

MySQL 설치 및 설정

빅데이터 분석가 과정

목차

- MySQL
 - MySQL 설치
 - 기본 명령어

MySQL 다운로드 #1

■ 다운받기

- <https://www.mysql.com/downloads/>
- MySQL Community (GPL) Downloads 선택

MySQL HeatWave

Faster Performance

- 5400x Faster than Amazon RDS
- 1400x Faster than Amazon Aurora
- 6.5x Faster than Amazon Redshift AQUA
- 7x Faster than Snowflake

Lower Total Cost of Ownership

- 2/3 the cost of Amazon RDS
- 1/2 the cost of Amazon Aurora
- 1/2 the cost of Amazon Redshift AQUA
- 1/5 the cost of Snowflake

[Try Now](#) [Technical Guides](#)

MySQL SUMMIT
at Oracle CloudWorld
October 17-20, 2022
Las Vegas
[Register Now »](#)

Free Webinars

Top Reasons to Use Oracle MySQL HeatWave
Sunday, July 03, 2022

Machine Learning with MySQL HeatWave
Tuesday, July 05, 2022

MySQL Enterprise Edition

MySQL Enterprise Edition includes the most comprehensive set of advanced features, management tools and technical support for MySQL.

[Learn More »](#)
[Customer Download »](#)
[Trial Download »](#)

MySQL Cluster CGE

MySQL Cluster is a real-time open source transactional database designed for fast, always-on access to data under high throughput conditions.

- MySQL Cluster
- MySQL Cluster Manager
- Plus, everything in MySQL Enterprise Edition

[Learn More »](#)
[Customer Download »](#) (Select Patches & Updates Tab, Product Search)
[Trial Download »](#)

[MySQL Community \(GPL\) Downloads »](#)

MySQL 다운로드 #2

■ MySQL Community Server 선택

MySQL Community Downloads

- MySQL Yum Repository
- MySQL APT Repository
- MySQL SUSE Repository
- **MySQL Community Server**
- MySQL Cluster
- MySQL Router
- MySQL Shell
- MySQL Operator
- MySQL Workbench
- MySQL Installer for Windows
- MySQL for Visual Studio
- C API (libmysqlclient)
- Connector/C++
- Connector/J
- Connector/NET
- Connector/Node.js
- Connector/ODBC
- Connector/Python
- MySQL Native Driver for PHP
- MySQL Benchmark Tool
- Time zone description tables
- Download Archives

ORACLE © 2022 Oracle

Privacy / Do Not Sell My Info | Terms of Use | Trademark Policy | 쿠키 환경설정

MySQL 다운로드 #3

■ Go to Download Page 선택

MySQL Community Downloads

MySQL Community Server

General Availability (GA) ReleasesArchives

MySQL Community Server 8.0.29

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 >

Other Downloads:

Windows (x86, 64-bit), ZIP Archive (mysql-8.0.29-winx64.zip)	8.0.29	214.0M	Download
MD5: 1d0a93f5e6cd89f252693963ef1ab5da Signature			
Windows (x86, 64-bit), ZIP Archive Debug Binaries & Test Suite (mysql-8.0.29-winx64-debug-test.zip)	8.0.29	538.6M	Download
MD5: cdbdb54f9332255ca10e659d694a6c25 Signature			

 We suggest that you use the MD5 checksums and GnuPG signatures to verify the integrity of the packages

MySQL 다운로드 #4

- 사용하는 운영체제에 맞는 설치 프로그램 다운로드

MySQL Community Downloads

MySQL Installer

General Availability (GA) ReleasesArchives

MySQL Installer 8.0.29

Select Operating System:
Microsoft Windows

Looking for previous GA versions?

Windows (x86, 32-bit), MSI Installer	8.0.29	2.3M	Download
(mysql-installer-web-community-8.0.29.0.msi)			
MD5: 4f735569267527dec28d9e8d977f33d1 Signature			
Windows (x86, 32-bit), MSI Installer	8.0.29	439.6M	Download
(mysql-installer-community-8.0.29.0.msi)			
MD5: 3f4def7aef5e2e030e2dd62e784f246 Signature			

! We suggest that you use the MD5 checksums and GnuPG signatures to verify the integrity of the packages you download.

- No thanks, just start my download 선택

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 »

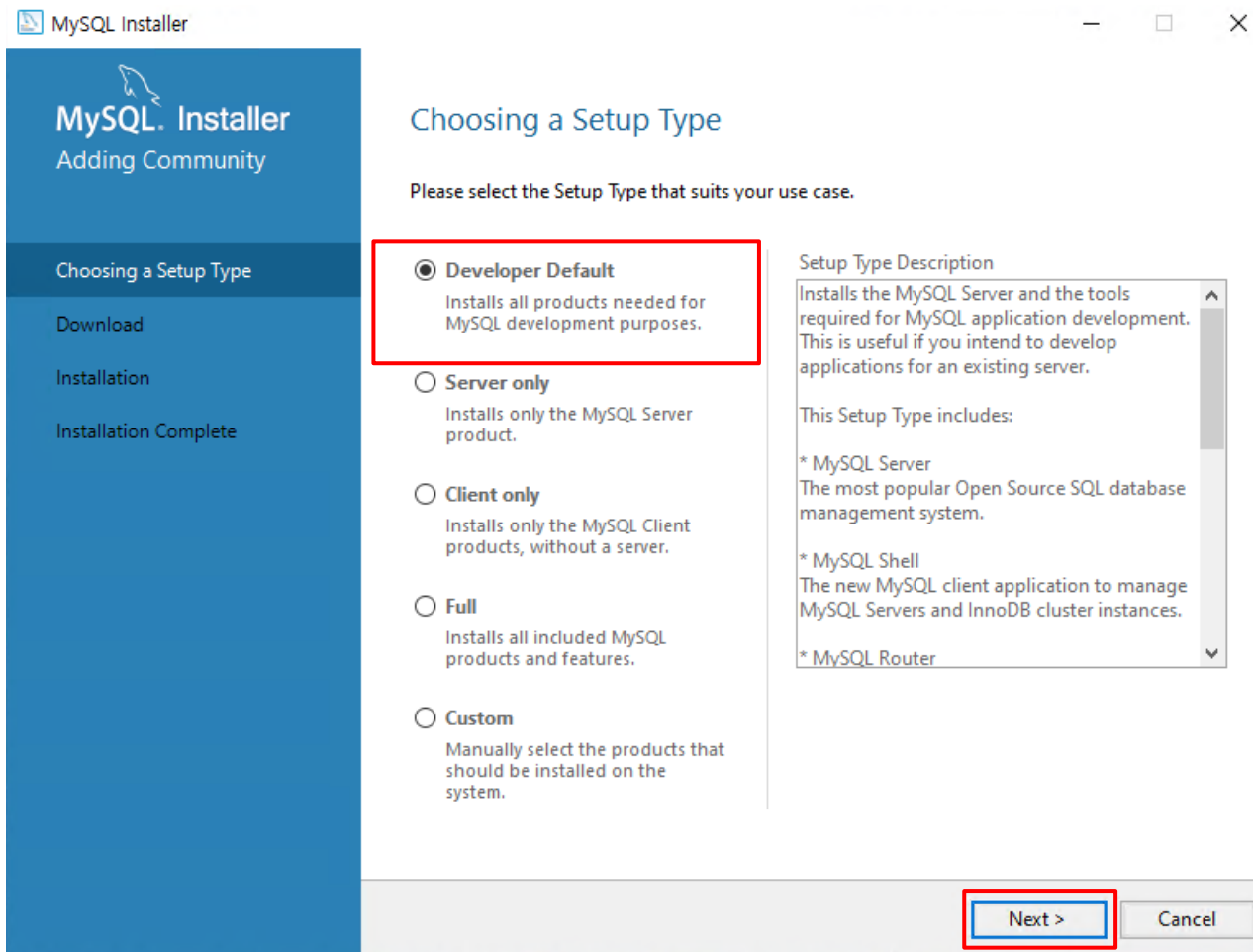
for an Oracle Web account

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.

No thanks, just start my download.

