

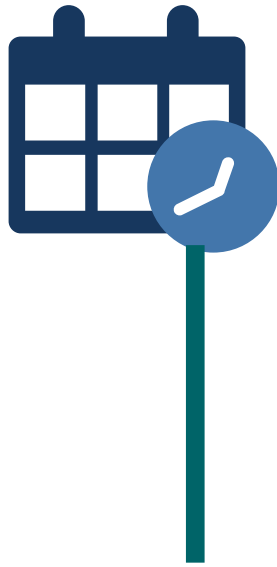
웹서버프로그래밍

한성대학교 컴퓨터공학부

신 성



INDEX



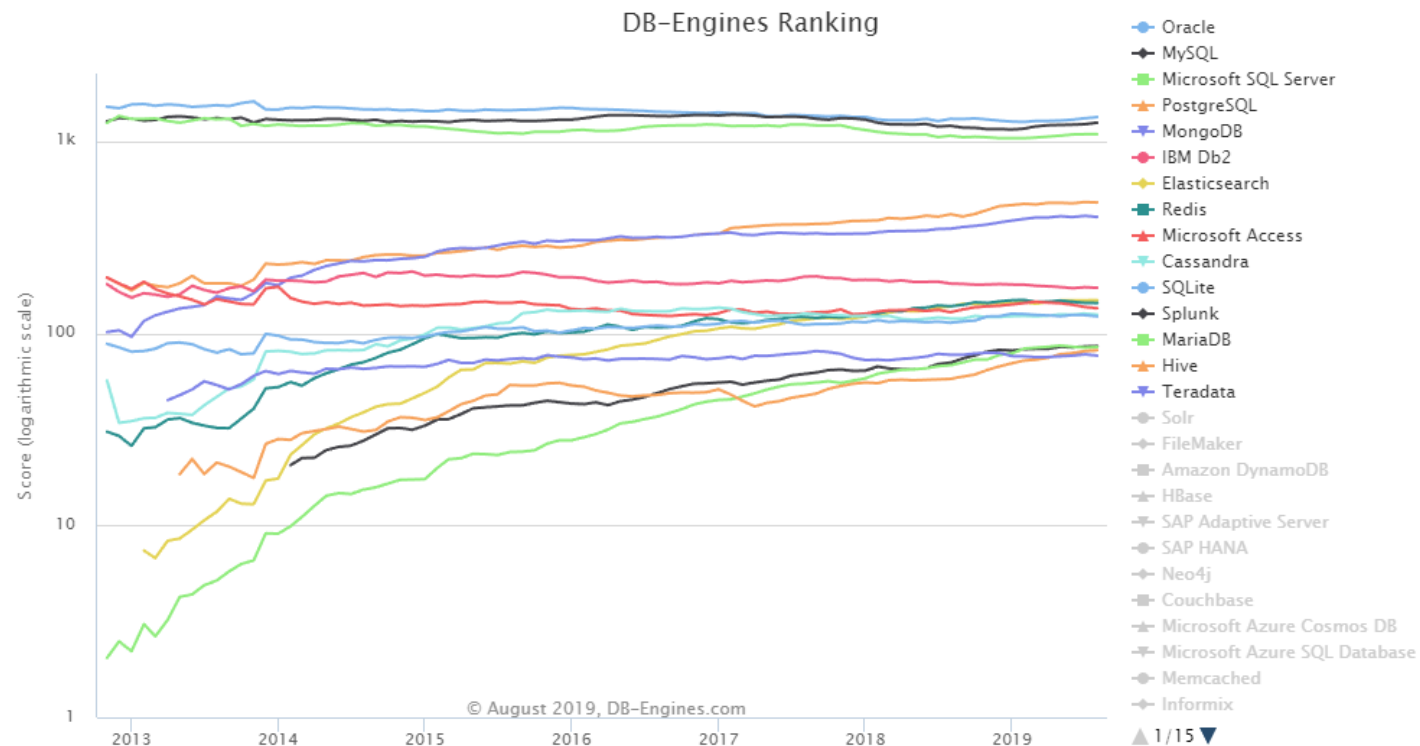
데이터베이스 개발 환경 구축 및 개요, JSP 연동

MySQL

- MySQL
 - A free open-source database management system (DBMS)
 - Pronounced "My S-Q-L" or "My Sequel"
 - A popular choice as the database system for use with web applications (a component of LAMP)
 - Widely used in various web sites
 - Facebook, Google, Wikipedia, Twitter, Flickr, and YouTube



- MySQL usage
 - Ranked second after Oracle; first among open source databases (as of Sept. 2019)



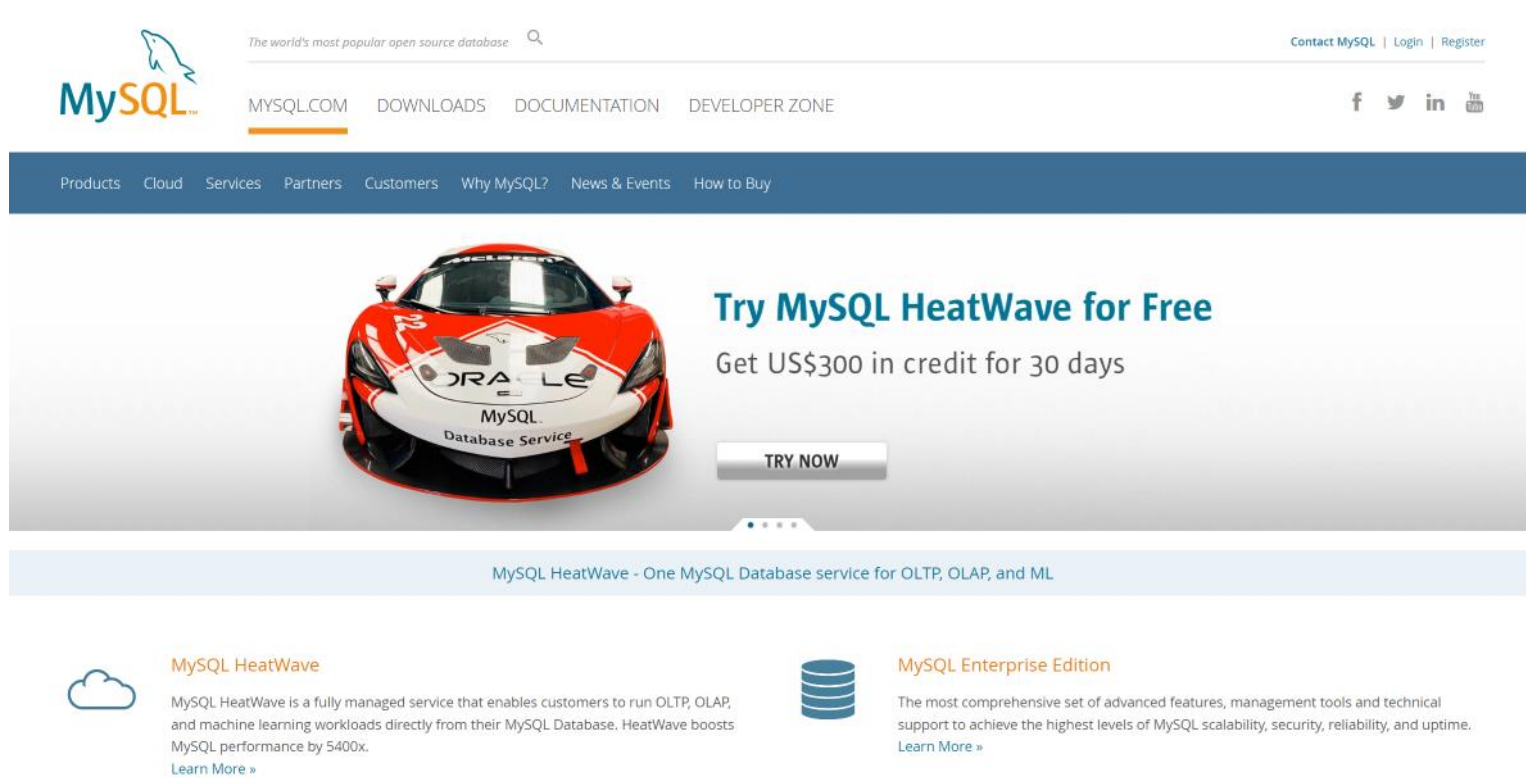
<http://db-engines.com/en/ranking>

MySQL Community Server

- Download

※ 이미 설치가 되어 있는 학생들은 그냥 사용하셔도 무방합니다.

<https://www.mysql.com/>



The screenshot shows the MySQL website homepage. At the top, there's a navigation bar with the MySQL logo, the tagline "The world's most popular open source database", and links for "Contact MySQL", "Login", and "Register". Below this is a secondary navigation bar with links for "MYSQL.COM", "DOWNLOADS", "DOCUMENTATION", and "DEVELOPER ZONE". A third navigation bar contains links for "Products", "Cloud", "Services", "Partners", "Customers", "Why MySQL?", "News & Events", and "How to Buy". The main content area features a large image of a red and white racing car with "ORACLE" and "MySQL Database Service" branding. To the right of the car, the text reads "Try MySQL HeatWave for Free" and "Get US\$300 in credit for 30 days", with a "TRY NOW" button. Below this, a light blue banner states "MySQL HeatWave - One MySQL Database service for OLTP, OLAP, and ML". The footer section is divided into two columns. The left column, titled "MySQL HeatWave", includes a cloud icon and describes it as a fully managed service that boosts performance by 5400x, with a "Learn More »" link. The right column, titled "MySQL Enterprise Edition", includes a database cylinder icon and describes it as the most comprehensive set of advanced features, with a "Learn More »" link.

The world's most popular open source database

Contact MySQL | Login | Register

MYSQL.COM | DOWNLOADS | DOCUMENTATION | DEVELOPER ZONE

Products | Cloud | Services | Partners | Customers | Why MySQL? | News & Events | How to Buy

Try MySQL HeatWave for Free
Get US\$300 in credit for 30 days
[TRY NOW](#)

MySQL HeatWave - One MySQL Database service for OLTP, OLAP, and ML

MySQL HeatWave
MySQL HeatWave is a fully managed service that enables customers to run OLTP, OLAP, and machine learning workloads directly from their MySQL Database. HeatWave boosts MySQL performance by 5400x.
[Learn More »](#)

MySQL Enterprise Edition
The most comprehensive set of advanced features, management tools and technical support to achieve the highest levels of MySQL scalability, security, reliability, and uptime.
[Learn More »](#)



The world's most popular open source database

[Contact MySQL](#) | [Login](#) | [Register](#)[MYSQL.COM](#)[DOWNLOADS](#)[DOCUMENTATION](#)[DEVELOPER ZONE](#)[Products](#) [Cloud](#) [Services](#) [Partners](#) [Customers](#) [Why MySQL?](#) [News & Events](#) [How to Buy](#)

MySQL HeatWave

with Machine Learning

- Native, In-Database ML
- Build ML Models using SQL Commands
- 25x Faster than Redshift ML

[LEARN MORE](#)

MySQL HeatWave - One MySQL Database service for OLTP, OLAP, and ML



MySQL HeatWave

MySQL HeatWave is a fully managed service that enables customers to run OLTP, OLAP, and machine learning workloads directly from their MySQL Database. HeatWave boosts MySQL performance by 5400x.

[Learn More »](#)

MySQL Enterprise Edition

The most comprehensive set of advanced support to achieve the highest levels of performance.

[Learn More »](#)

DOWNLOADS

[MySQL Community Server](#)[MySQL NDB Cluster](#)[MySQL Shell](#)[MySQL Router](#)[MySQL Workbench](#)

MySQL Community Downloads

MySQL Community Server

General Availability (GA) Releases

Archives



MySQL Community Server 8.0.32

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 >

MySQL Community Downloads

MySQL Installer

General Availability (GA) Releases

Archives



MySQL Installer 8.0.32

Select Operating System:

Microsoft Windows

Looking for previous GA versions?

