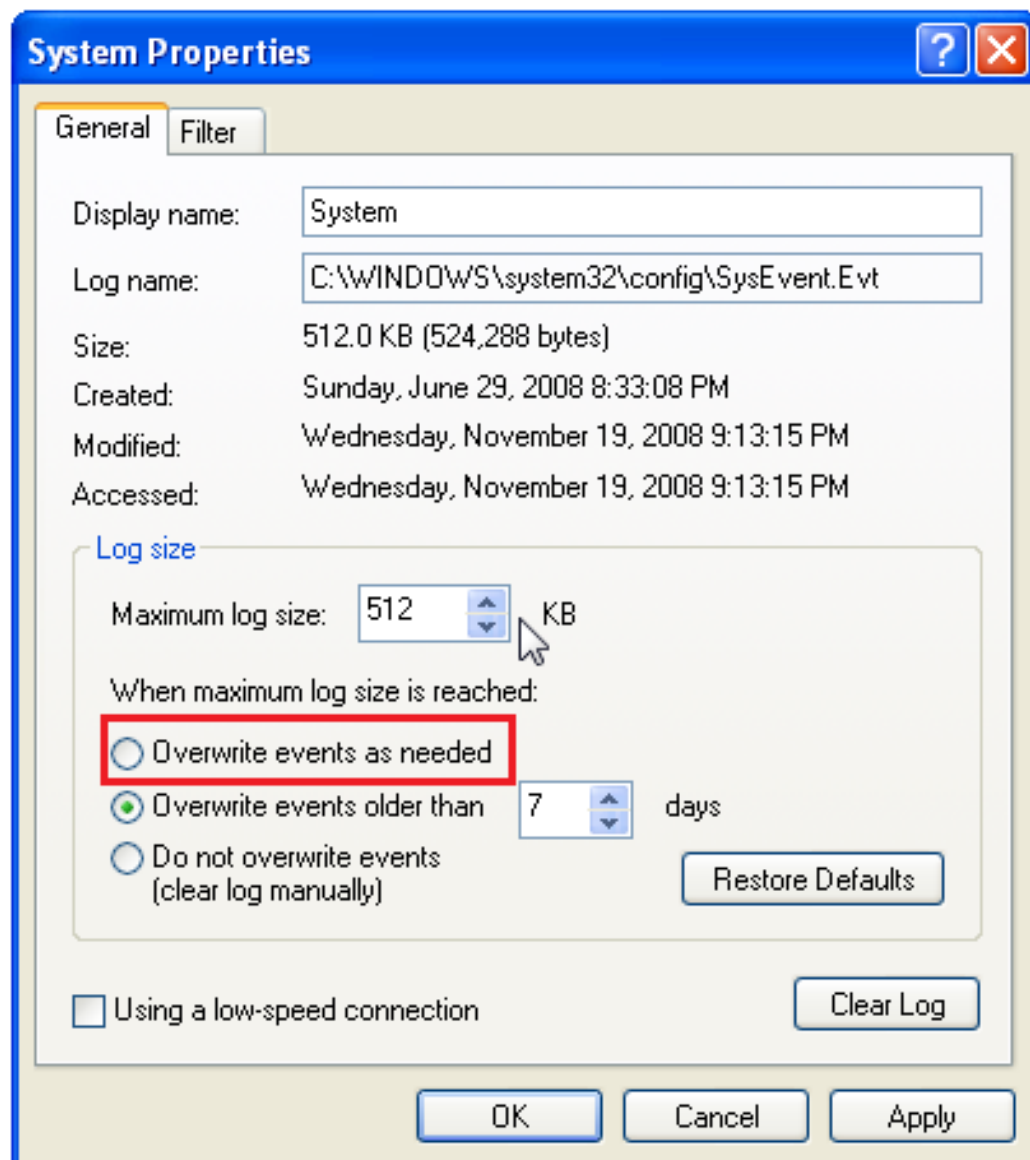
6.1 StarRiver Server service fails to start under Windows XP

A possible cause is that Windows has reached its log size limit. Here is a solution.

1. Open **Control Panel**. Click **Performance and Maintenance**, then click **Administrative Tools**, then double click **Event Viewer**.
2. Right click **Application** under **Event Viewer (Local)**, then select **Properties**.



3. In **Application Properties**, inside the **Log size** box, select **Overwrite events as needed**, then click **OK**.



4. Repeat step 2 and 3 on **System** under **Event Viewer (Local)**.