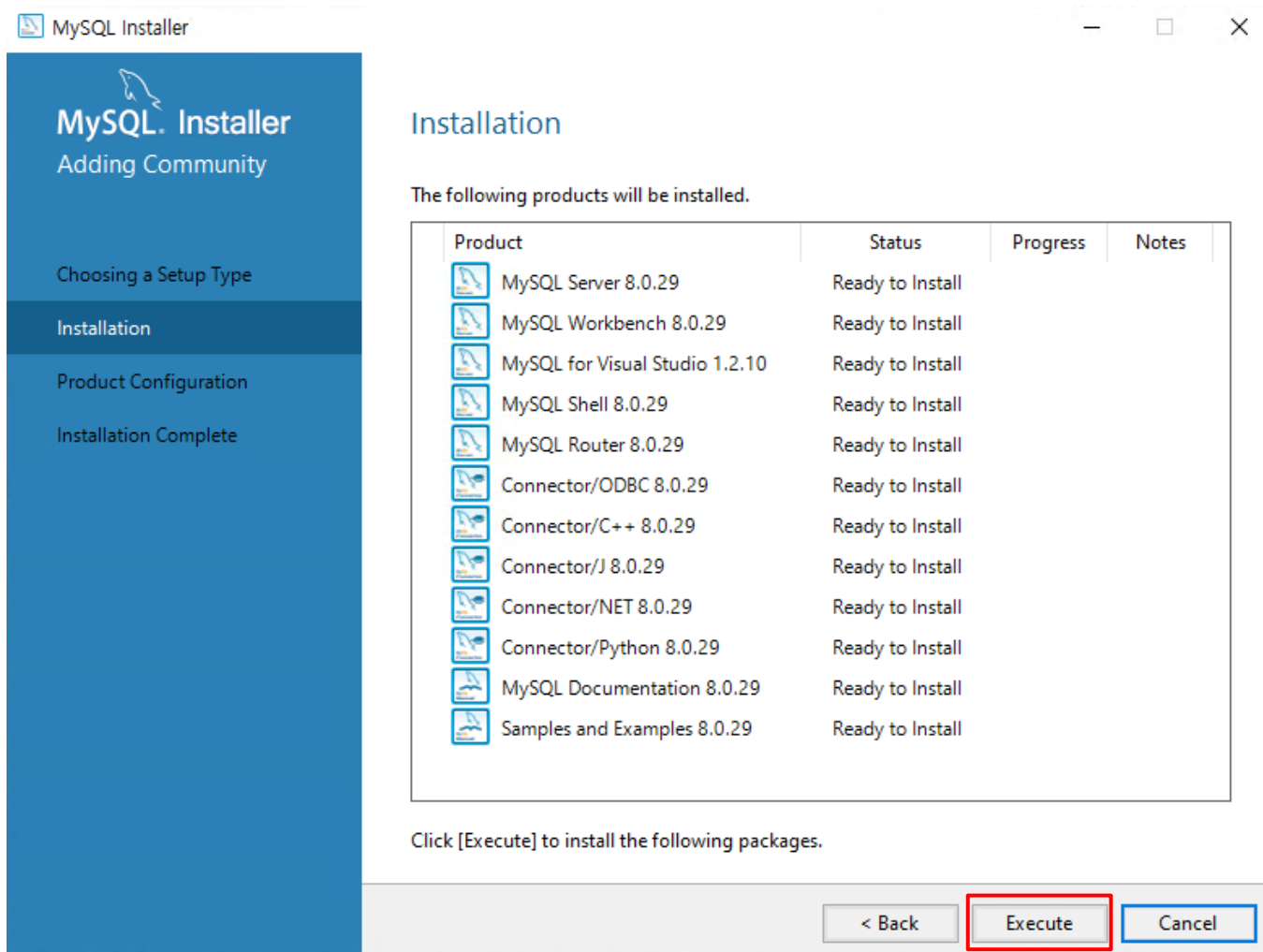
MySQL 설치 #1

■ Developer Default 선택 > Next



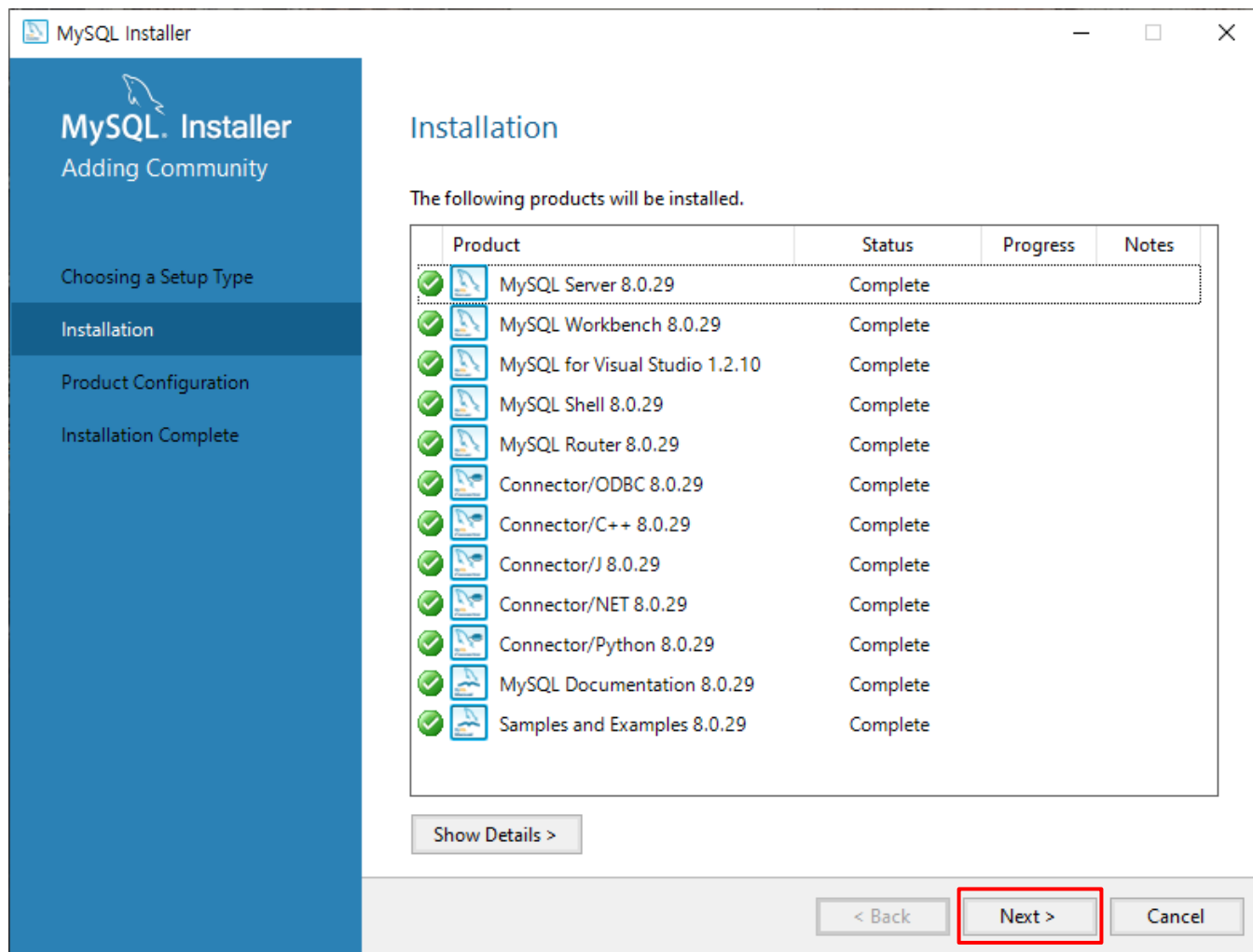
MySQL 설치 #2

■ Execute 선택



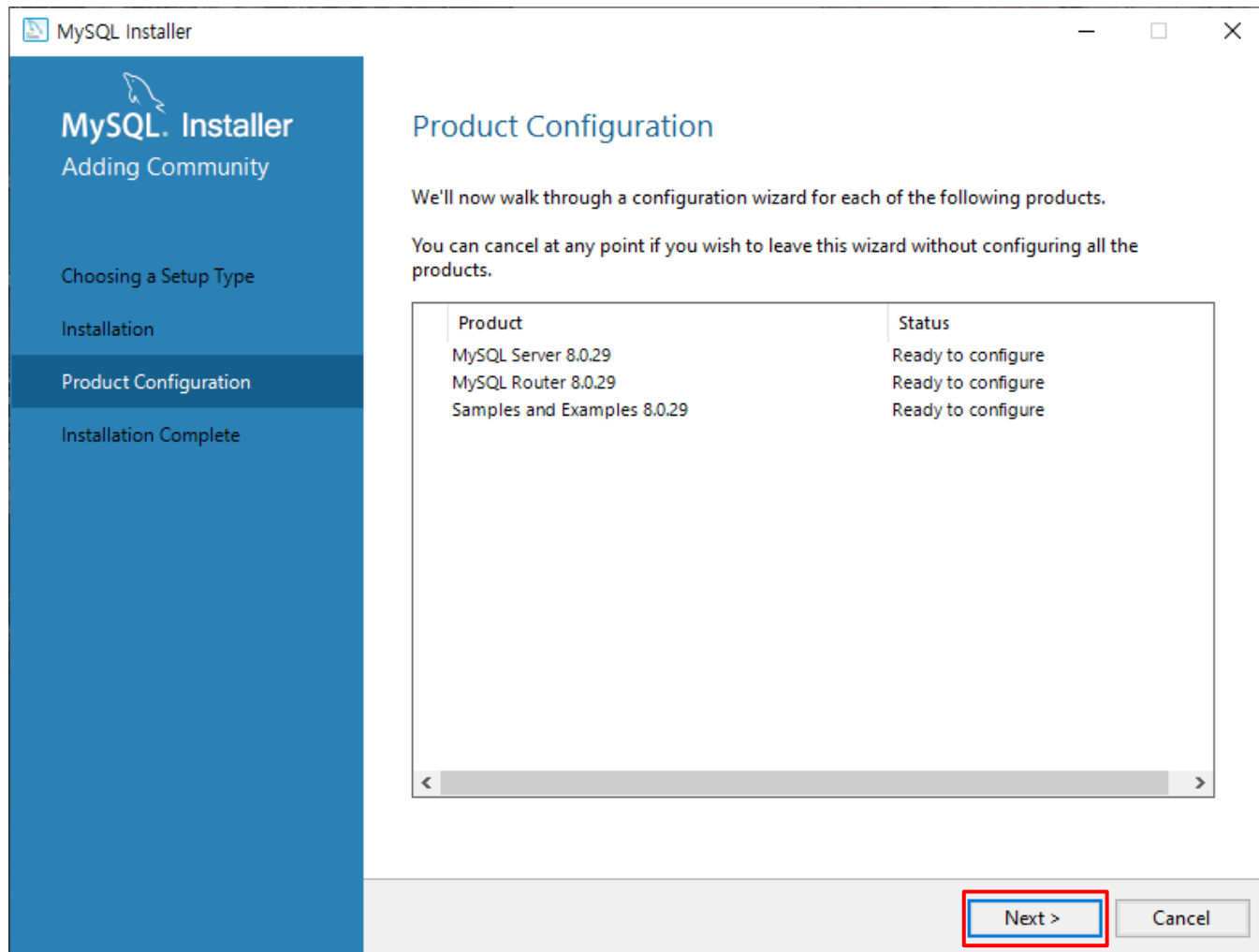
MySQL 설치 #3

■ 설치 완료 > Next 버튼



MySQL 설치 #4

■ Product Configuration > Next



MySQL 설치 #5

■ Type and Networking

- Port 번호: 3306 사용 > Next

MySQL Installer
MySQL Server 8.0.29

Type and Networking

Authentication Method

Accounts and Roles

Windows Service

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

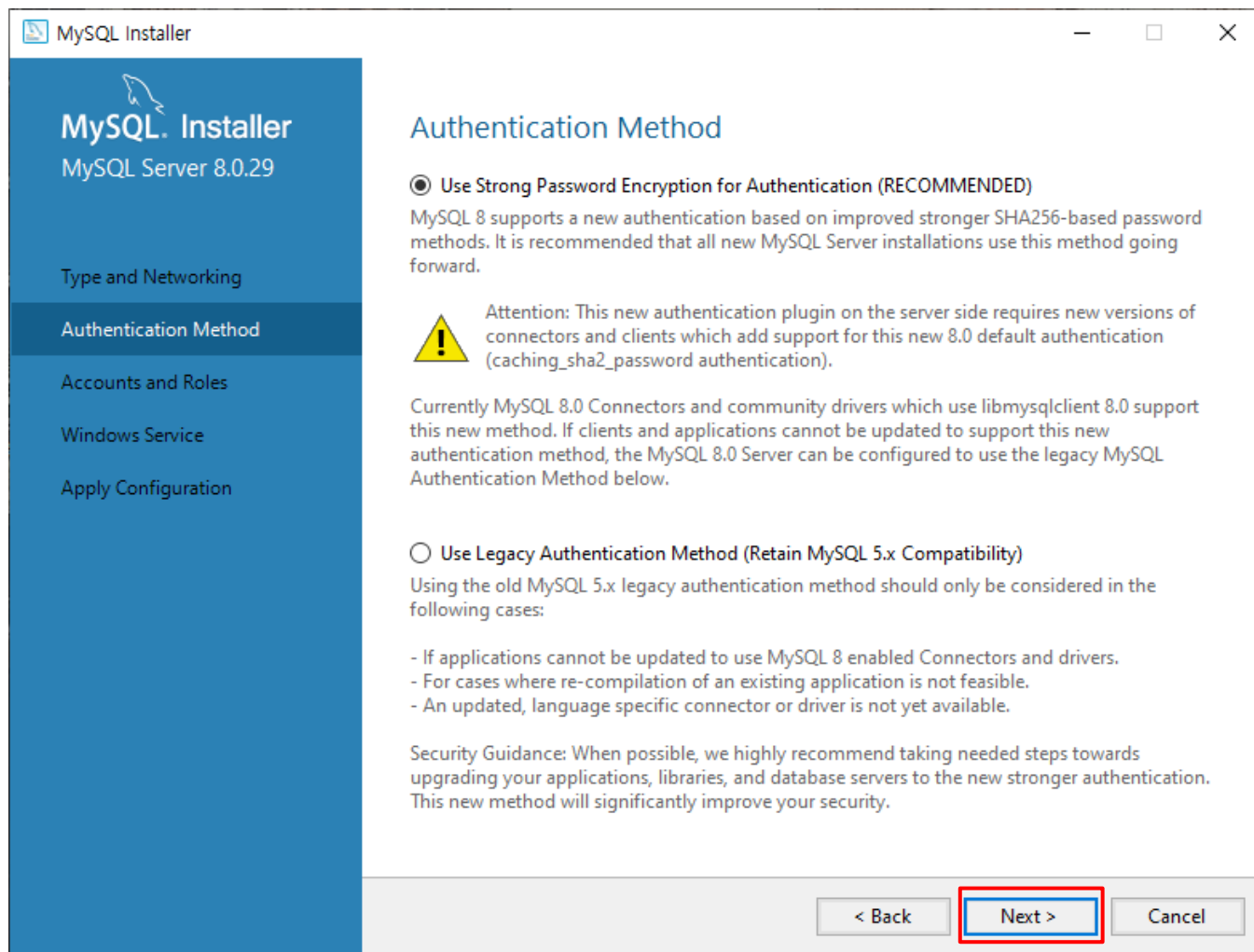
Advanced Configuration

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

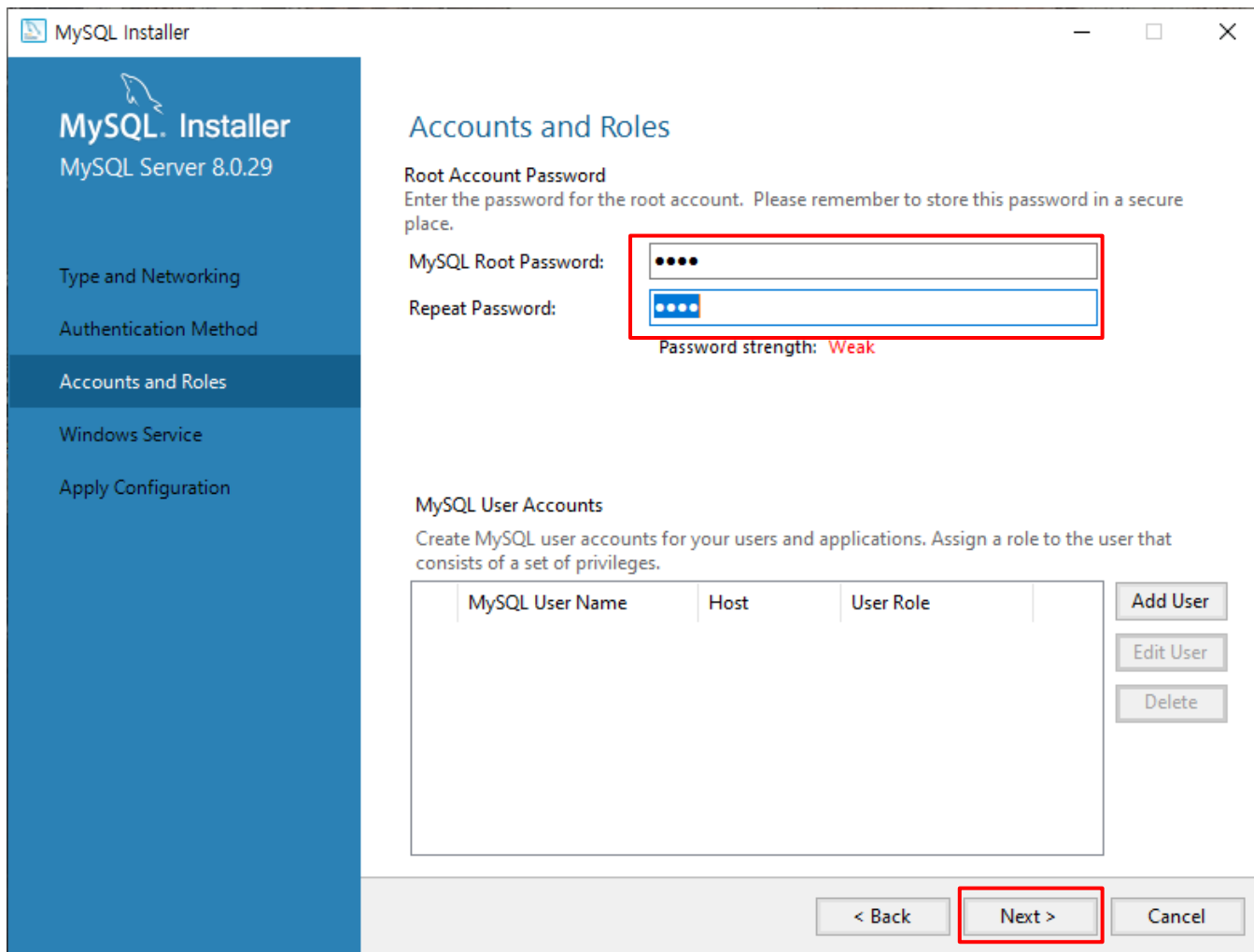
☐ Show Advanced and Logging Options

Next > Cancel

■ Authentication Method > Next



■ Root Password 입력



The screenshot shows the 'Accounts and Roles' step of the MySQL Installer. The left sidebar lists the installation steps: Type and Networking, Authentication Method, Accounts and Roles (selected), Windows Service, and Apply Configuration. The main area is titled 'Accounts and Roles' and contains two sections. The first section, 'Root Account Password', prompts the user to enter a password for the root account. It includes two input fields: 'MySQL Root Password:' and 'Repeat Password:'. Both fields are currently filled with four dots. A red box highlights these two input fields. Below the input fields, the text 'Password strength: Weak' is displayed in red. The second section, 'MySQL User Accounts', prompts the user to create MySQL user accounts. It includes a table with three columns: 'MySQL User Name', 'Host', and 'User Role'. To the right of the table are three buttons: 'Add User', 'Edit User', and 'Delete'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a red box.