Windows (x86, 32-bit), MSI Installer

8.0.32

2.4M

Download

(mysql-installer-web-community-8.0.32.0.msi)

MD5: 0f882590f8338adc614e9dc5cb00ca0b | [Signature](#)

Windows (x86, 32-bit), MSI Installer

8.0.32

437.3M

Download

(mysql-installer-community-8.0.32.0.msi)

MD5: a29b5817cba2c7bc0e0b97e897c2591f | [Signature](#)



We suggest that you use the [MD5 checksums](#) and [GnuPG signatures](#) to verify the integrity of the packages you download.

⬇ 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 signup for a free account by clicking the Sign Up link and following the instructions.

 mysql-installer-co....msi ^

No thanks, just start my download.

MySQL Installer - Community



Please wait while Windows configures MySQL Installer - Community

Cancel

MySQL Installer - Community

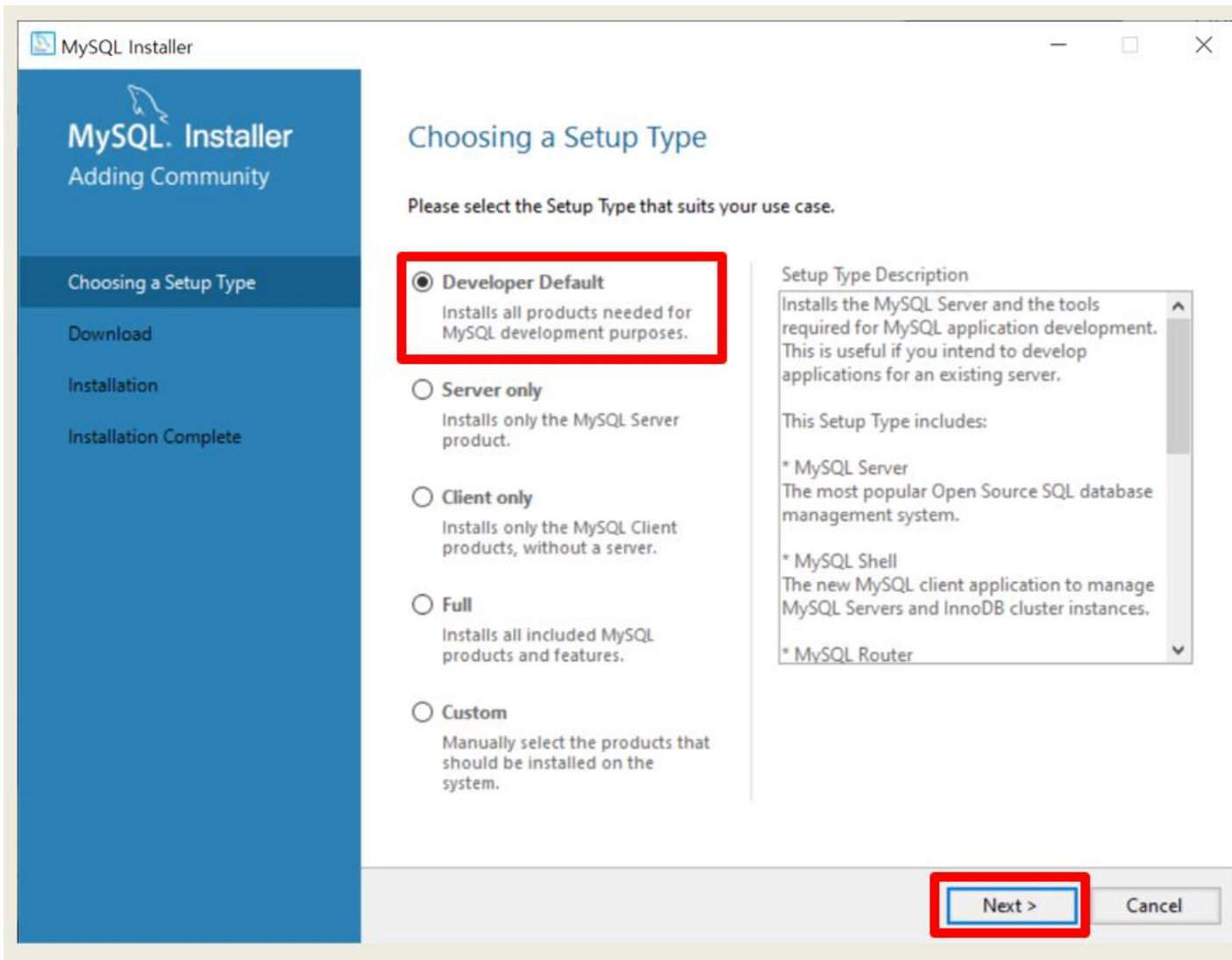


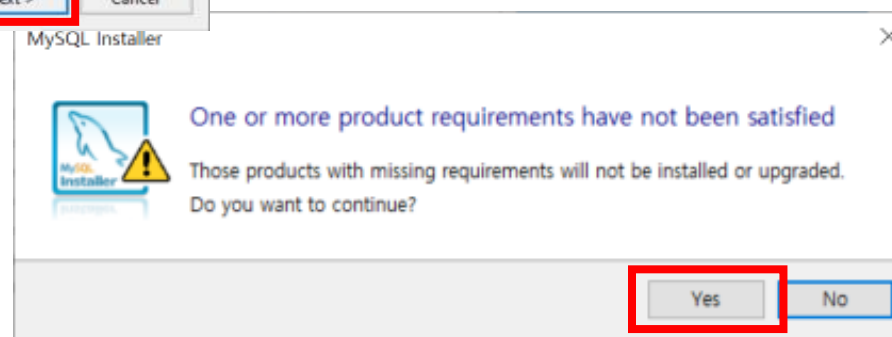
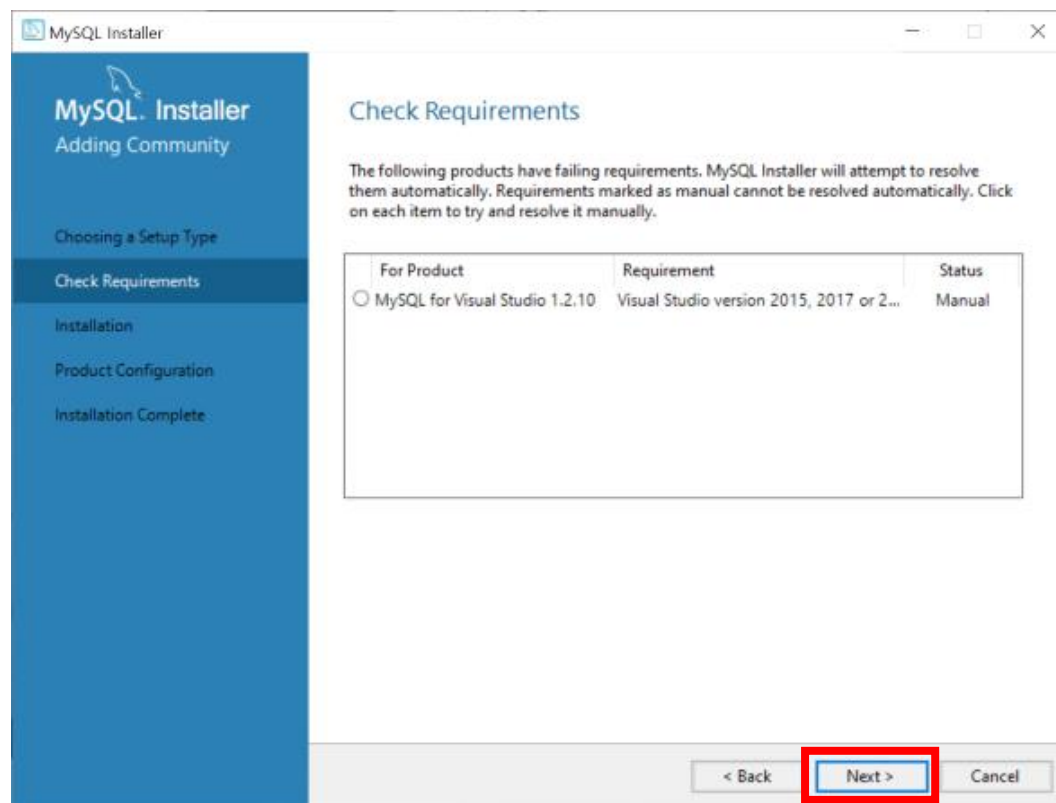
Please wait while Windows configures MySQL Installer - Community

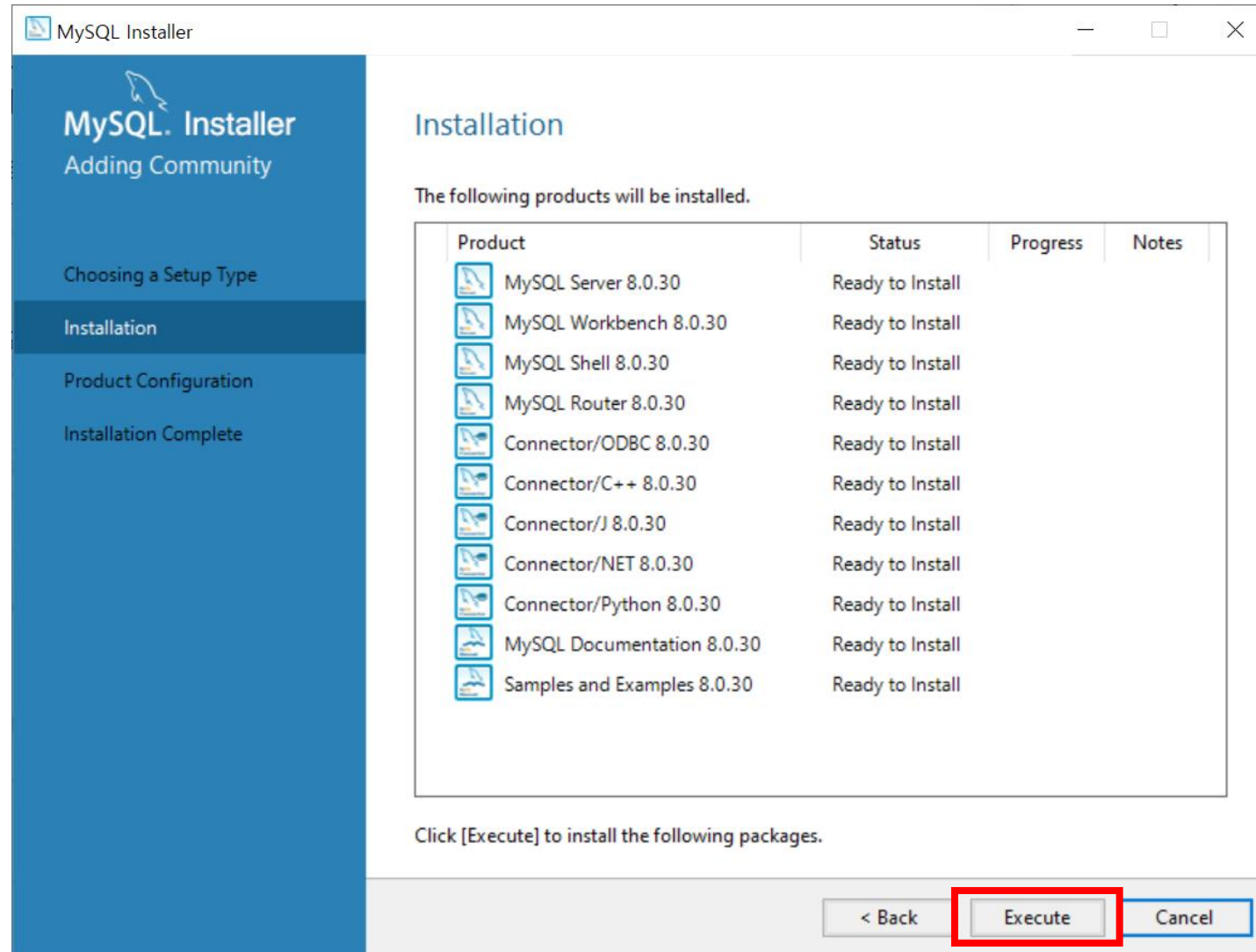
Gathering required information...