MySQL Installer

MySQL Server 8.0.29

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

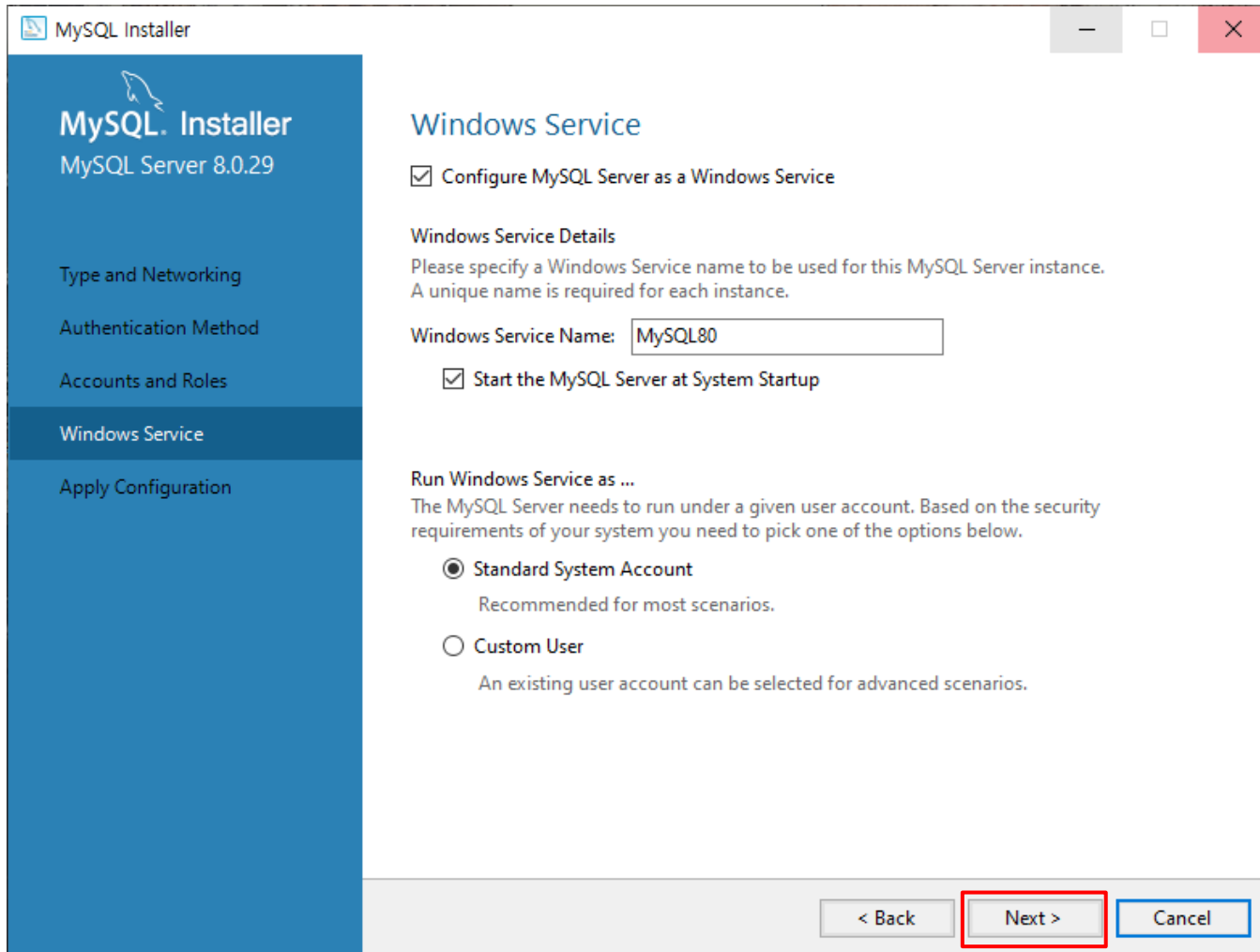
Delete

< Back

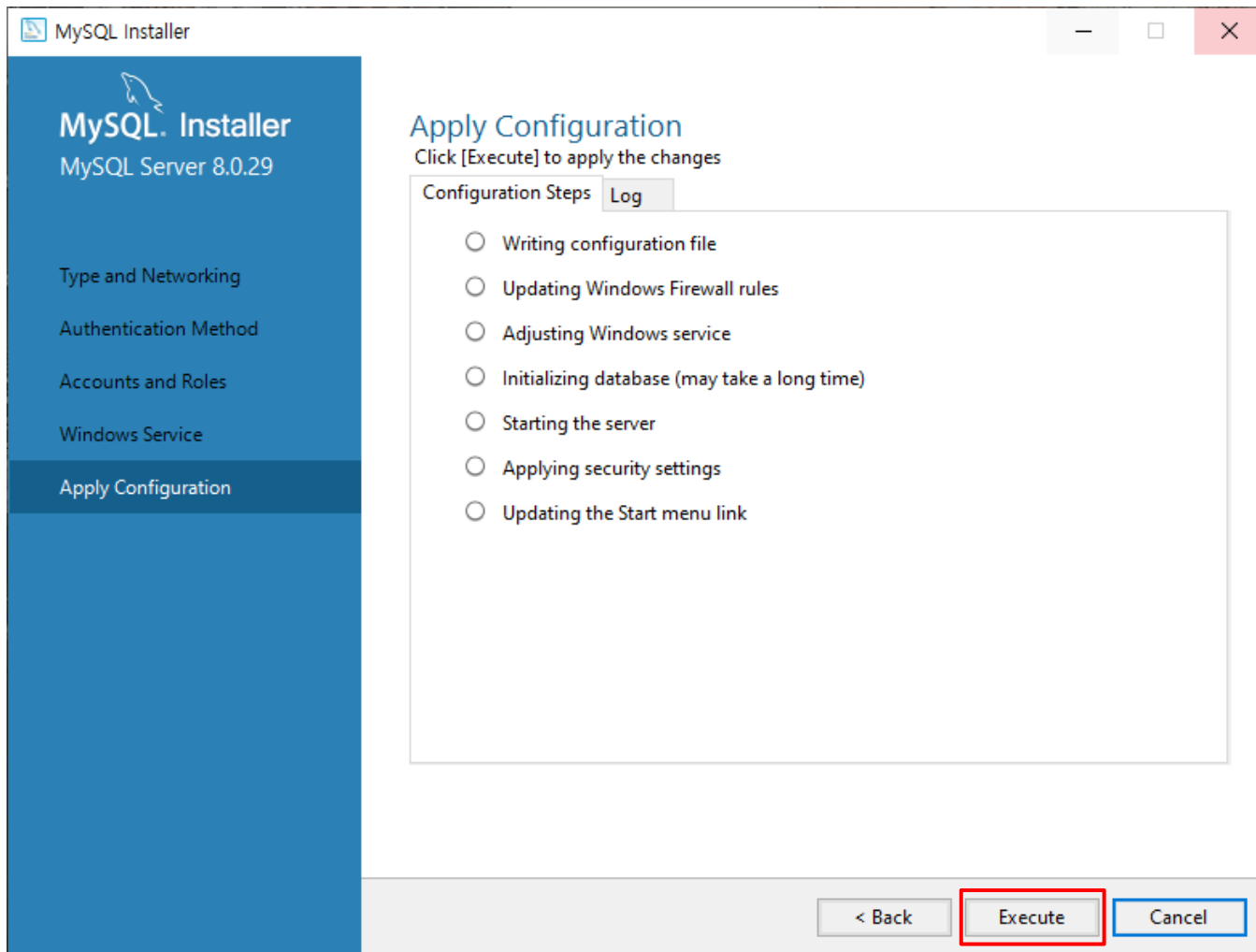
Next >

Cancel

■ Windows Service > Next

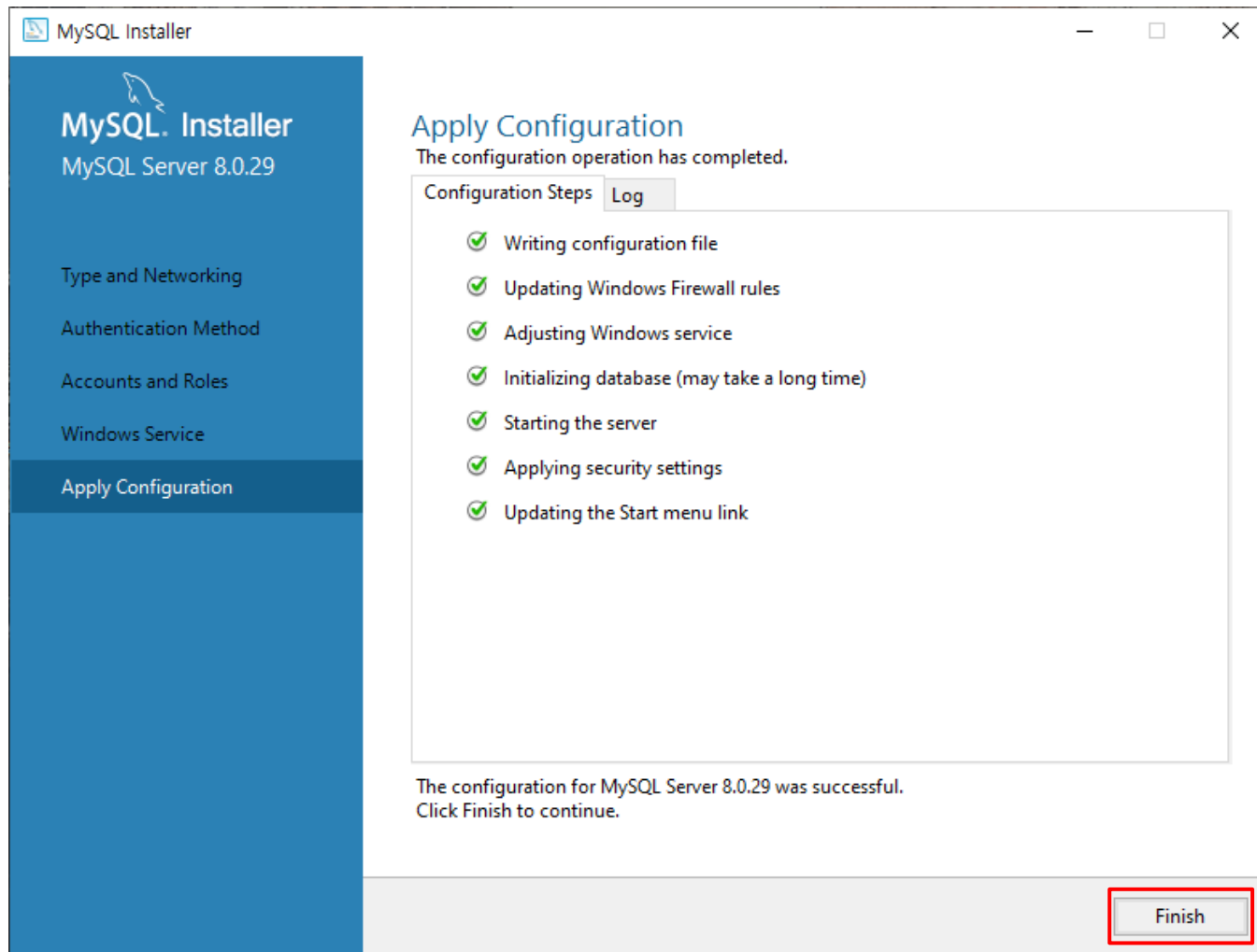


- Apply Configuration: **Execute** 선택



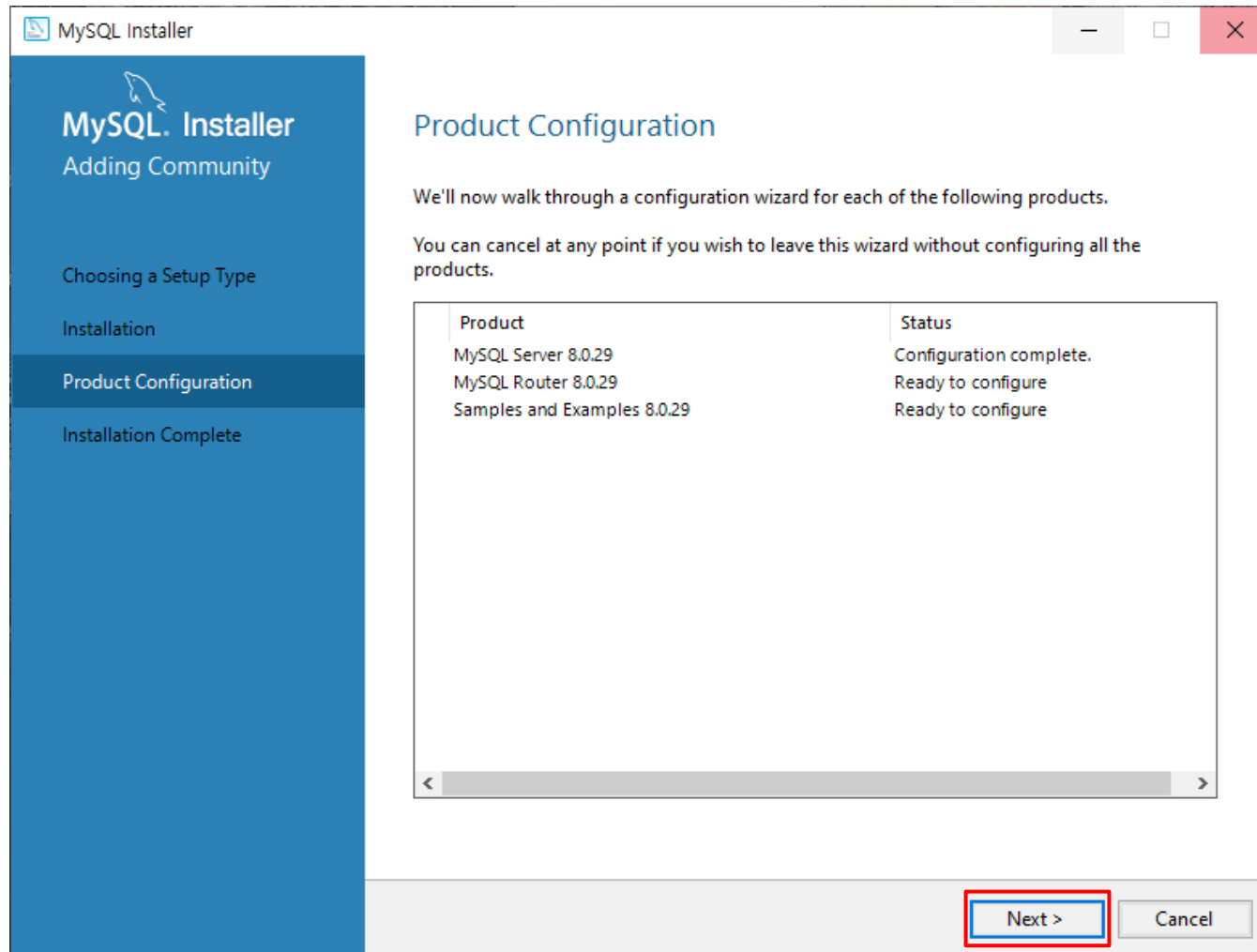
MySQL 설치 #10

- Apply Configuration: **Finish** 선택

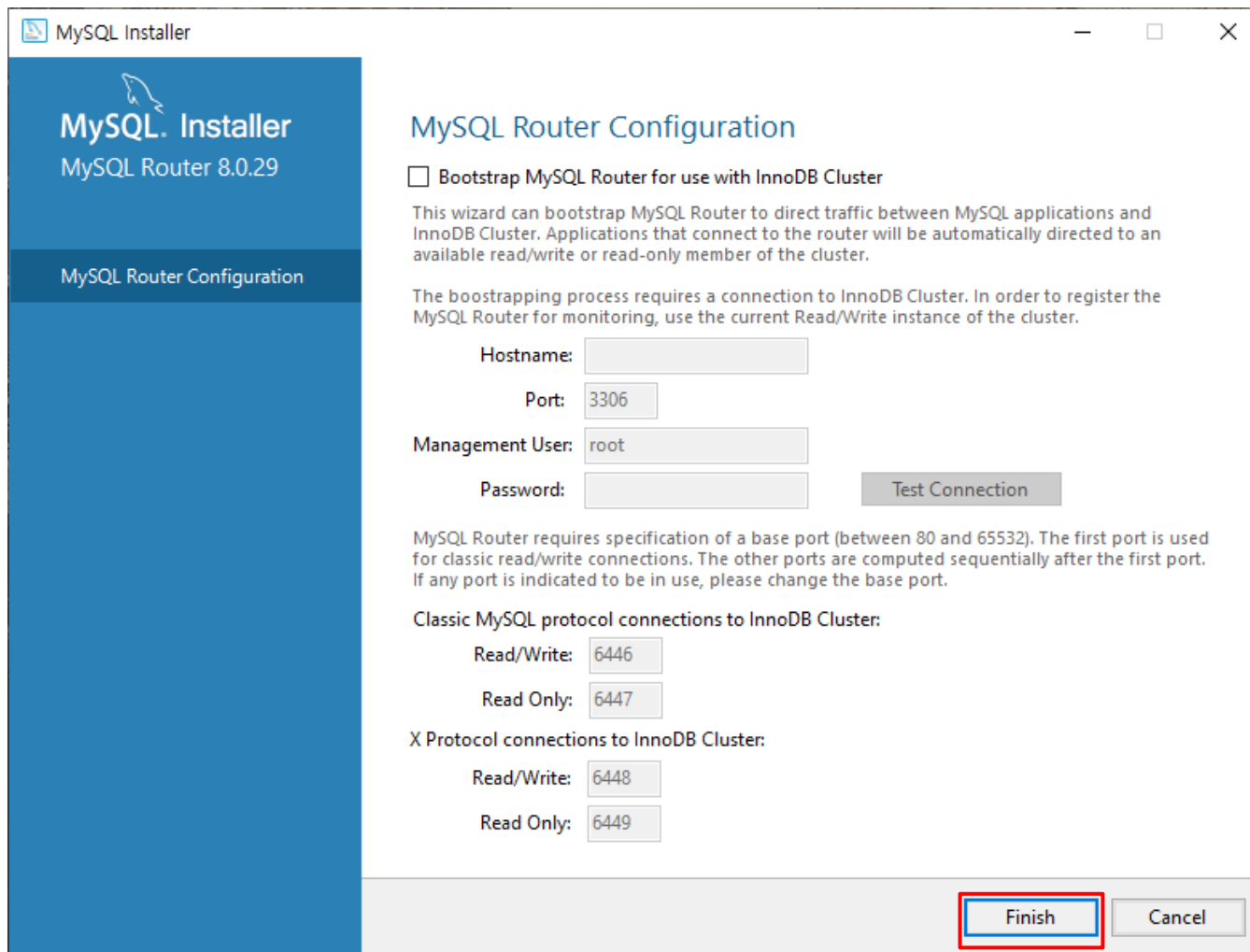


MySQL 설치 #11

■ Product Configuration: Next



■ MySQL Router Configuration: Finish



The image shows the 'MySQL Router Configuration' window from the MySQL Installer. The window has a blue sidebar on the left with the MySQL logo and the text 'MySQL Installer' and 'MySQL Router 8.0.29'. The main area is white and contains the title 'MySQL Router Configuration'. Below the title is a checkbox labeled 'Bootstrap MySQL Router for use with InnoDB Cluster', which is currently unchecked. Below this is a paragraph explaining that the wizard can bootstrap MySQL Router to direct traffic between MySQL applications and InnoDB Cluster. Below that is another paragraph stating that the bootstrapping process requires a connection to InnoDB Cluster. Below these paragraphs are input fields for 'Hostname', 'Port' (set to 3306), 'Management User' (set to root), and 'Password'. To the right of the 'Password' field is a 'Test Connection' button. Below these fields is a paragraph explaining that MySQL Router requires specification of a base port (between 80 and 65532). Below this are two sections: 'Classic MySQL protocol connections to InnoDB Cluster:' with input fields for 'Read/Write' (6446) and 'Read Only' (6447), and 'X Protocol connections to InnoDB Cluster:' with input fields for 'Read/Write' (6448) and 'Read Only' (6449). At the bottom right of the window are 'Finish' and 'Cancel' buttons. The 'Finish' button is highlighted with a red rectangle.

MySQL Installer
MySQL Router 8.0.29

MySQL Router Configuration

☐ Bootstrap MySQL Router for use with InnoDB Cluster

This wizard can bootstrap MySQL Router to direct traffic between MySQL applications and InnoDB Cluster. Applications that connect to the router will be automatically directed to an available read/write or read-only member of the cluster.

The bootstrapping process requires a connection to InnoDB Cluster. In order to register the MySQL Router for monitoring, use the current Read/Write instance of the cluster.

Hostname:

Port:

Management User:

Password:

Test Connection

MySQL Router requires specification of a base port (between 80 and 65532). The first port is used for classic read/write connections. The other ports are computed sequentially after the first port. If any port is indicated to be in use, please change the base port.

Classic MySQL protocol connections to InnoDB Cluster:

Read/Write:

Read Only:

X Protocol connections to InnoDB Cluster:

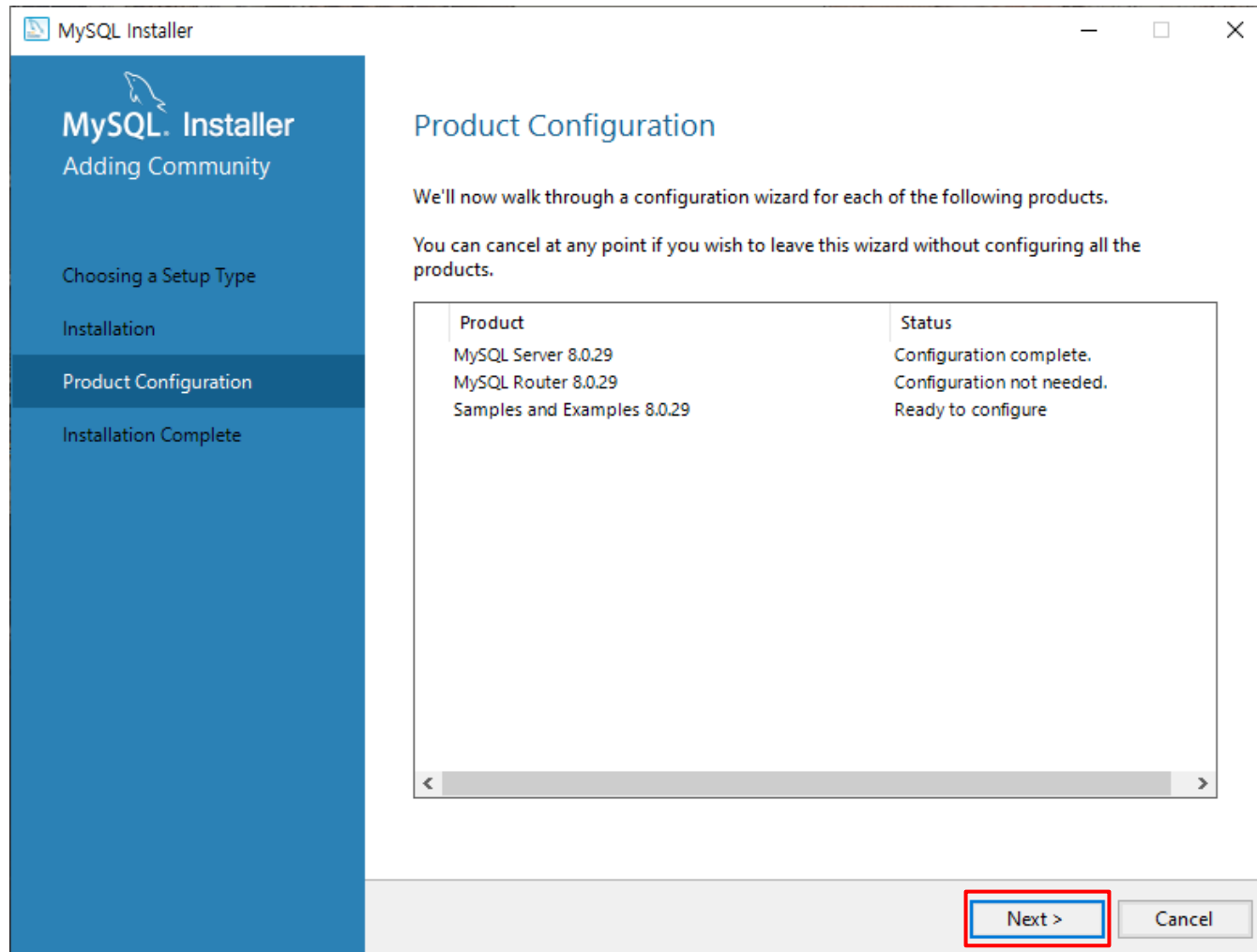
Read/Write:

Read Only:

Finish Cancel

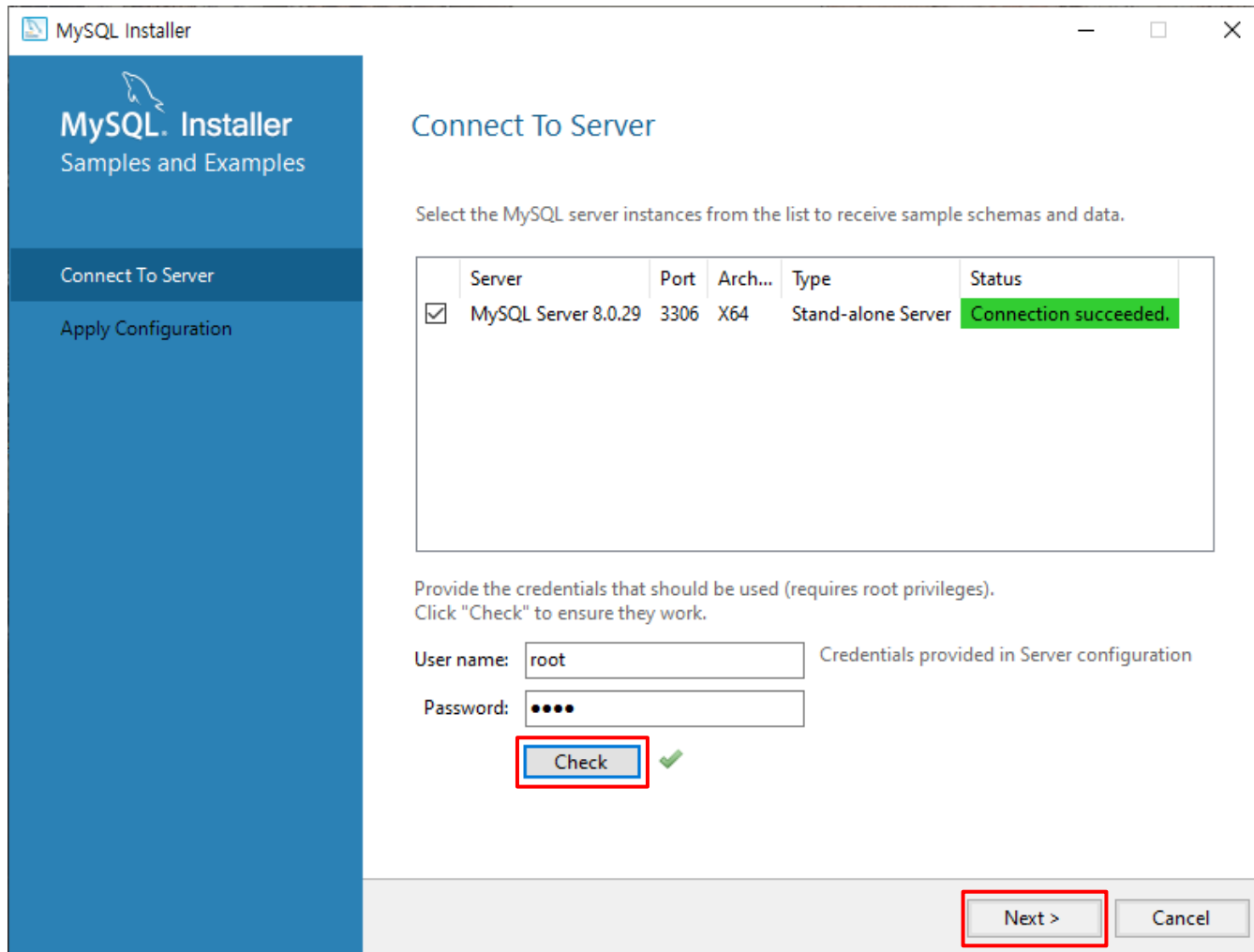
MySQL 설치 #13

■ Product Configuration: Next



MySQL 설치 #14

- connect to Server
 - 앞에서 설정한 패스워드 입력 후 > Check > Finish



The image shows the 'Connect To Server' window of the MySQL Installer. The window has a blue sidebar on the left with the MySQL logo and the text 'MySQL. Installer Samples and Examples'. The main area is white and titled 'Connect To Server'. It contains a table with server instances and a section for providing credentials.