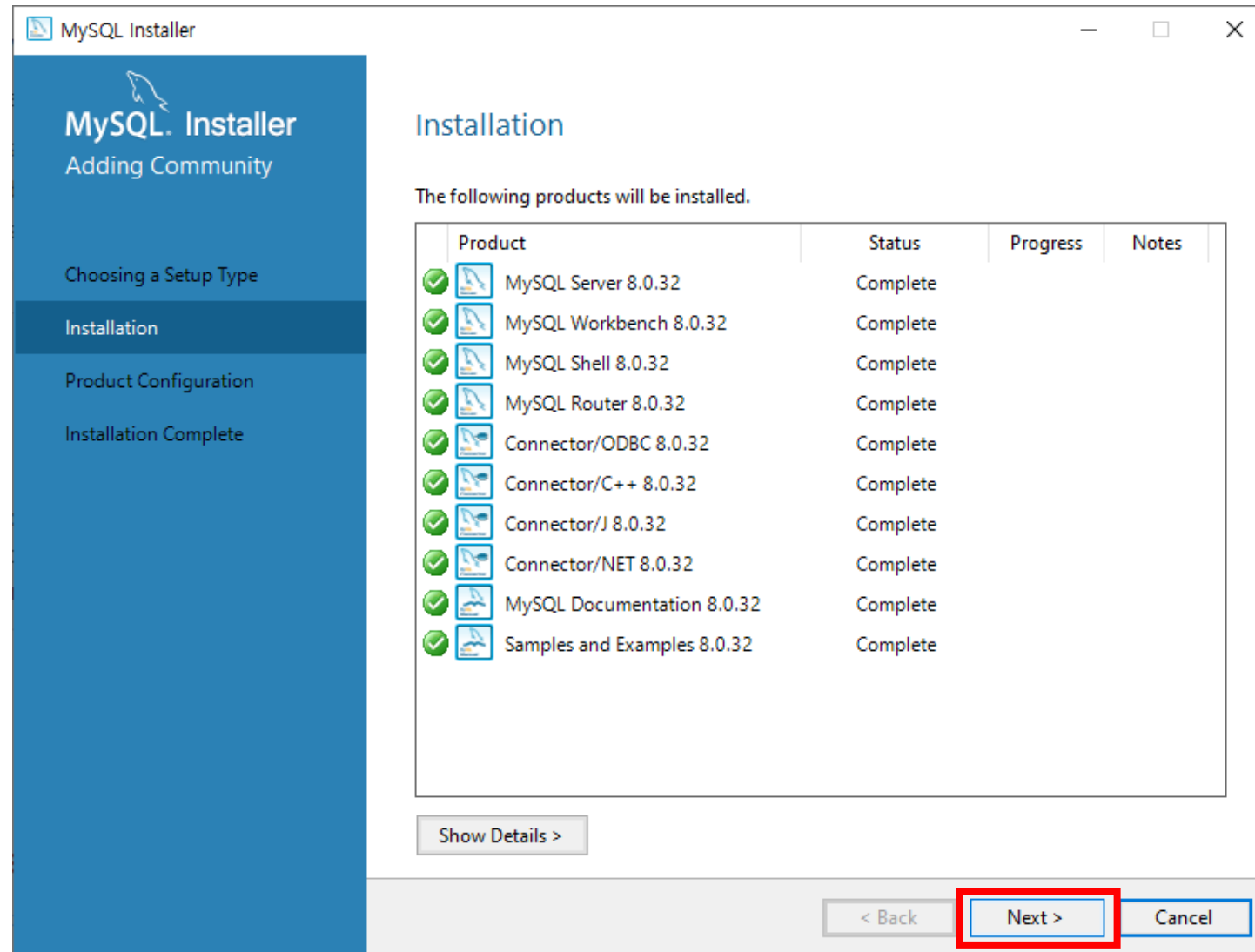


Cancel









MySQL Installer

MySQL Server 8.0.32

Type and Networking

Authentication Method

Accounts and Roles

Windows Service

Server File Permissions

Apply Configuration

Type and Networking

Server Configuration Type

Choose the correct server configuration type for this MySQL Server installation. This setting will define how much system resources are assigned to the MySQL Server instance.

Config Type: Development Computer

Connectivity

Use the following controls to select how you would like to connect to this server.

☒ TCP/IP Port: 3306 X Protocol Port: 33060

☒ Open Windows Firewall ports for network access

☐ Named Pipe Pipe Name: MYSQL

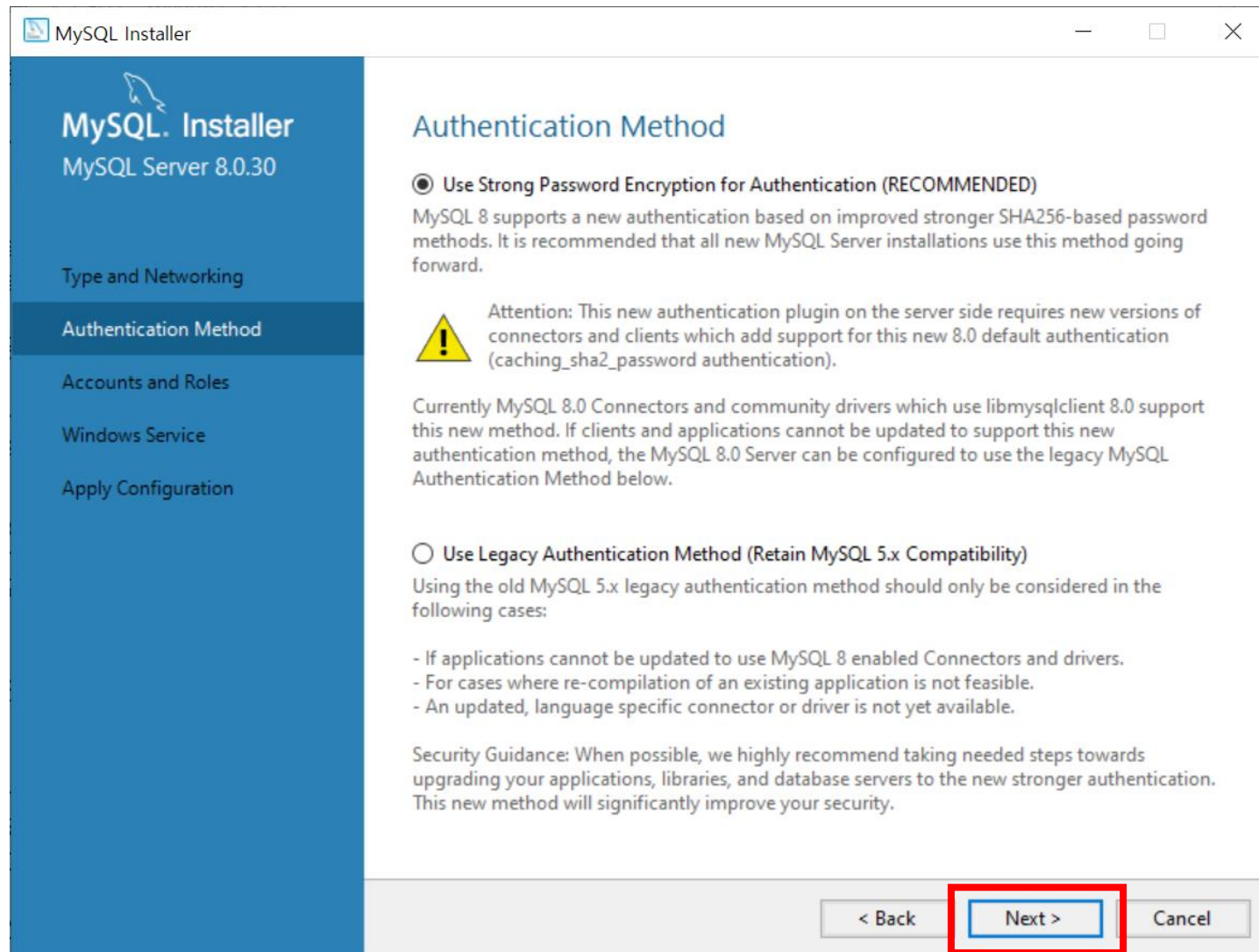
☐ Shared Memory Memory Name: MYSQL

Advanced Configuration

Select the check box below to get additional configuration pages where you can set advanced and logging options for this server instance.

☐ Show Advanced and Logging Options

Next > Cancel



MySQL Installer

MySQL Server 8.0.30

Type and Networking

Authentication Method

Accounts and Roles

Windows Service

Apply Configuration

Accounts and Roles

Root Account Password

Enter the password for the root account. Please remember to store this password in a secure place.

MySQL Root Password:

Repeat Password:

Password strength: **Weak**

MySQL User Accounts

Create MySQL user accounts for your users and applications. Assign a role to the user that consists of a set of privileges.