MySQL Installer
Samples and Examples

Connect To Server

Apply Configuration

Connect To Server

Select the MySQL server instances from the list to receive sample schemas and data.

	Server	Port	Arch...	Type	Status
<input checked="" type="checkbox"/>	MySQL Server 8.0.29	3306	X64	Stand-alone Server	Connection succeeded.

Provide the credentials that should be used (requires root privileges).
Click "Check" to ensure they work.

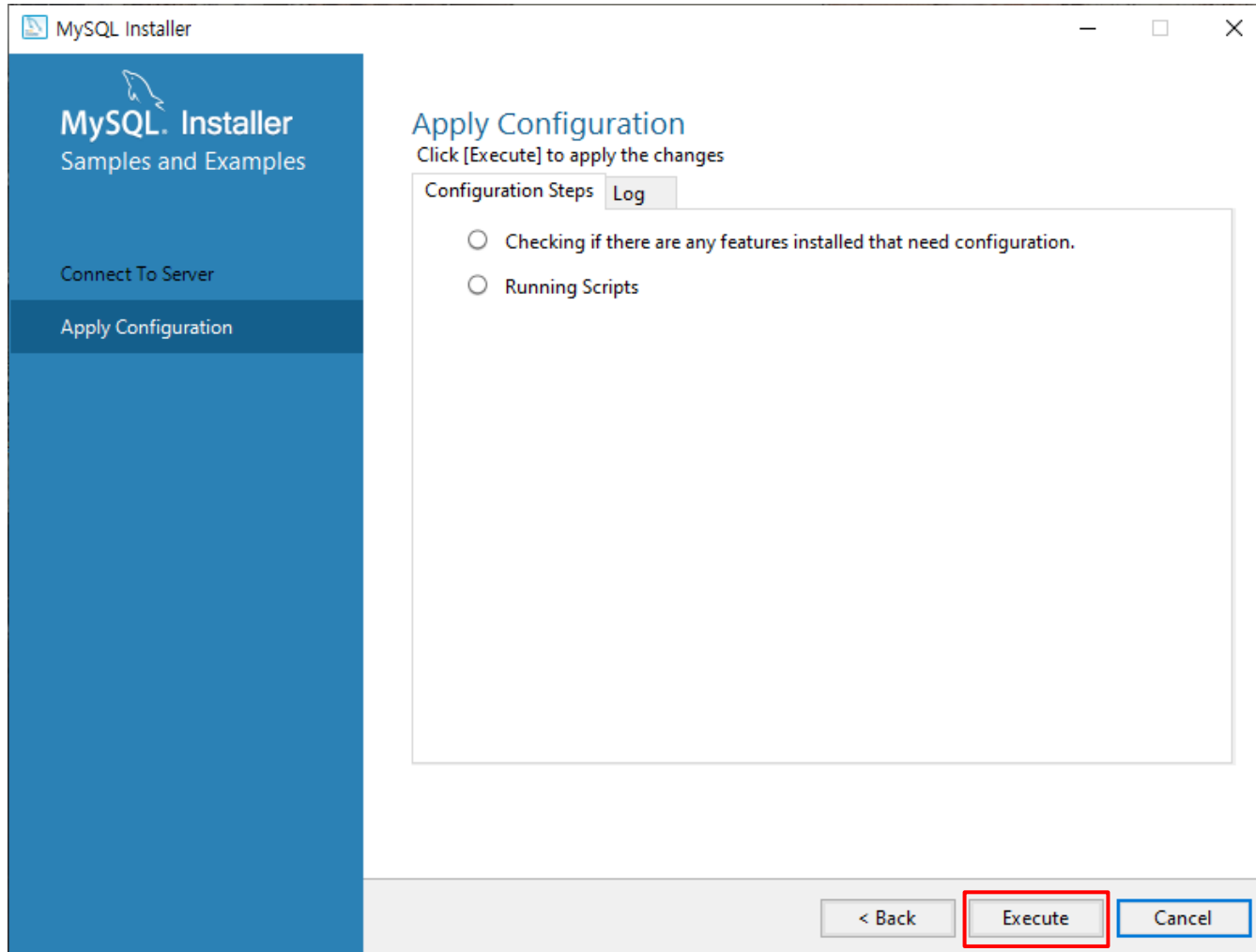
User name: Credentials provided in Server configuration

Password:

✓

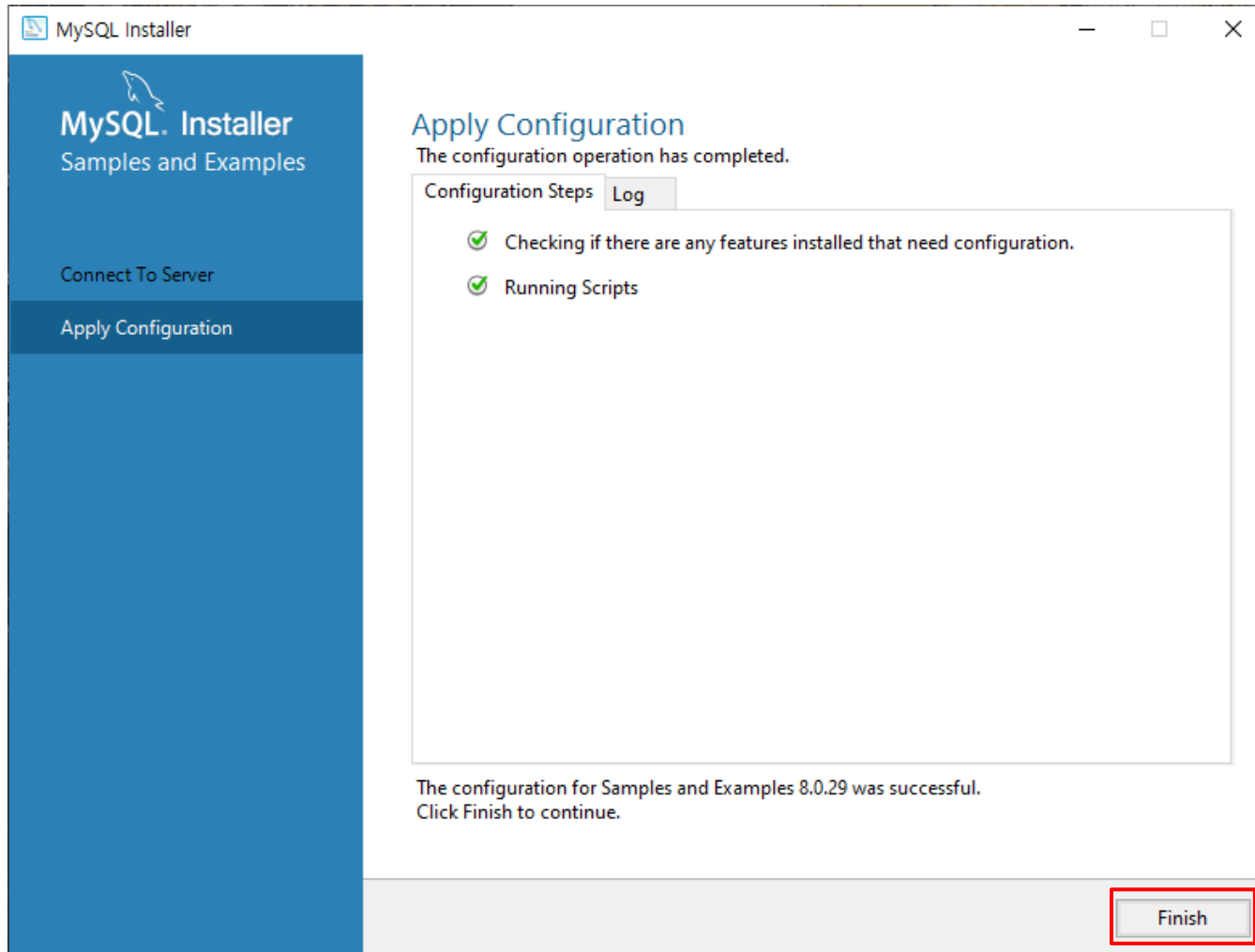
MySQL 설치 #15

- Apply Configuration
 - Execute 버튼



MySQL 설치 #16

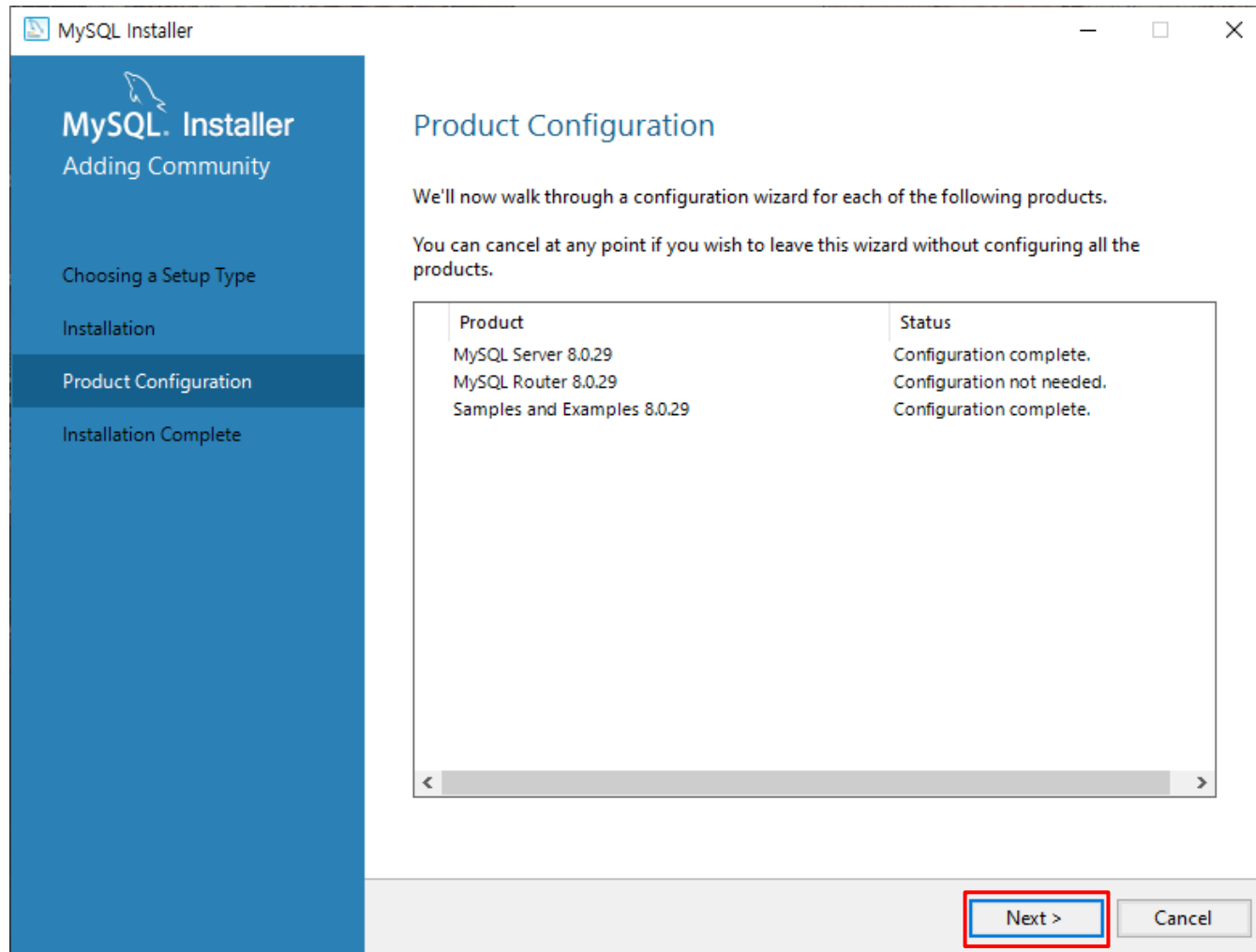
- Apply Configuration
 - Finish 버튼



MySQL 설치 #17

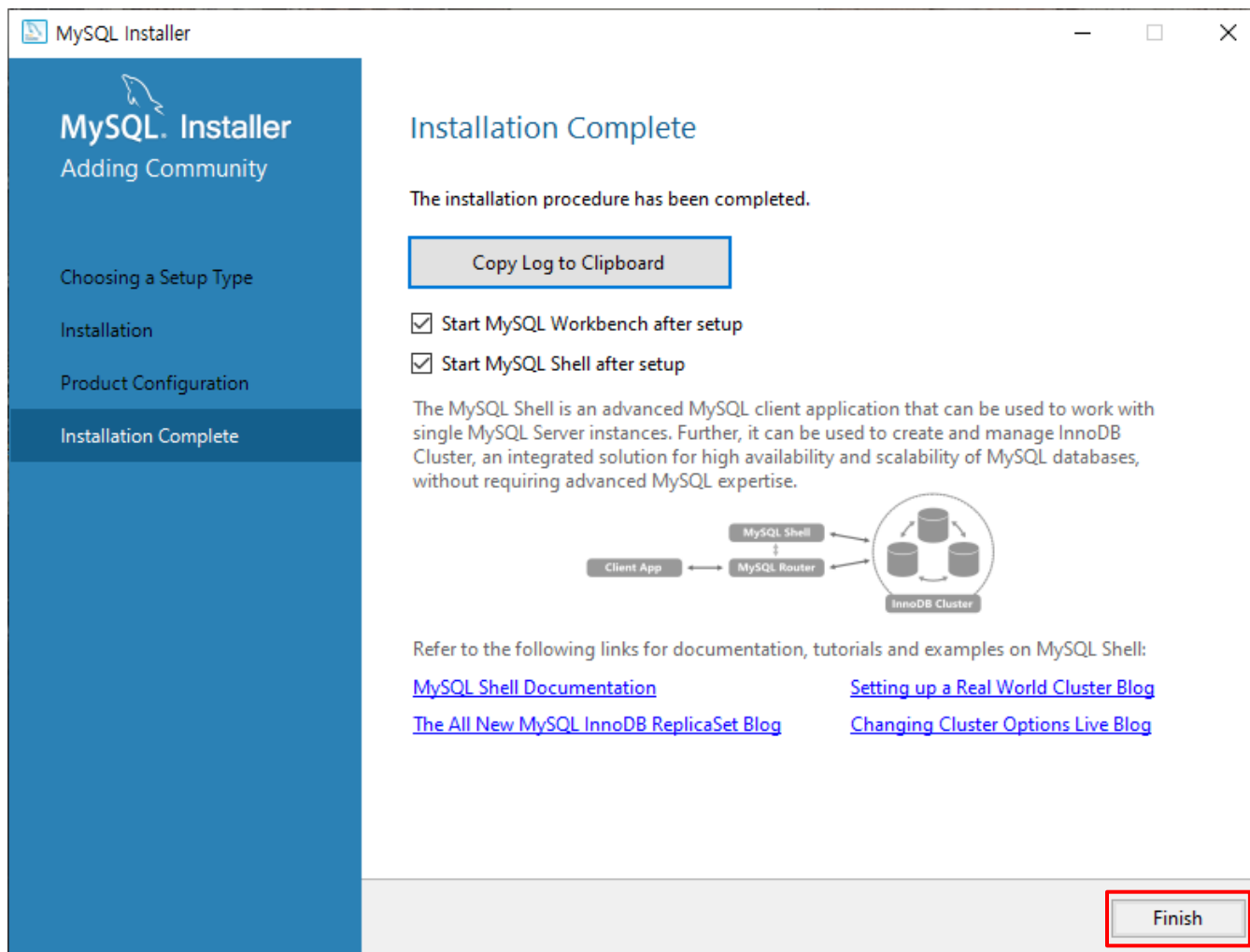
■ Product Configuration

■ Next 버튼



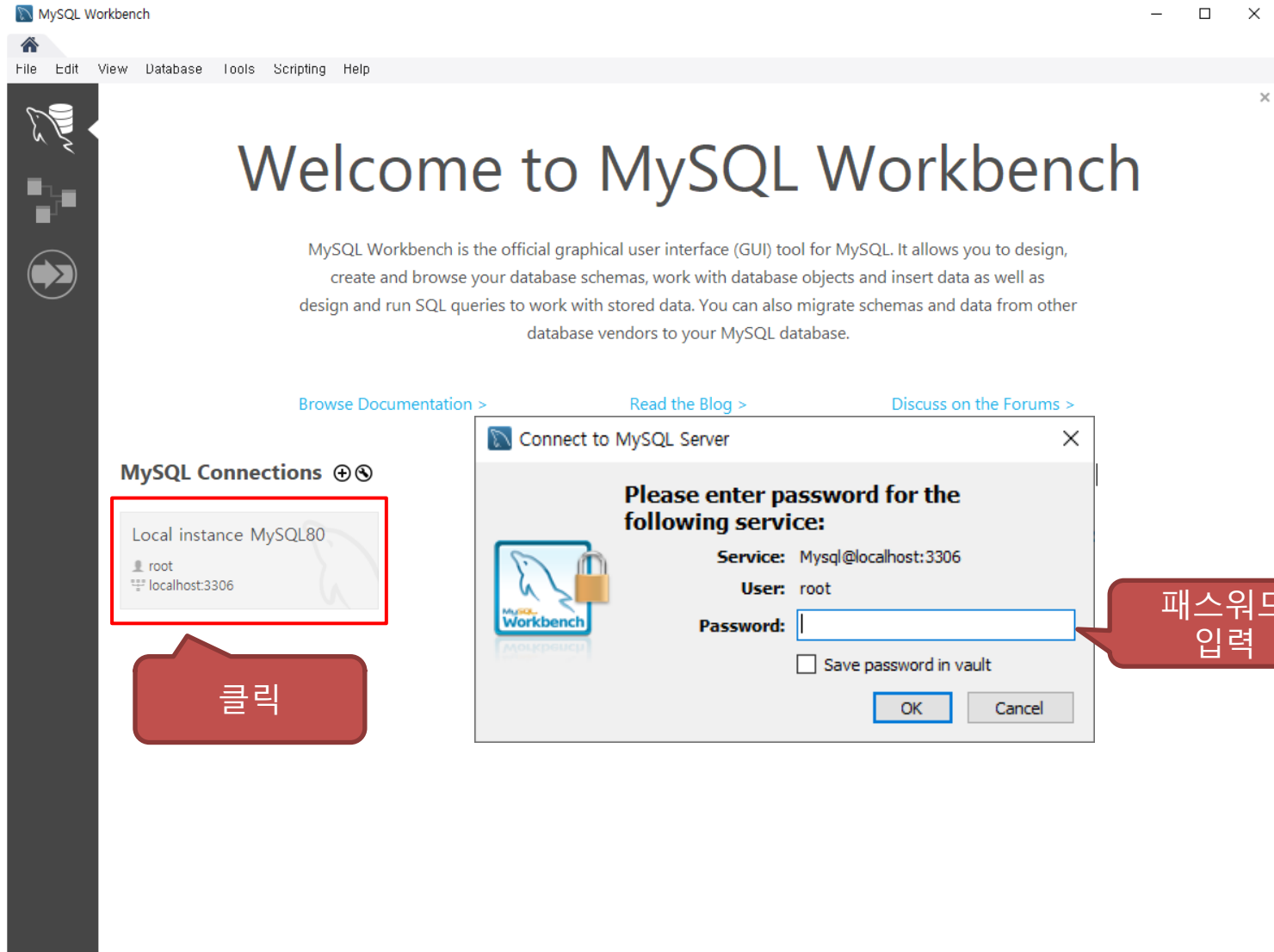
MySQL 설치 #18

- Installation Complete
 - Finish 버튼



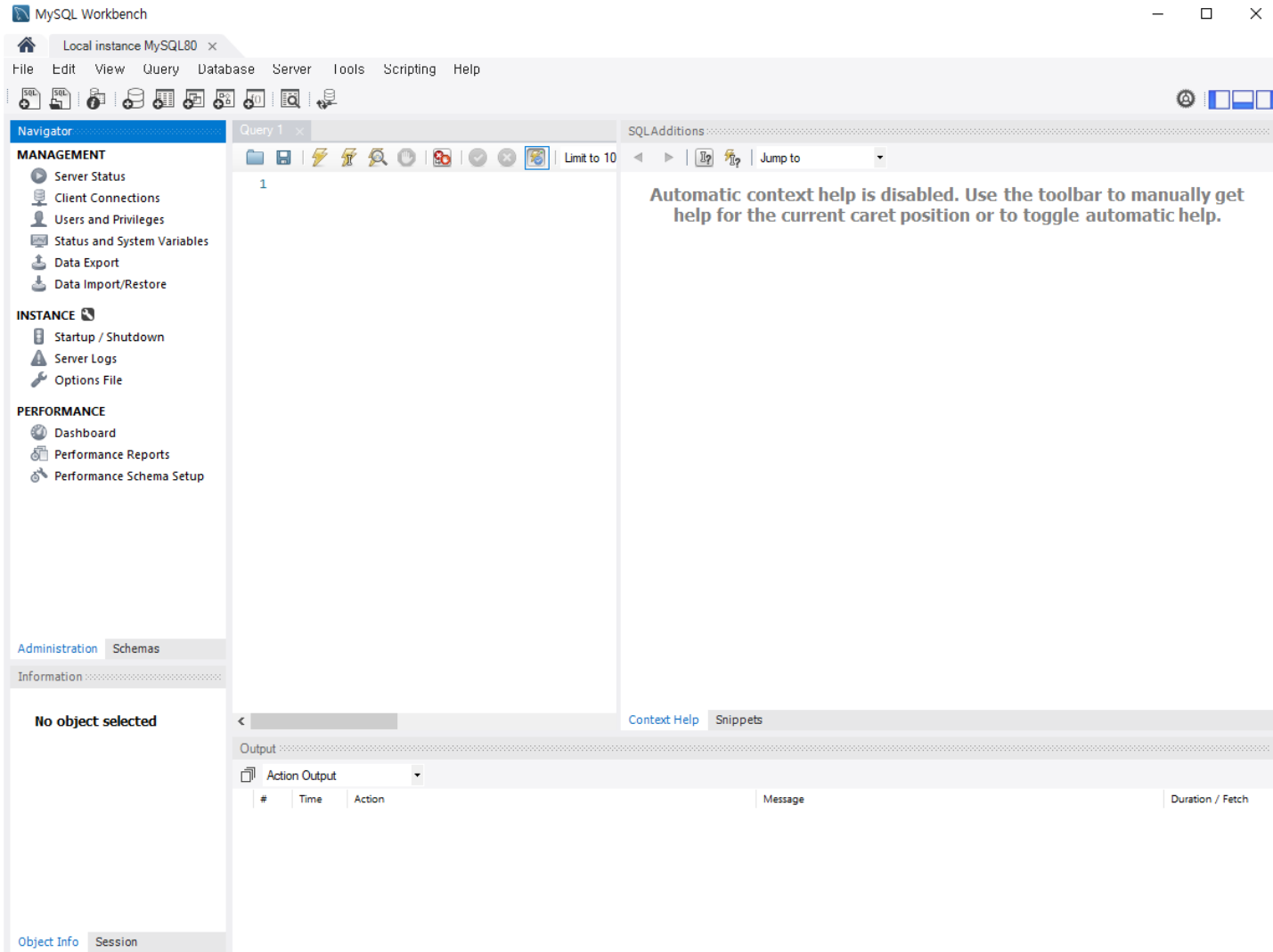
MySQL 설치 #19

■ MySQL Workbench 시작



MySQL Workbench 초기 화면

■ 초기 화면



MySQL 접속 및 데이터베이스 확인 #1

- root 계정으로 접속하기

```
mysql -uroot -p
```

- 샘플 데이터베이스 확인

```
mysql> show databases;
```

```
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sakila |  
| sys |  
+-----+  
4 rows in set (0.02 sec)
```

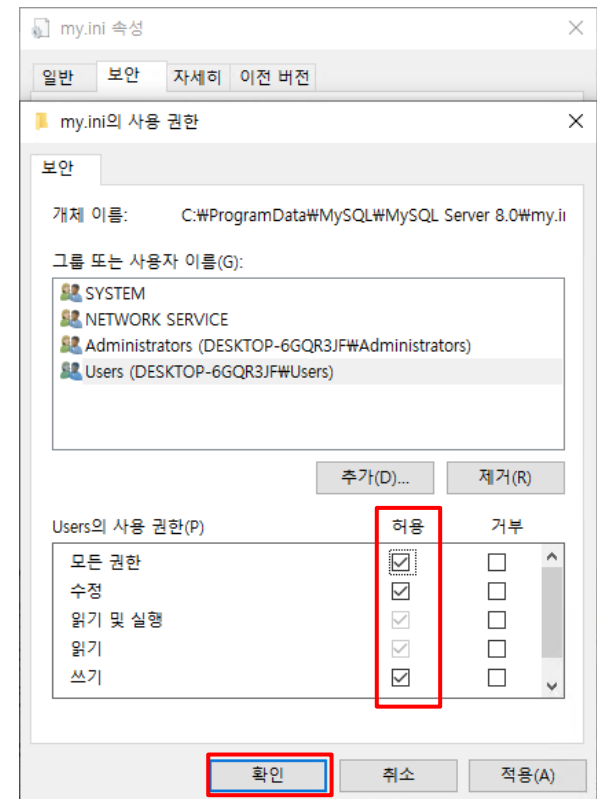
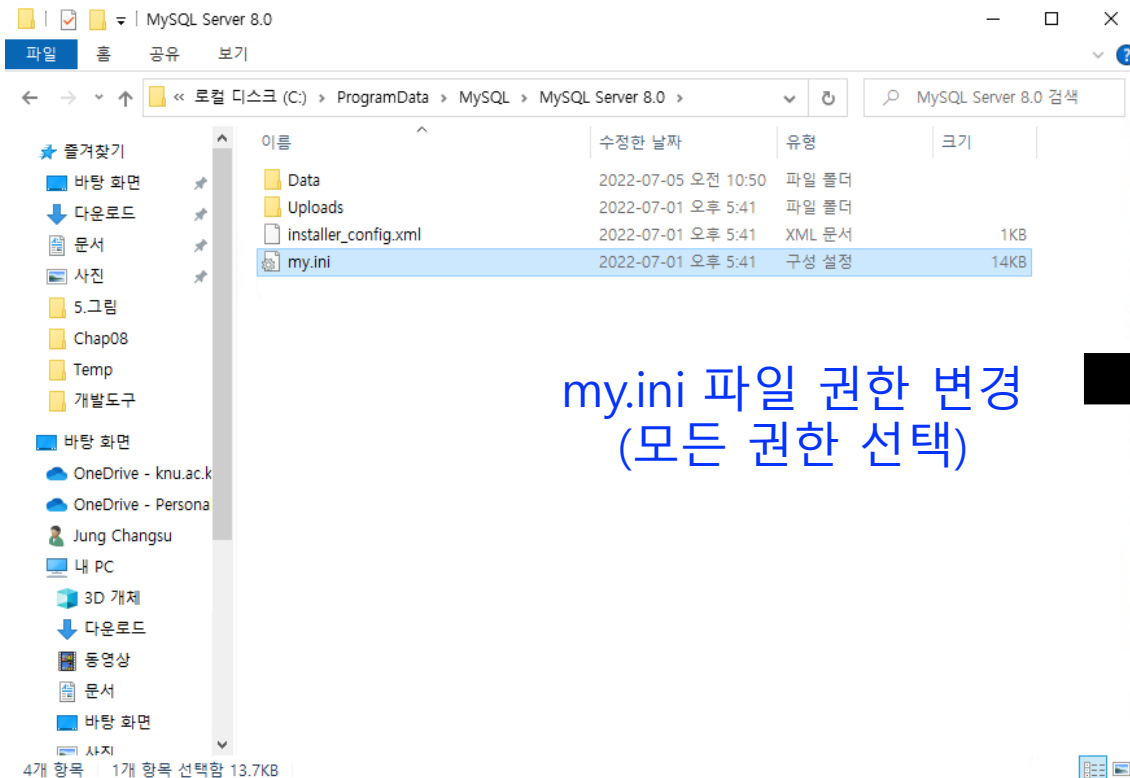
sakila 데이터베이스
확인