MySQL User Name	Host	User Role
-----------------	------	-----------

Add User

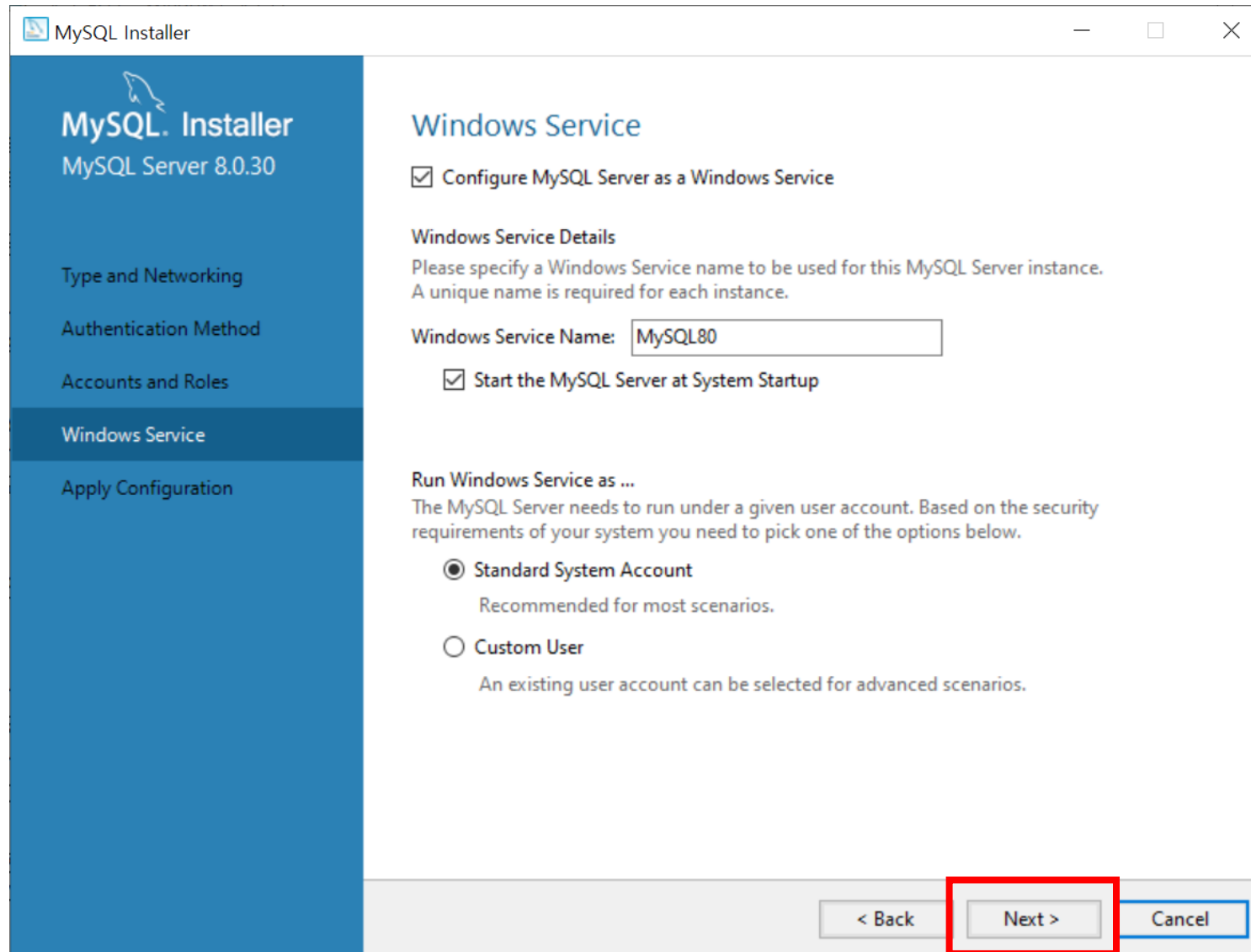
Edit User

Delete

< Back

Next >

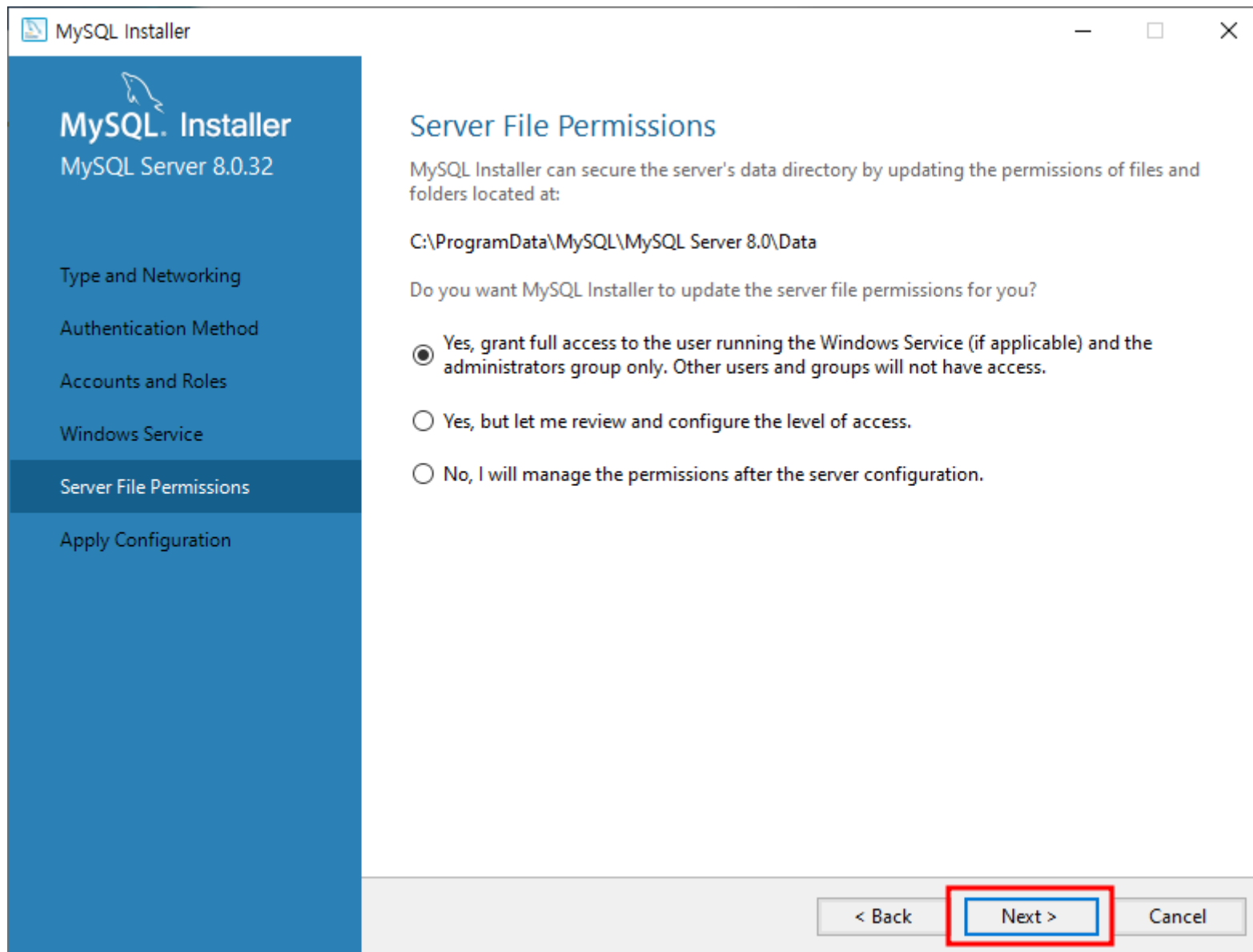
Cancel

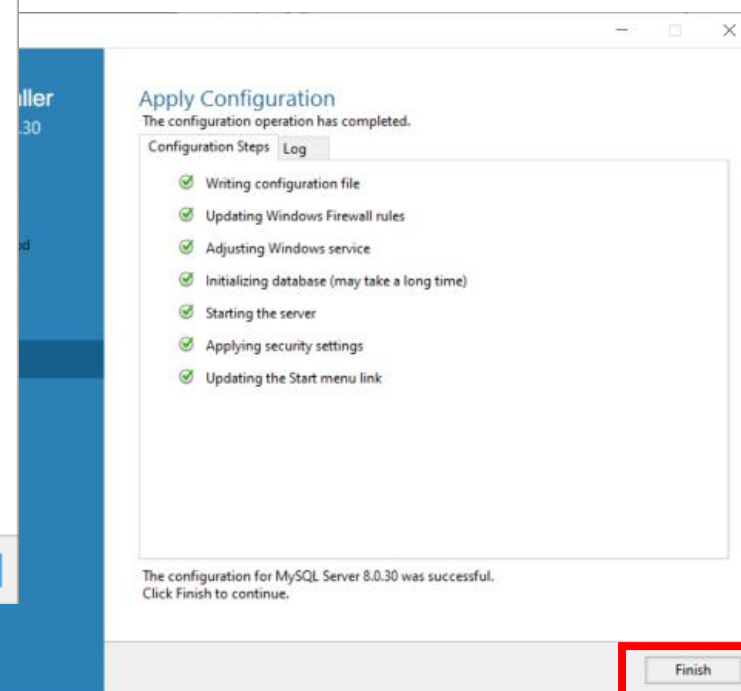
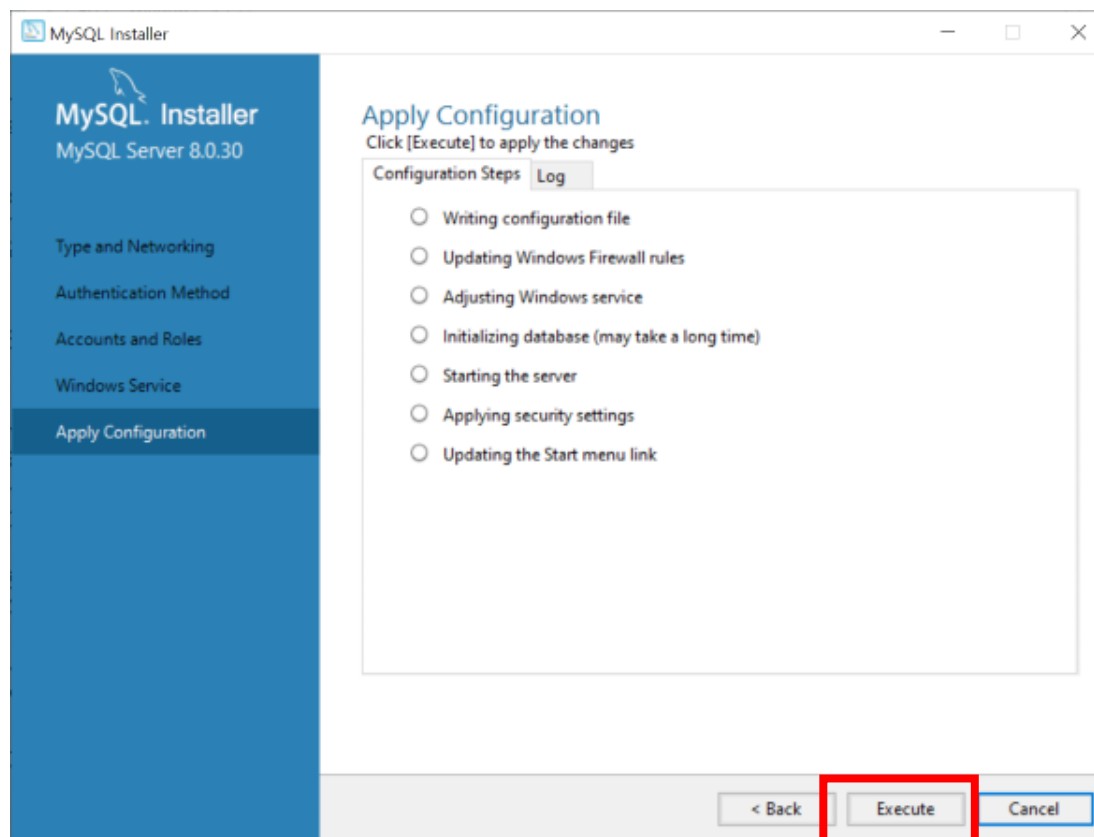


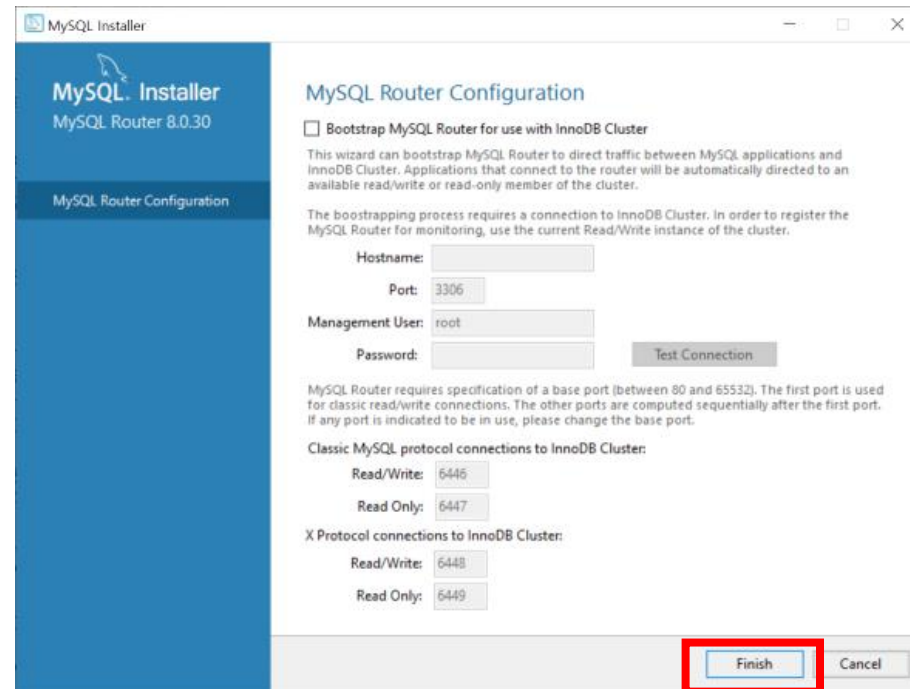
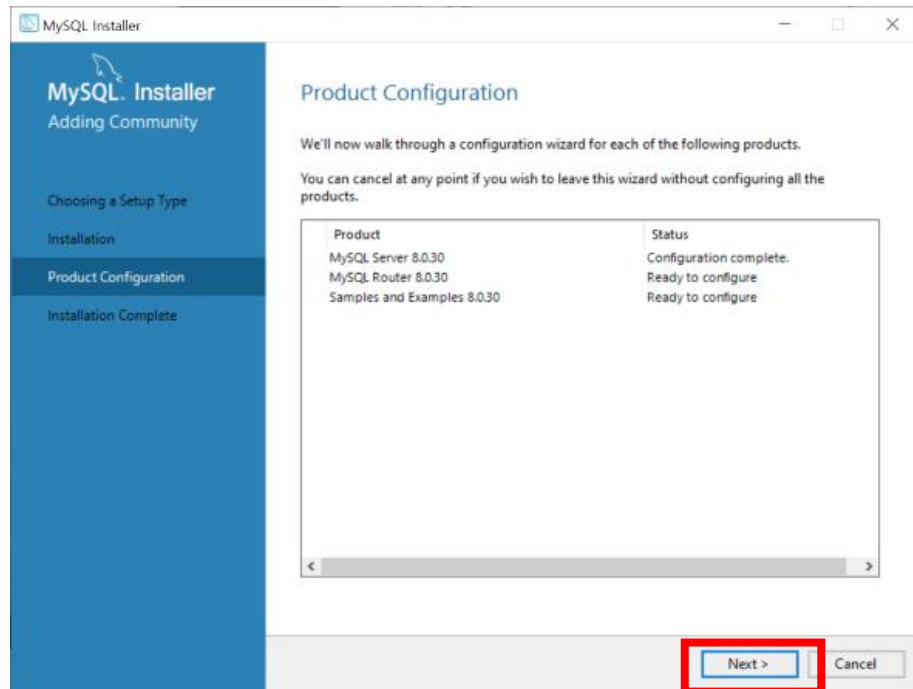
The image shows the MySQL Installer window for MySQL Server 8.0.30. The left sidebar contains a list of configuration steps: Type and Networking, Authentication Method, Accounts and Roles, Windows Service (which is the current step), and Apply Configuration. The main area is titled 'Windows Service' and contains the following options:

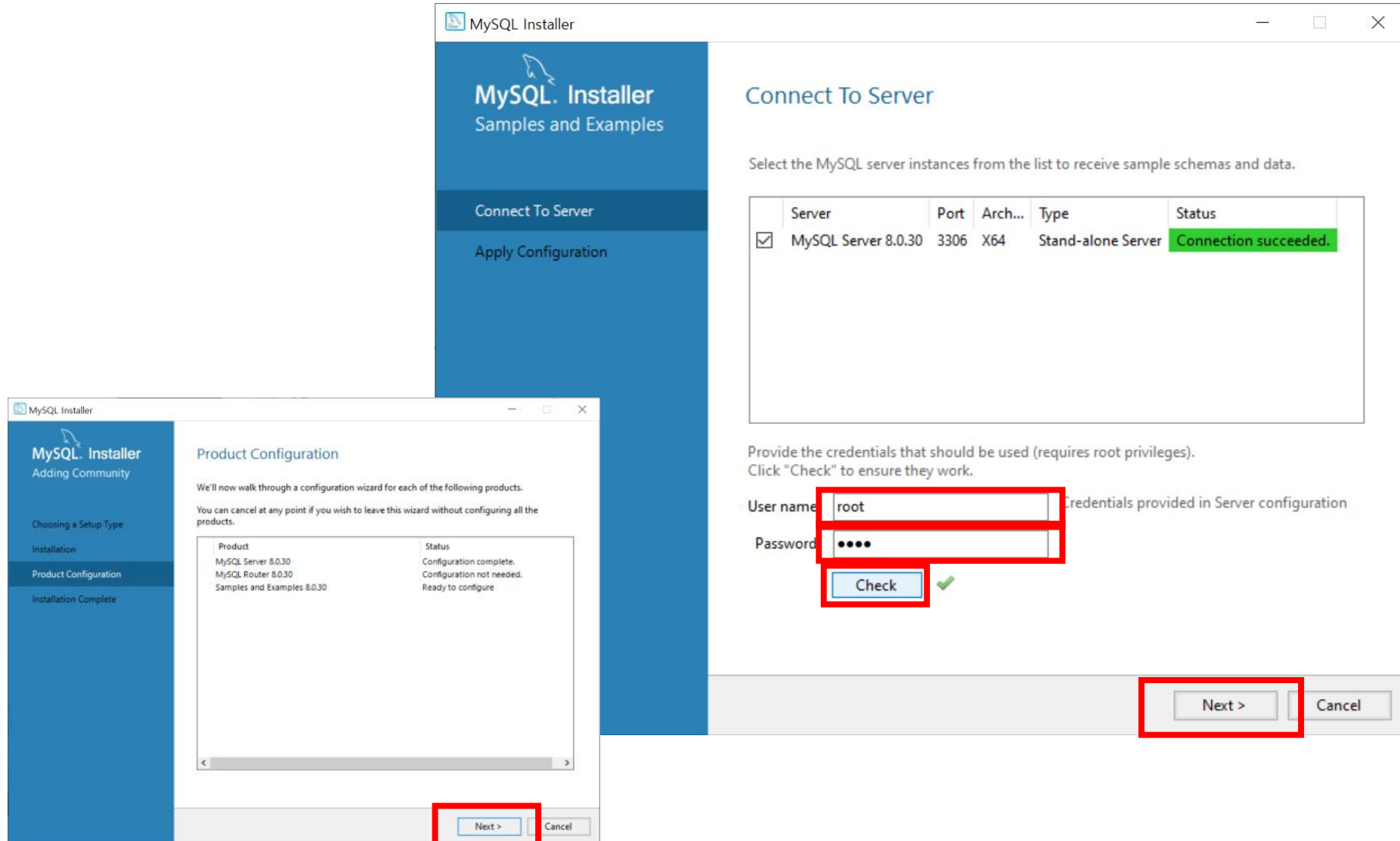
- ☒ **Configure MySQL Server as a Windows Service**
- Windows Service Details**
Please specify a Windows Service name to be used for this MySQL Server instance. A unique name is required for each instance.
Windows Service Name:
- ☒ **Start the MySQL Server at System Startup**
- Run Windows Service as ...**
The MySQL Server needs to run under a given user account. Based on the security requirements of your system you need to pick one of the options below.
 - ☒ **Standard System Account**
Recommended for most scenarios.
 - ☐ **Custom User**
An existing user account can be selected for advanced scenarios.

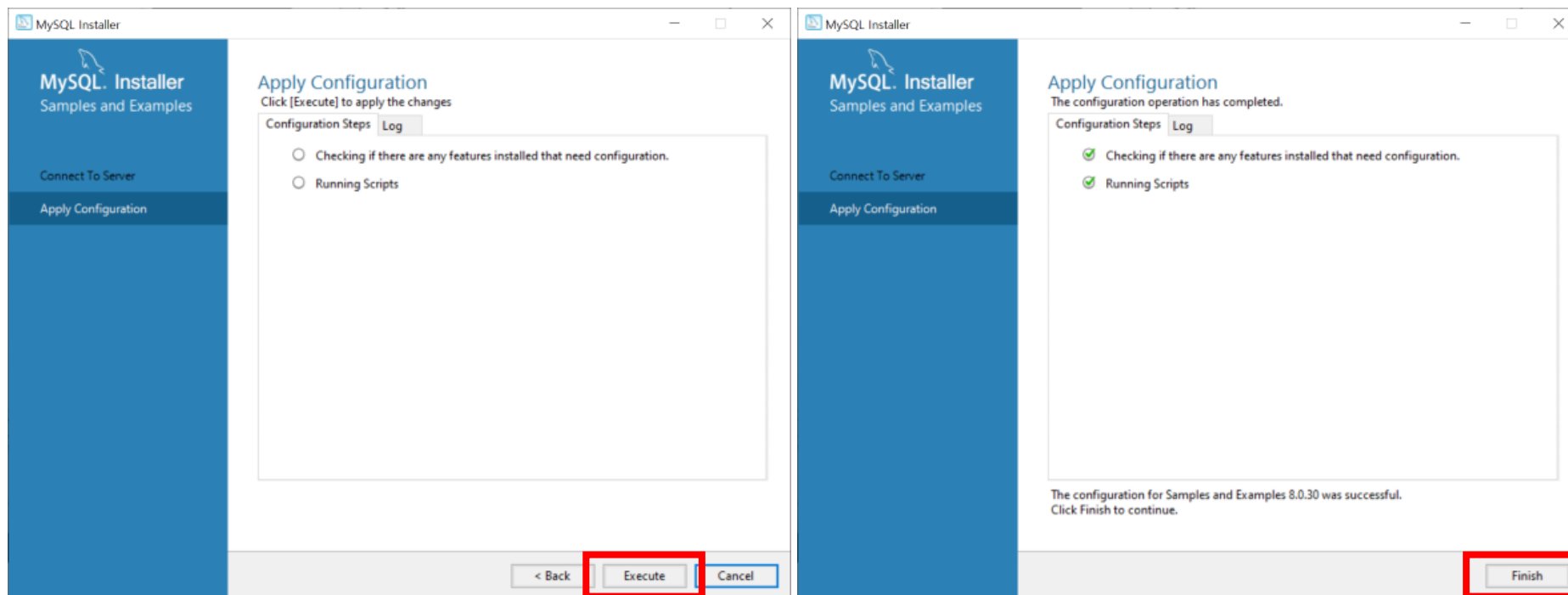
At the bottom right, there are three buttons: '< Back', 'Next >' (which is highlighted with a red rectangle), and 'Cancel'.

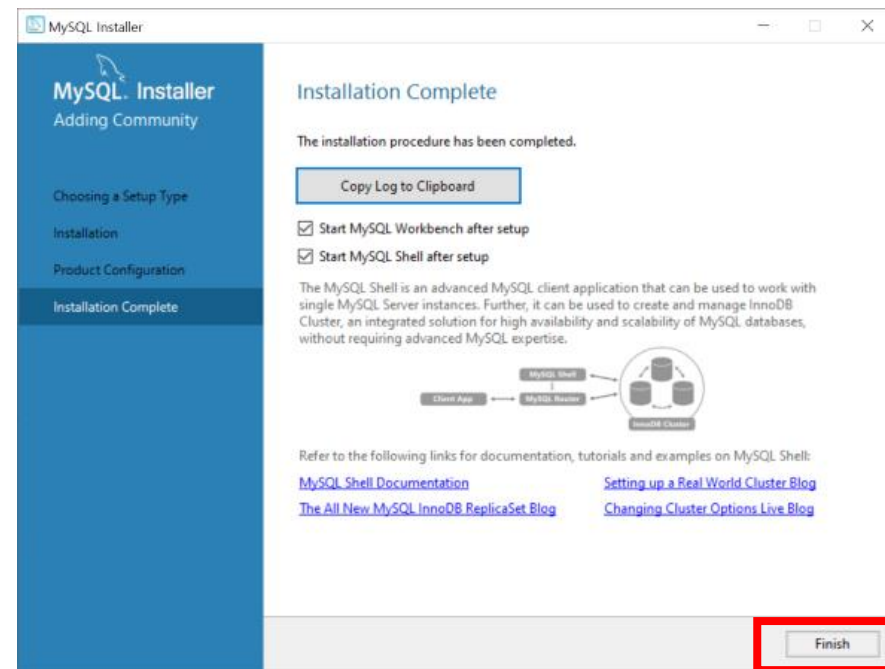
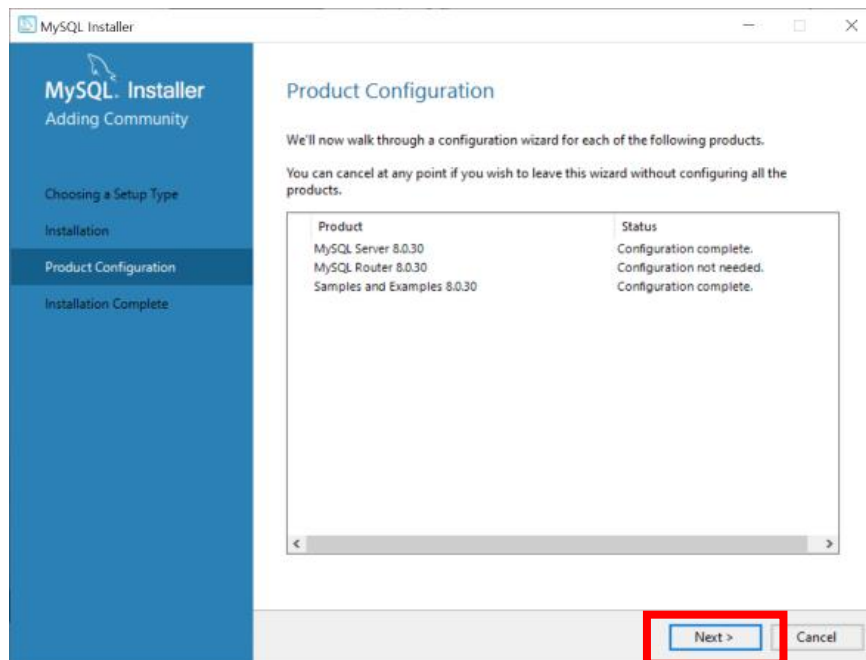