- MySQL 종료

```
mysql> quit
```

MySQL UTF-8 설정 #1

- **my.ini** 파일 권한 변경
 - Windows 10 기준 파일 경로:
 - C:\ProgramData\MySQL\MySQL Server 8.0



MySQL UTF-8 설정 #2

- my.ini 파일 수정
 - 맨 아래 부분에 아래 내용 추가

```
[client]
default-character-set=utf8mb4

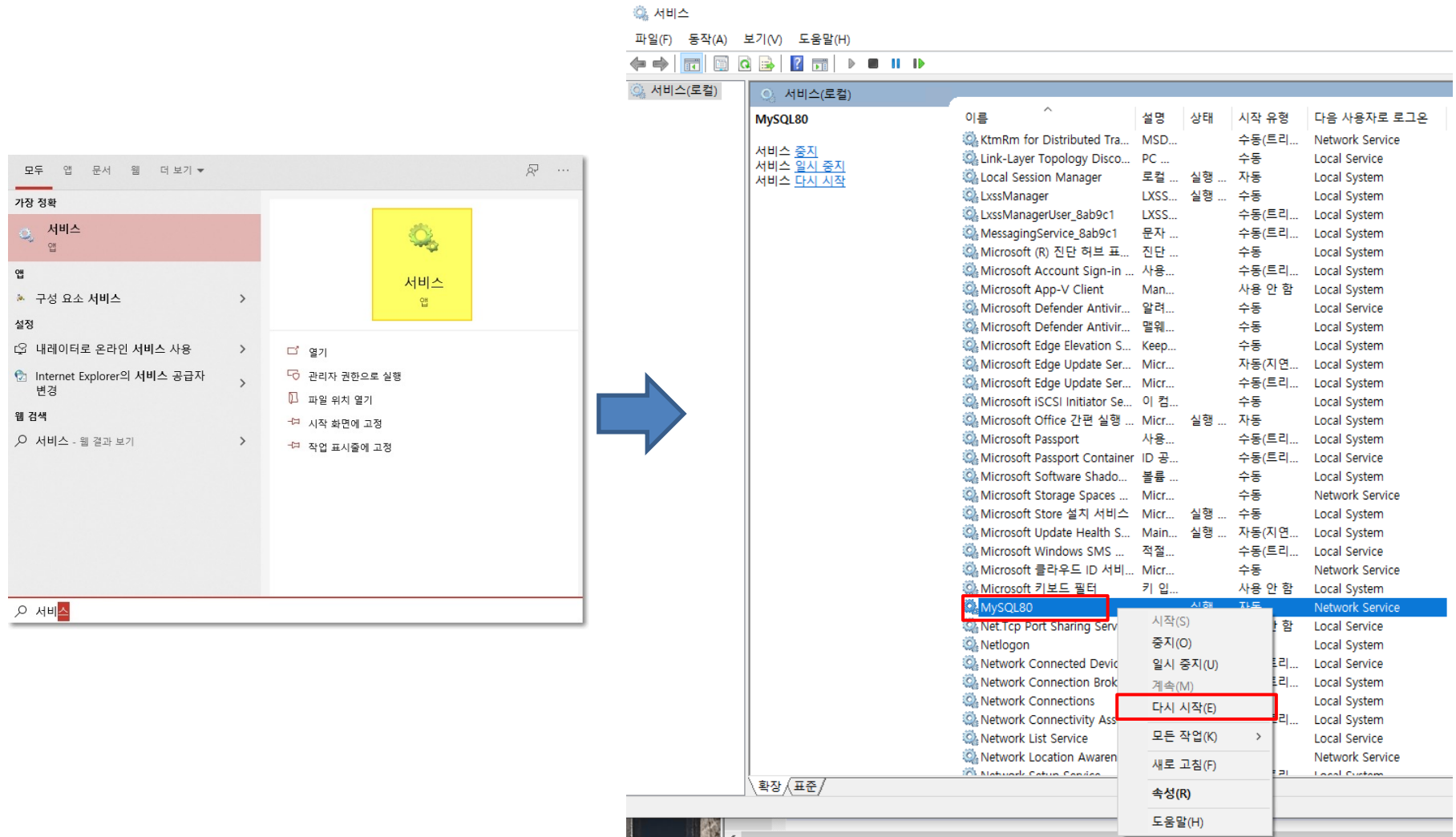
[mysqld]
character-set-server = utf8mb4
collation-server=utf8mb4_unicode_ci
skip-character-set-client-handshake

[mysql]
default-character-set=utf8mb4

[mysqldump]
default-character-set=utf8mb4
```

MySQL 재시작

- 서비스 앱 실행 > MySQL80을 찾아서 다시 시작 선택



MySQL UTF-8 설정 확인

■ 전역 변수 내용 확인

```
show global variables like 'c%';
```

Variable_name	Value
caching_sha2_password_auto_generate_rsa_keys	ON
caching_sha2_password_digest_rounds	5000
caching_sha2_password_private_key_path	private_key.pem
caching_sha2_password_public_key_path	public_key.pem
character_set_client	utf8mb4
character_set_connection	utf8mb4
character_set_database	utf8mb4
character_set_filesystem	binary
character_set_results	utf8mb4
character_set_server	utf8mb4
character_set_system	utf8mb3
character_sets_dir	C:\Program Files\MySQL\MySQL Server 8.0\
check_proxy_users	OFF
collation_connection	utf8mb4_unicode_ci
collation_database	utf8mb4_unicode_ci
collation_server	utf8mb4_unicode_ci
completion_type	NO_CHAIN
concurrent_insert	AUTO
connect_timeout	10
connection_memory_chunk_size	8912
connection_memory_limit	18446744073709551615
core_file	OFF
create_admin_listener_thread	OFF
cte_max_recursion_depth	1000

데이터베이스 생성

■ 데이터베이스 생성

```
mysql> create DATABASE 데이터베이스이름;
```

■ 생성할 데이터베이스 이름 입력: sqlclass_db

```
mysql> create DATABASE sqlclass_db;
```

. . .

```
mysql> show databases;
```

```
+-----+
| Database |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| sakila         |
| sqlclass_db    |
| sys           |
+-----+
6 rows in set (0.00 sec)
```

sqlclass_db
데이터베이스 생성 확인

```
mysql>
```

데이터베이스 삭제

■ 데이터베이스 삭제

```
mysql> DROP DATABASE 데이터베이스이름;
```

■ sqlclass_db 데이터베이스 삭제

```
mysql> drop database sqlclass_db;  
Query OK, 0 rows affected (0.01 sec)
```

■ 데이터베이스 삭제 확인

```
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sakila |  
| sys |  
+-----+  
5 rows in set (0.00 sec)
```

사용자 추가

■ MySQL 사용자 조회 (현재 root 사용자만 존재)

```
mysql> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select user, host from user;
+-----+-----+
| user          | host          |
+-----+-----+
| mysql.infoschema | localhost    |
| mysql.session   | localhost    |
| mysql.sys       | localhost    |
| root           | localhost    |
+-----+-----+
4 rows in set (0.00 sec)
```

■ mysql 데이터베이스

- root 관리자만 사용할 수 있는 데이터베이스
- **user 테이블**: 사용자의 ID와 password 저장
- **db 테이블**: 사용자의 ID와 그 사용자가 이용할 데이터베이스를 지정

사용자 추가

■ 사용자 추가

```
mysql> create user '사용자ID'@'%' identified by '비밀번호';
```

- 작은 따옴표 포함해야 됨

■ 새로운 ID 생성 및 패스워드 설정

- id: test, password: test1234
- '%' : 모든 IP주소에서 접속 가능

```
mysql> create user 'test'@'%' identified by 'test1234';  
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> select user, host from user;
```

user	host
test	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost

새로운 사용자(test) 추가 확인

localhost: 자신의 컴퓨터

```
5 rows in set (0.00 sec)
```

외부 접속 허용

■ 외부 접속 허용

- 모든 IP주소에서 접근 가능하도록 설정

```
mysql> grant all privileges on *.* to '사용자ID'@'%';  
mysql> grant grant option on *.* to '사용자ID'@'%';
```

- 작은 따옴표 포함해야 됨

```
mysql> grant all privileges on *.* to 'test'@'%';  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> grant grant option on *.* to 'test'@'%';  
Query OK, 0 rows affected (0.00 sec)
```

- 새롭게 생성한 ID(test)에 모든 데이터베이스 접근 권한 및 외부 IP에서 접속 허용

■ 변경 사항 적용

```
mysql> flush privileges;  
Query OK, 0 rows affected (0.01 sec)
```

비밀번호 변경 및 변경 사항 적용

■ 비밀번호 변경 (8.x 이상)

```
ALTER USER '사용자ID'@'localhost' IDENTIFIED BY '새비밀번호';
```

```
mysql> alter user 'test'@'%' identified by 'test1111';  
Query OK, 0 rows affected (0.01 sec)
```

■ 변경 사항 적용

```
mysql> flush privileges;  
Query OK, 0 rows affected (0.01 sec)
```

■ 사용자 삭제 및 변경 사항 적용

```
DROP USER '사용자ID'@'%';
```

```
mysql> drop user 'test'@'%';  
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> flush privileges;  
Query OK, 0 rows affected (0.01 sec)
```

데이터베이스 사용

■ 새로운 사용자로 접속

```
$ mysql -u 사용자ID -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
```

■ 사용할 데이터베이스 선택

```
mysql> use 데이터베이스이름;
```

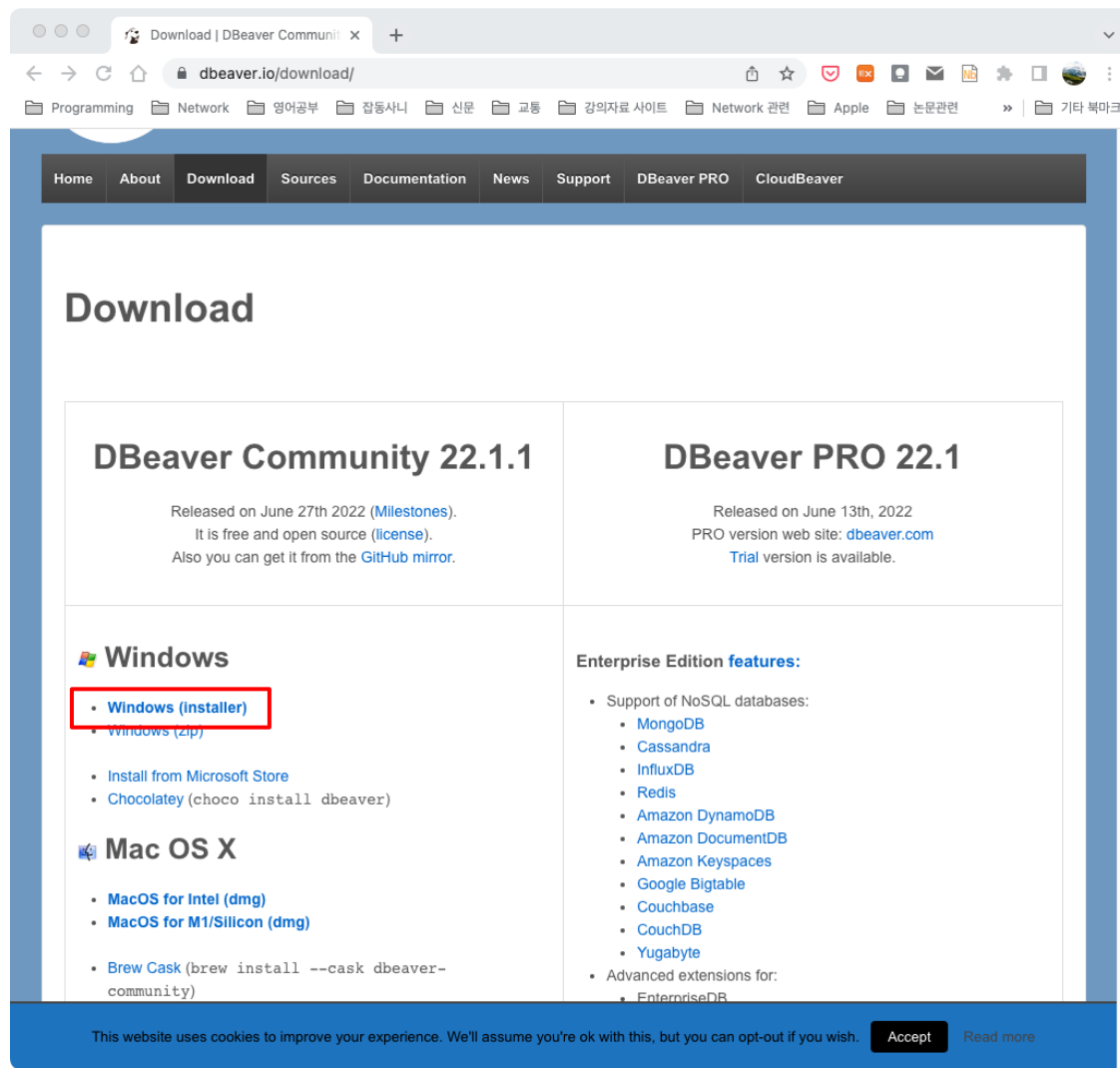
```
mysql> use sqlclass_db;
Database changed
```