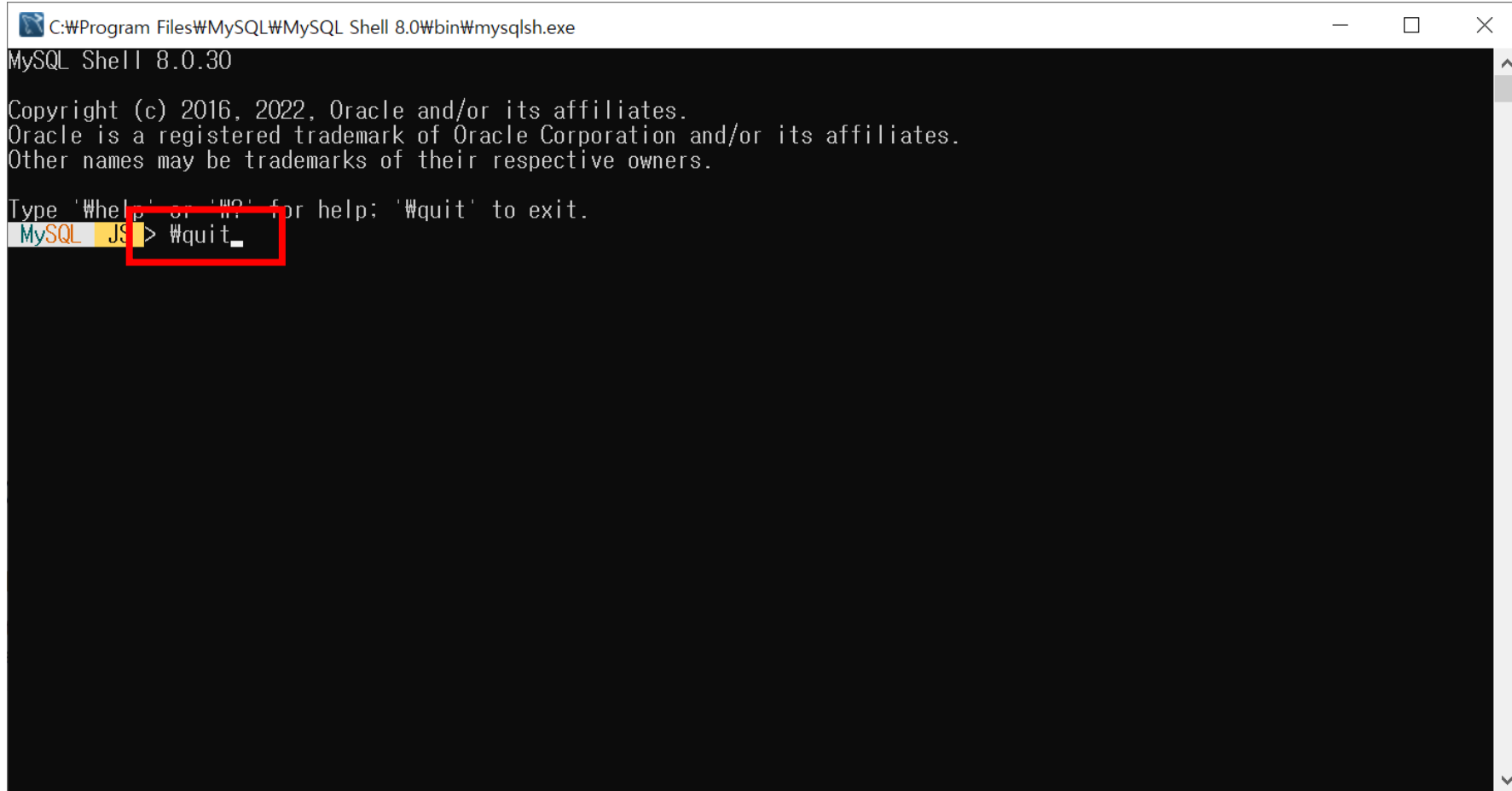




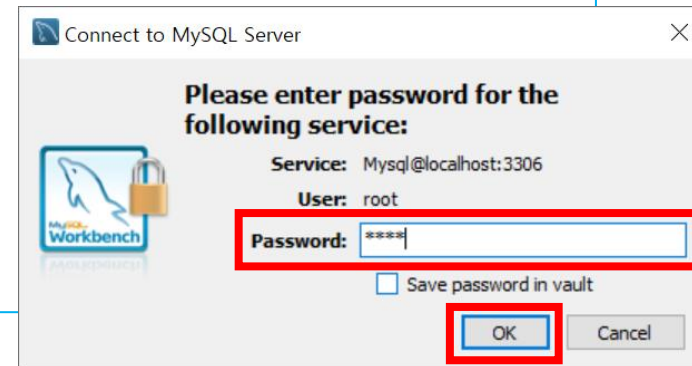
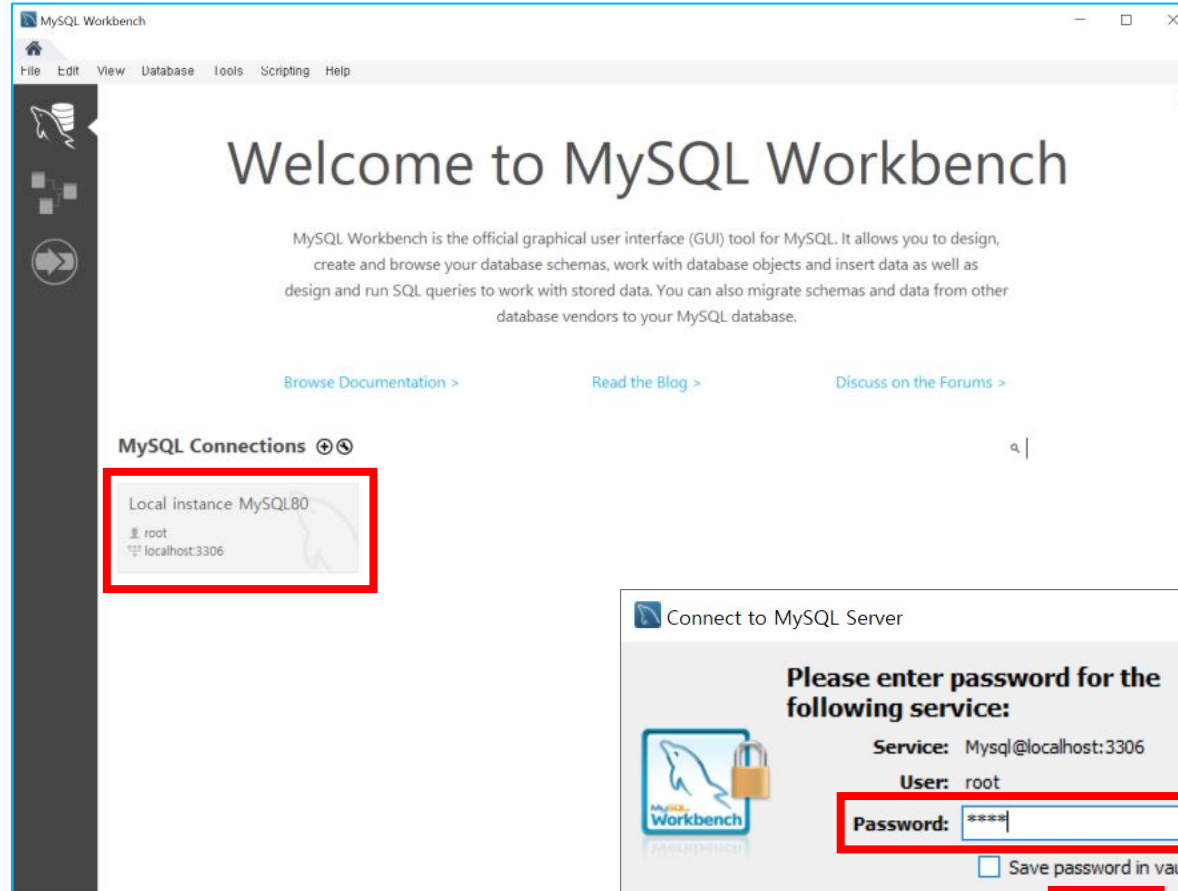
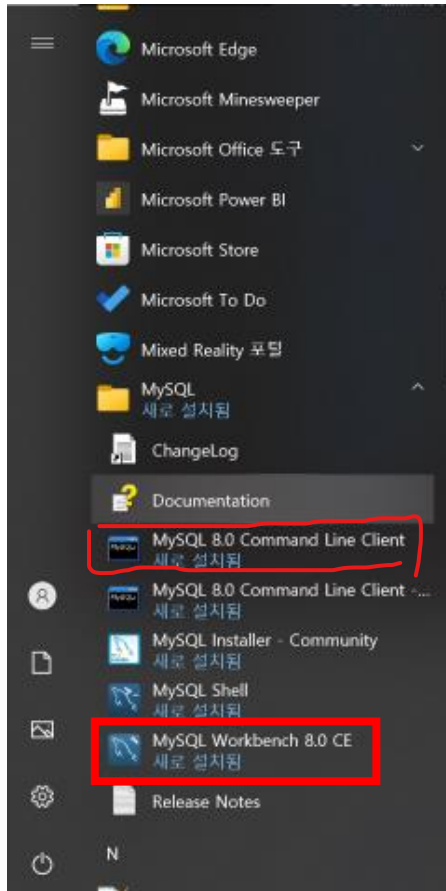








```
C:\Program Files\MySQL\MySQL Shell 8.0\bin\mysqlsh.exe
MySQL Shell 8.0.30
Copyright (c) 2016, 2022, Oracle and/or its affiliates.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates.
Other names may be trademarks of their respective owners.
Type 'help' or '?' for help; '#quit' to exit.
MySQL JS > #quit_
```



MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- ▶ sakila
- ▶ sys
- ▶ world

Administration Schemas

Information

No object selected

Object Info Session

Query 1

Limit to 1000 rows

SQLAdditions

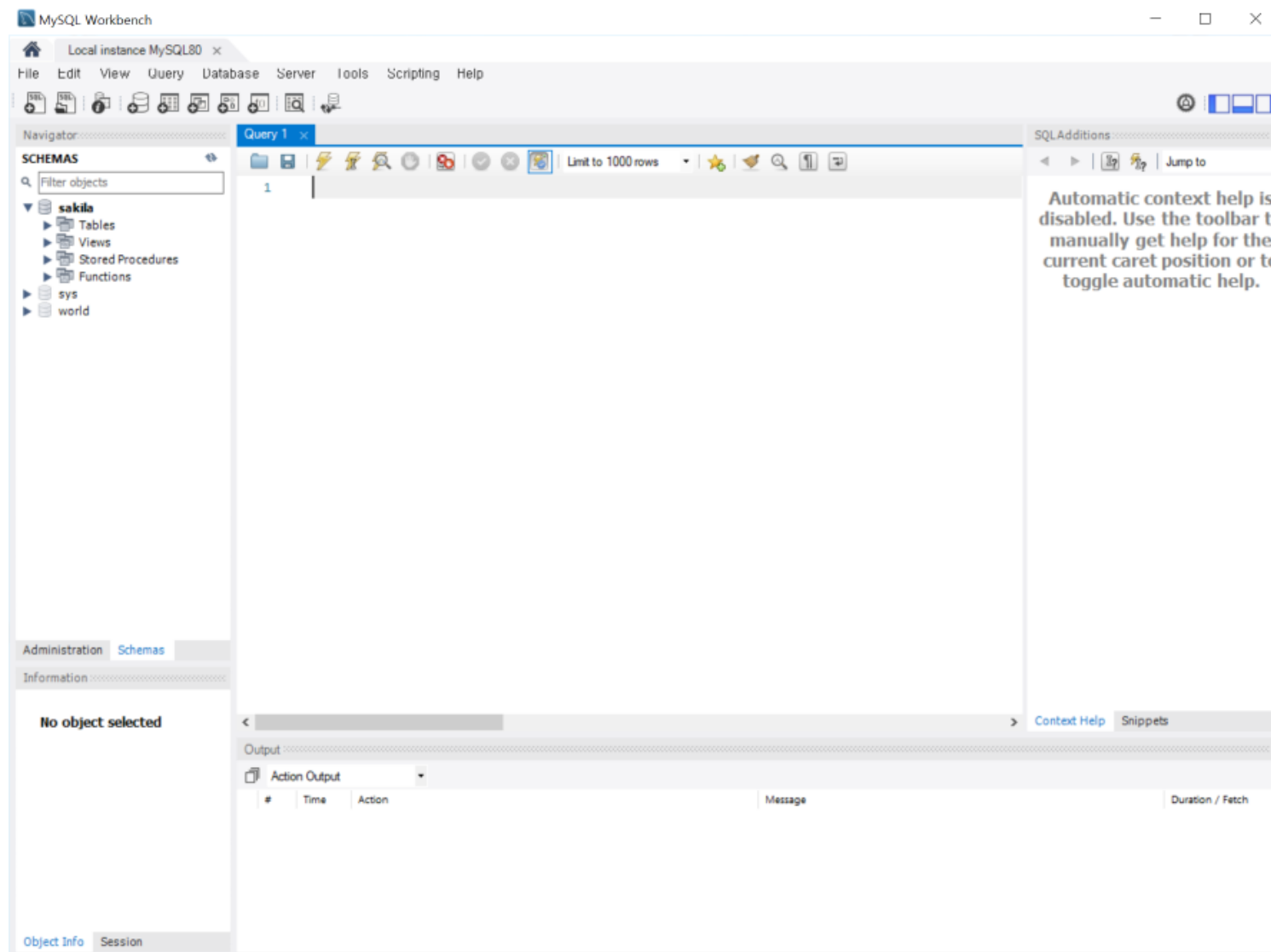
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

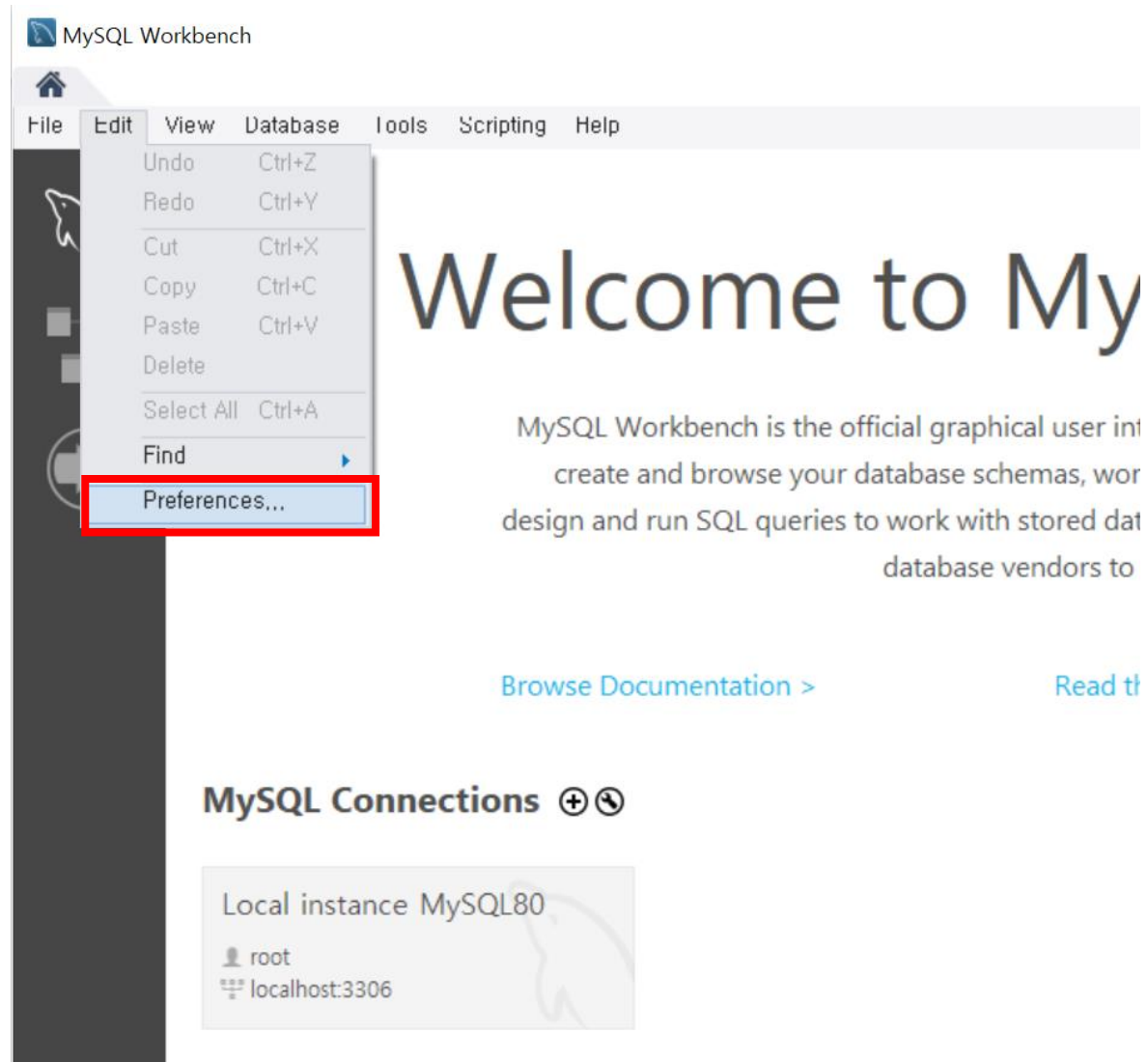
Context Help Snippets

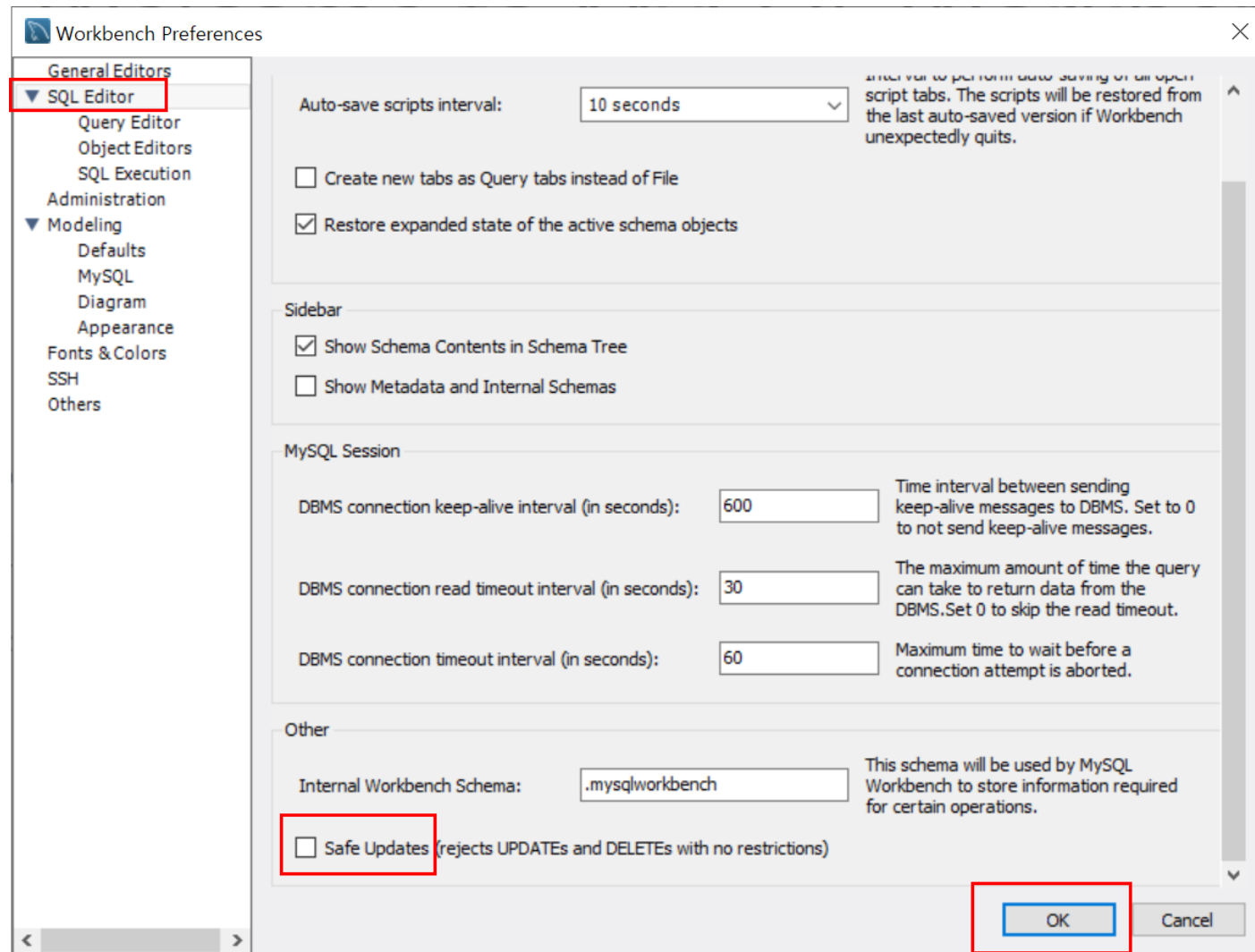
Output

Action Output

#	Time	Action	Message	Duration / Fetch
---	------	--------	---------	------------------



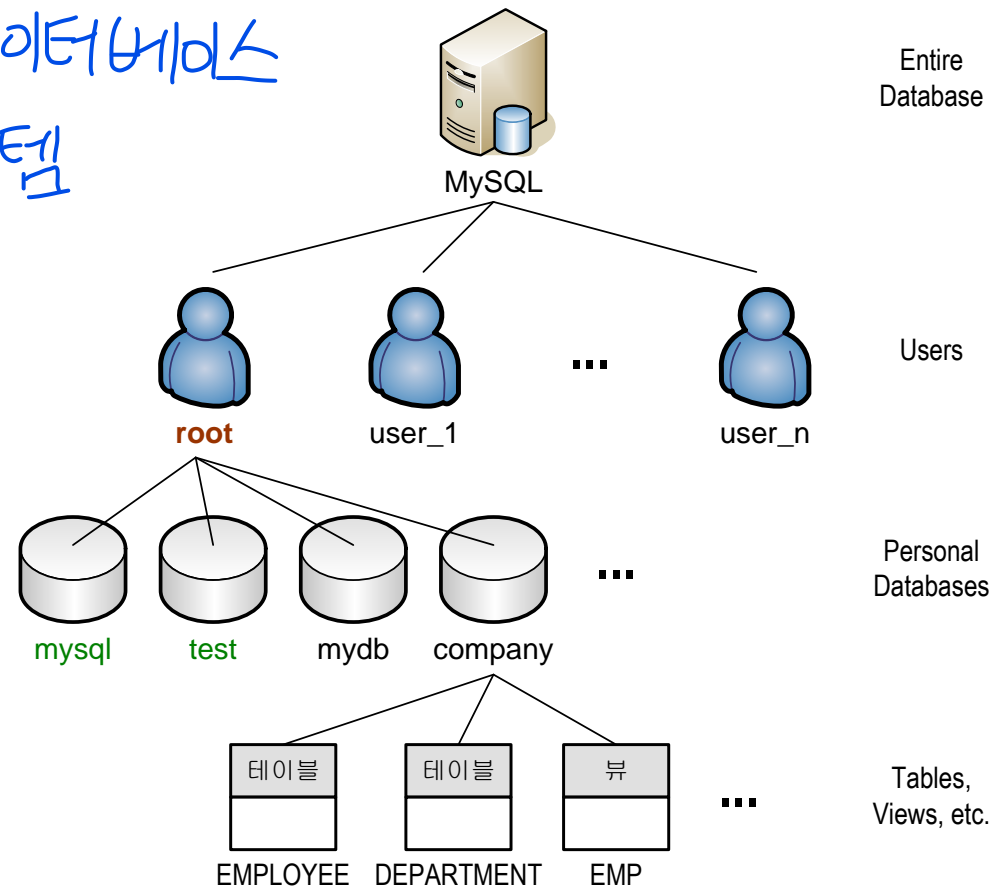




- MySQL database hierarchy

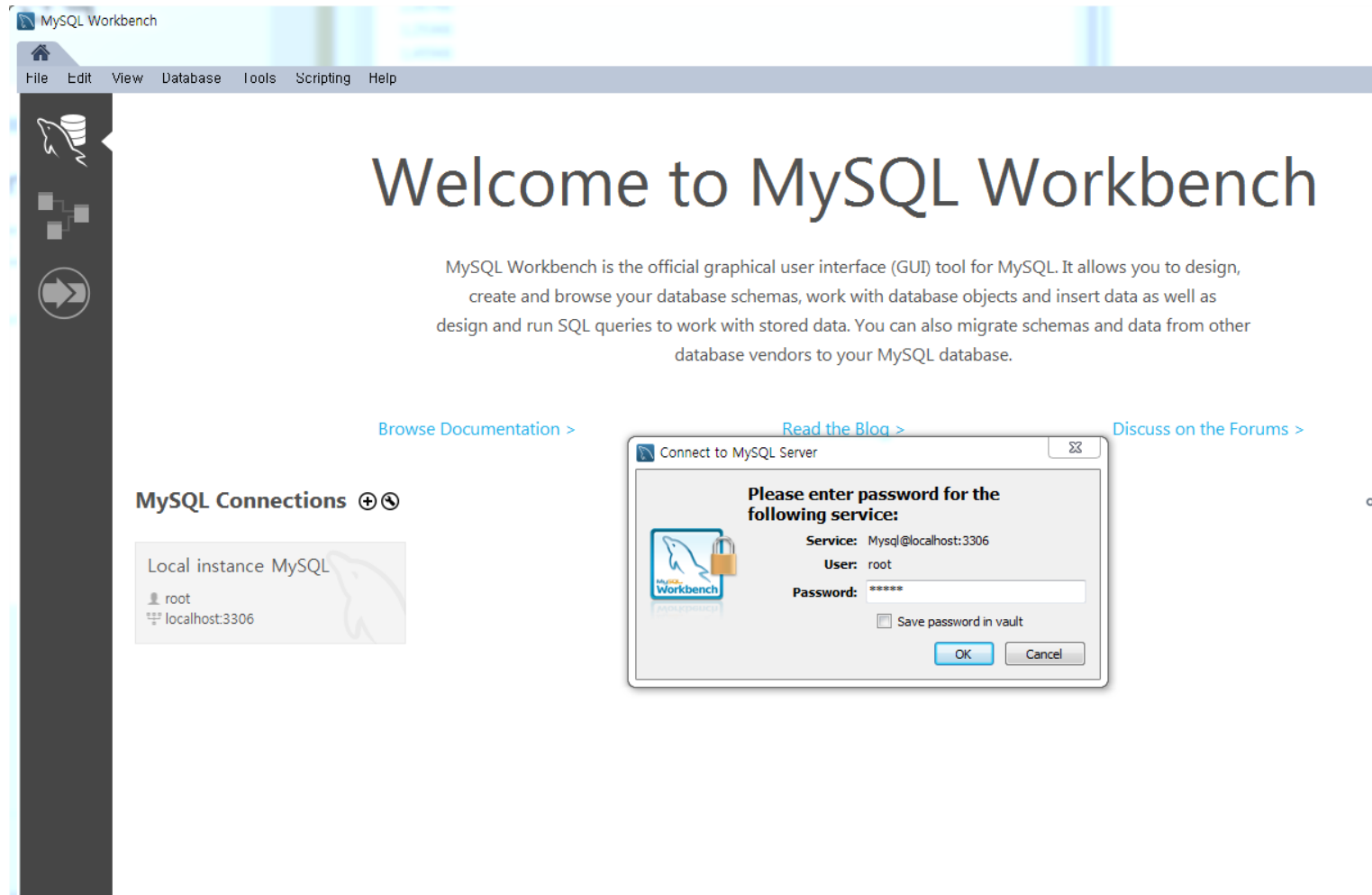
JDBC : 자바에서 데이터베이스에 접속할 수 있게 하는 자바 API

RDBMS : 관계형 데이터베이스
관리 시스템



✂ Exercise

- MySQL workbench 8.0 - Password



Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator:

SCHEMAS

Filter objects

- ▼ sakila
 - Tables
 - Views
 - Stored Procedures
 - Functions
- ▼ sys
 - Tables
 - Views
 - Stored Procedures
 - Functions
- ▼ testmydb
 - Tables
 - Views
 - Stored Procedures
 - Functions
- ▼ world

Query 1 x

Limit to 1000 rows

```
1 • create database testmydb;
2
3 • use testmydb;
4
5 • CREATE TABLE student (
6     stu_id    char(10) not null,
7     stu_name  varchar(10) not null,
8     stu_year  int,
9     PRIMARY KEY(stu_id)
10 );
11
12 • INSERT INTO student VALUES ('2022111111', '김가천', 22);
13 • INSERT INTO student VALUES ('2022111112', '홍길동', 21);
14 • INSERT INTO student VALUES ('2022111113', '박나래', 22);
15 • INSERT INTO student(stu_id, stu_name) VALUES ('2022111114', '장발장');
16
17 • UPDATE student SET stu_id = '2022111110' WHERE stu_year = 21;
18
19 • DELETE FROM student WHERE stu_year = 21;
20
21 • SELECT * FROM student;
22
23 • SELECT stu_name FROM student;
24
25 • drop table student;
26
27
28
```

테이블 갱신

실행 1개씩 실행

Administration Schemas Information

No object selected

```
create database testmydb;
```

```
use testmydb;
```

```
CREATE TABLE student (  
    stu_id    char(10) not null,  
    stu_name  varchar(10) not null,  
    stu_year  int,  
    PRIMARY KEY(stu_id)  
);
```

```
INSERT INTO student VALUES ('2022111111', '김가천', 22);
```

```
INSERT INTO student VALUES ('2022111112', '홍길동', 21);
```

```
INSERT INTO student VALUES ('2022111113', '박나래', 22);
```

```
INSERT INTO student(stu_id, stu_name) VALUES ('2022111114', '장발장');
```



	stu_id	stu_name	stu_year
▶	2022111111	김가천	22
	2022111112	홍길동	21
	2022111113	박나래	22
	2022111114	장발장	NULL

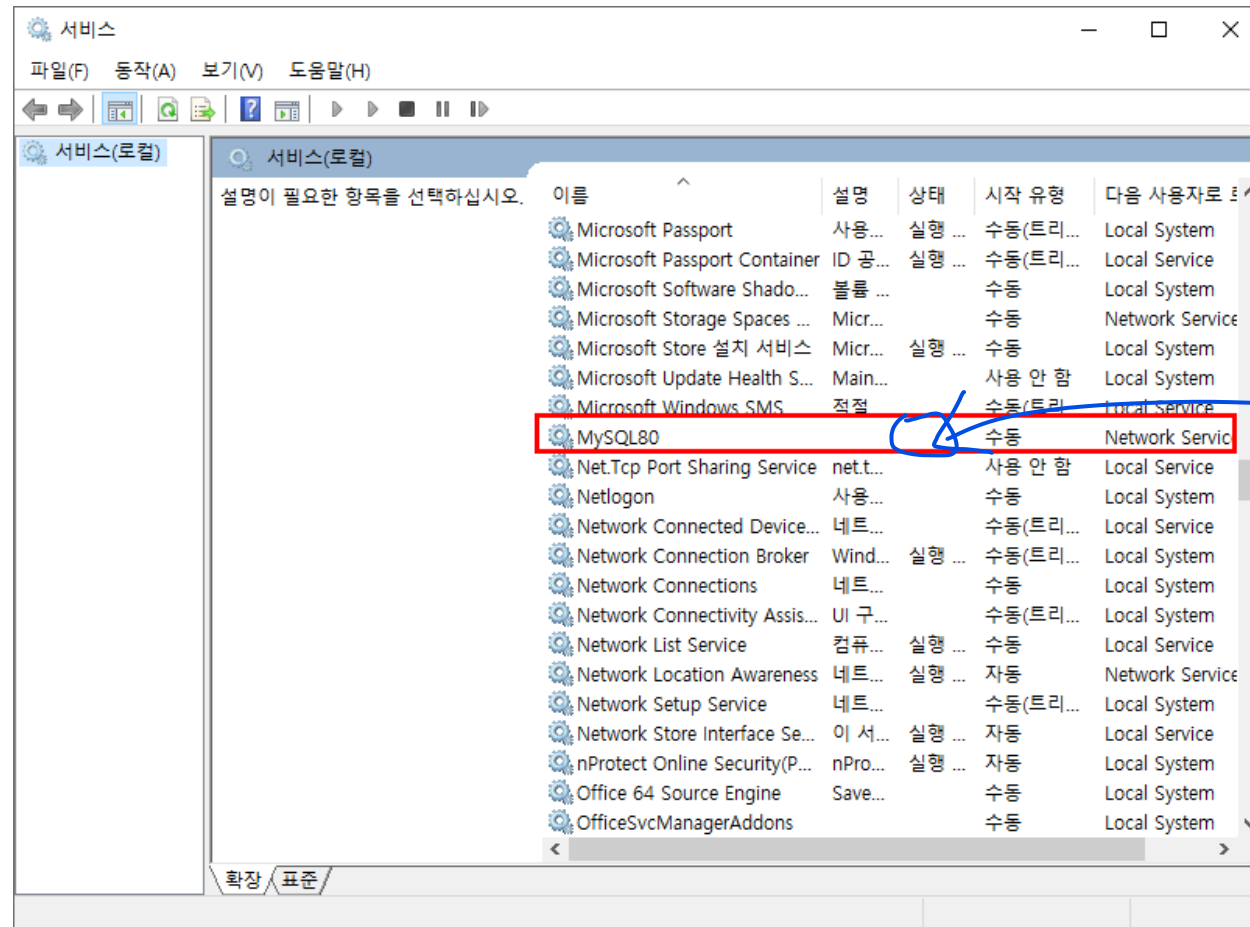
```
UPDATE student SET stu_id = '2022111110' WHERE stu_year = 21;
```

```
DELETE FROM student WHERE stu_year = 21;
```

```
SELECT * FROM student;
```

```
SELECT stu_name FROM student;
```

```
drop table student;
```



만약 오류가
발생하면
실행으로 바꾸기



 **T h a n k y o u**

TECHNOLOGY

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Velit ex
plicabo ipsum, labore sed tempora ratione asperiores des
cenderat bore sed tempora rati jgert one bore sed tem!