■ 현재 사용하는 데이터베이스 확인

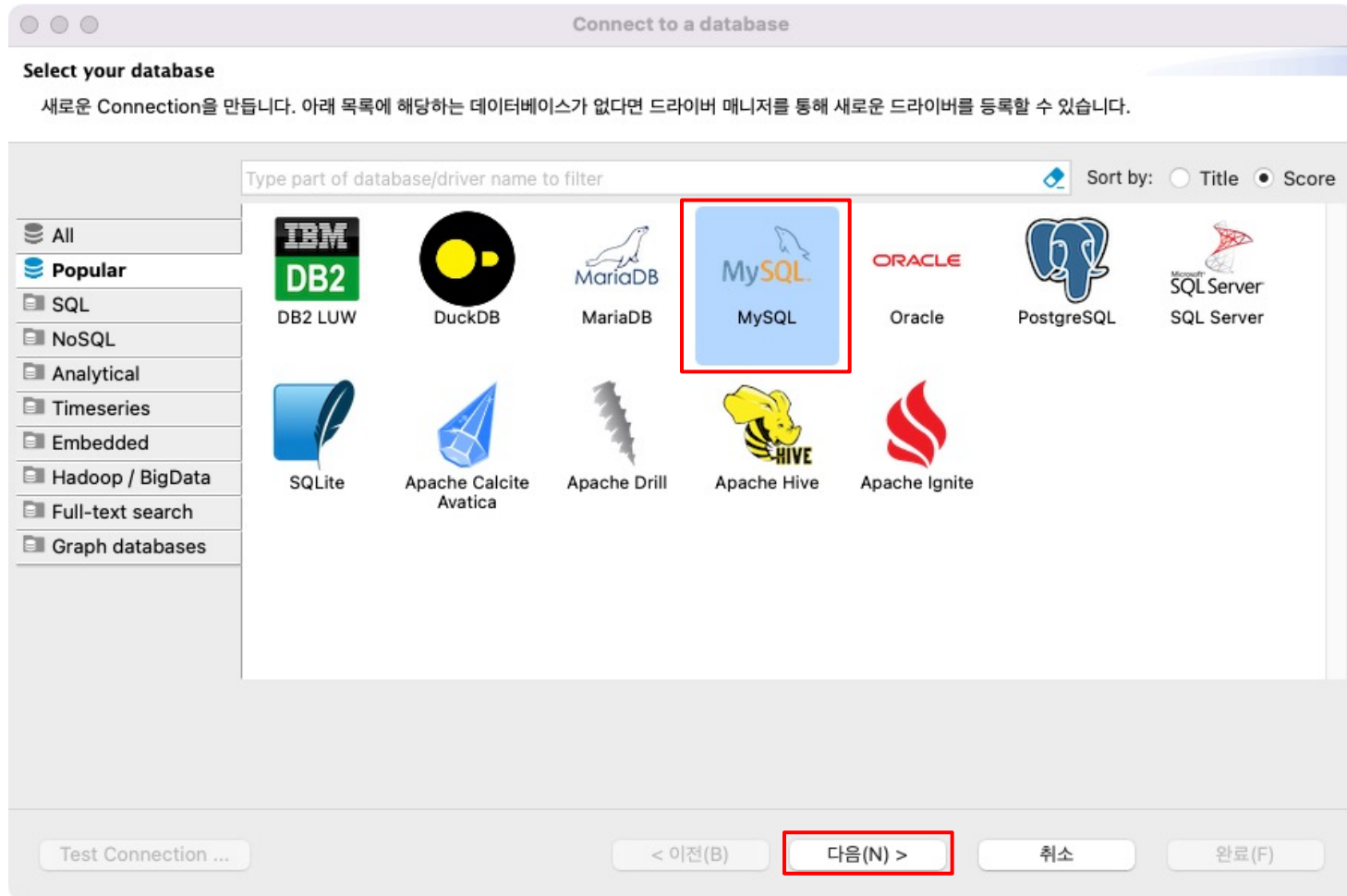
```
mysql> select database();
+-----+
| database() |
+-----+
| sqlclass_db |
+-----+
1 row in set (0.00 sec)
```

MySQL 클라이언트 설치: DBeaver

- Dbeaver: <https://dbeaver.io/category/releases/>
 - Windows, Mac 모두 사용 가능 (Open source)



■ MySQL 연결



MySQL 연결

■ Server Host

- 본인의 컴퓨터에 연결: `localhost`
- 다른 컴퓨터에 설치된 MySQL 연결: 해당 컴퓨터의 IP 주소 입력

Connect to a database

Connection Settings
MySQL connection settings

MySQL

Main Driver properties SSH Proxy SSL

Server

Server Host: localhost Port: 3306

Database:

Authentication (Database Native)

Username: root

Password: ☒ Save password locally

Advanced

Server Time Zone: Auto-detect

Local Client: <not set>

MySQL 설치 과정에서 설정한 Password 입력

① You can use variables in connection parameters.

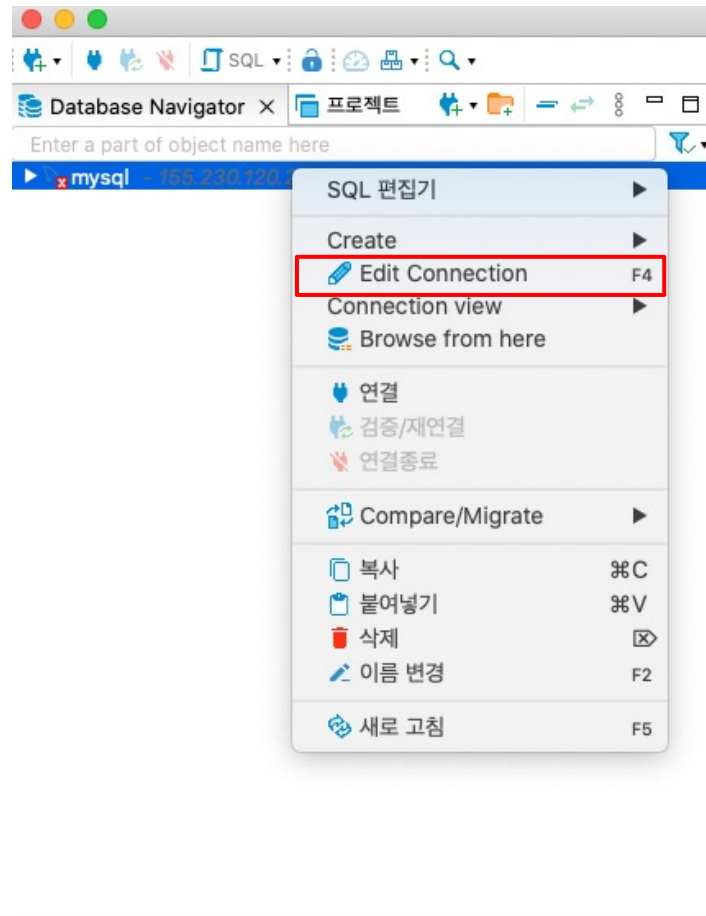
Connection details (name, type, ...)

Driver name: MySQL Edit Driver Settings

Test Connection ... < 이전(B) 다음(N) > 취소 완료(F)

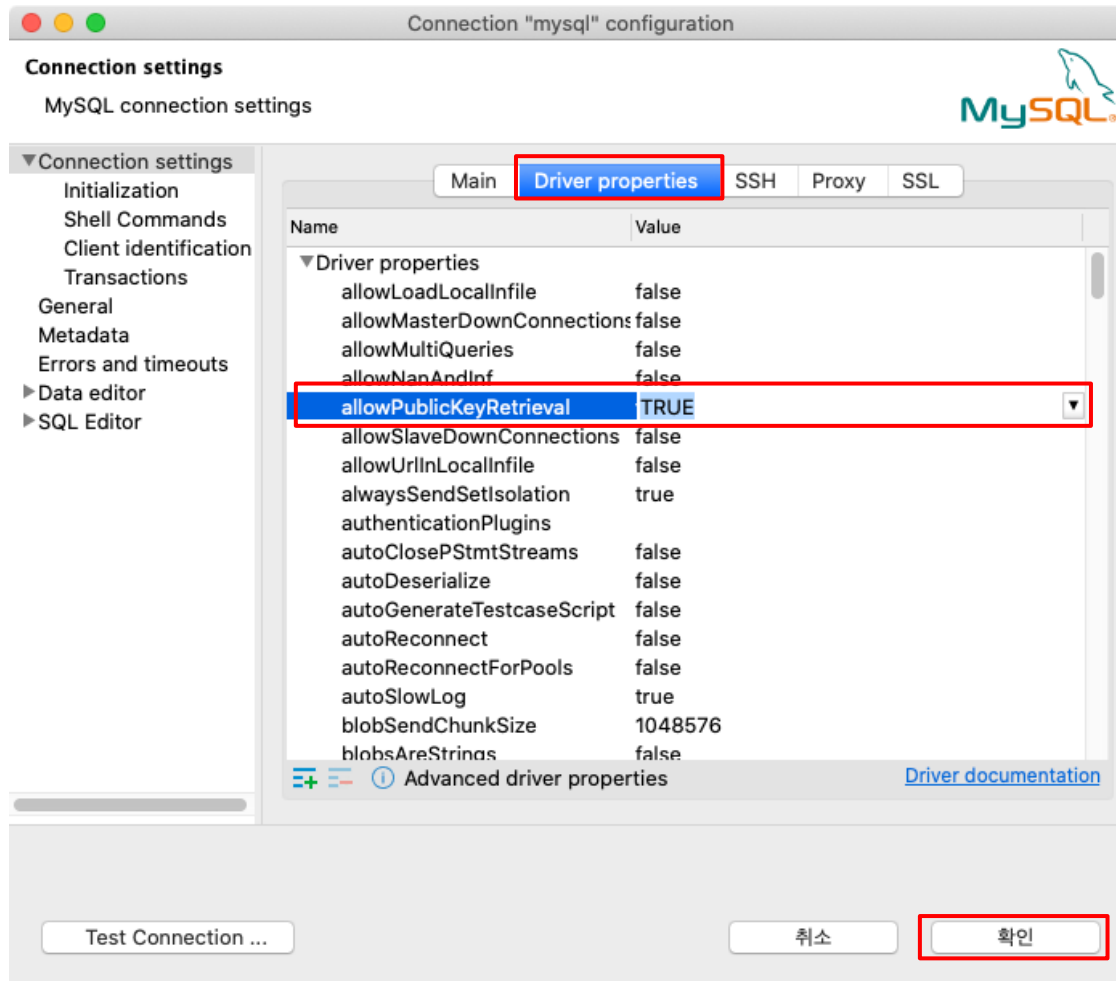
Pulbic Key Retrieval Error 해결 #1

- DBeaver 설정 변경
 - Edit Connection 메뉴 선택



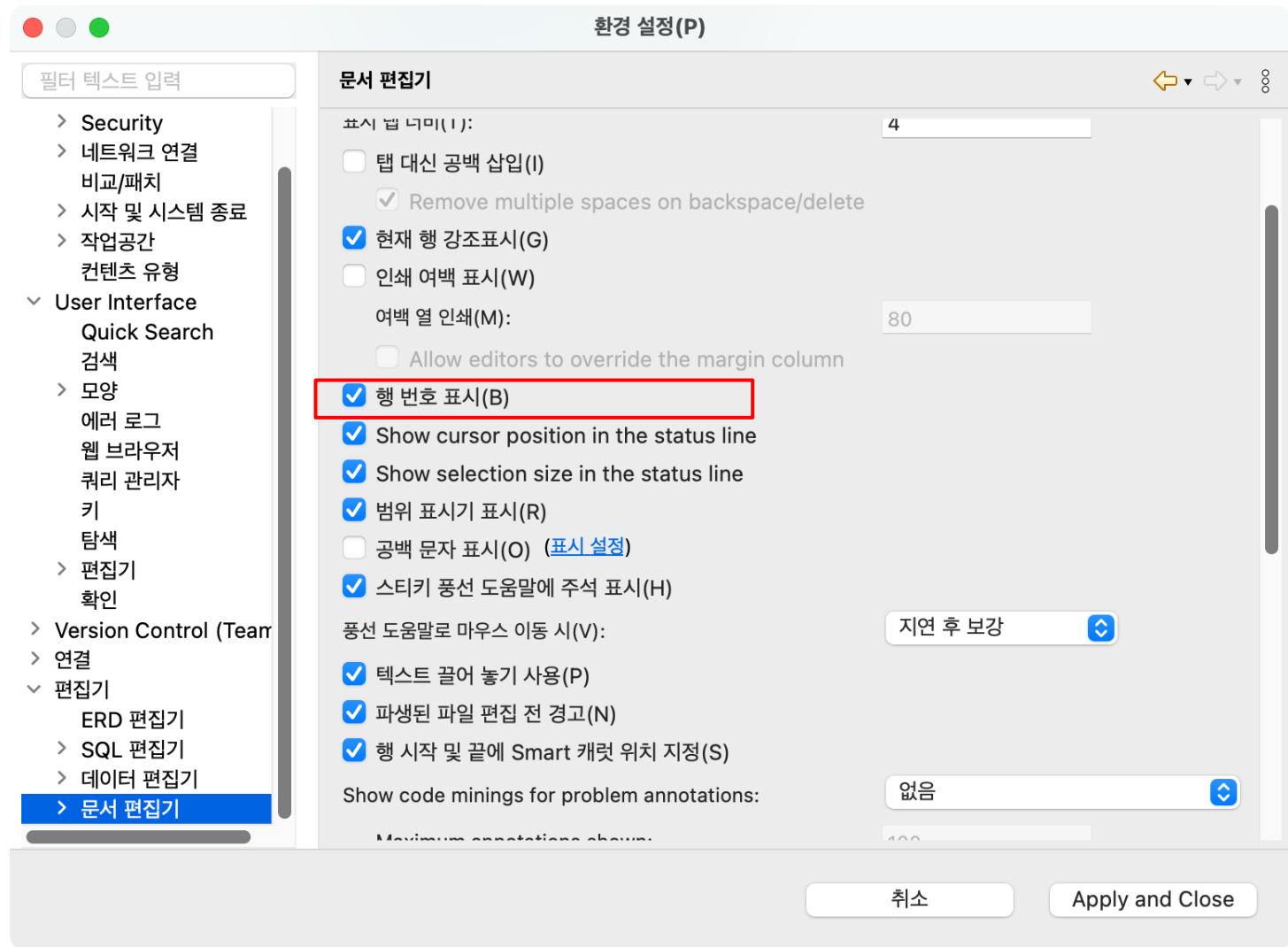
Pulbic Key Retrieval Error 해결 #2

- Driver properties 탭 선택
 - allowPublicKeyRetrieval 값을 TRUE로 변경



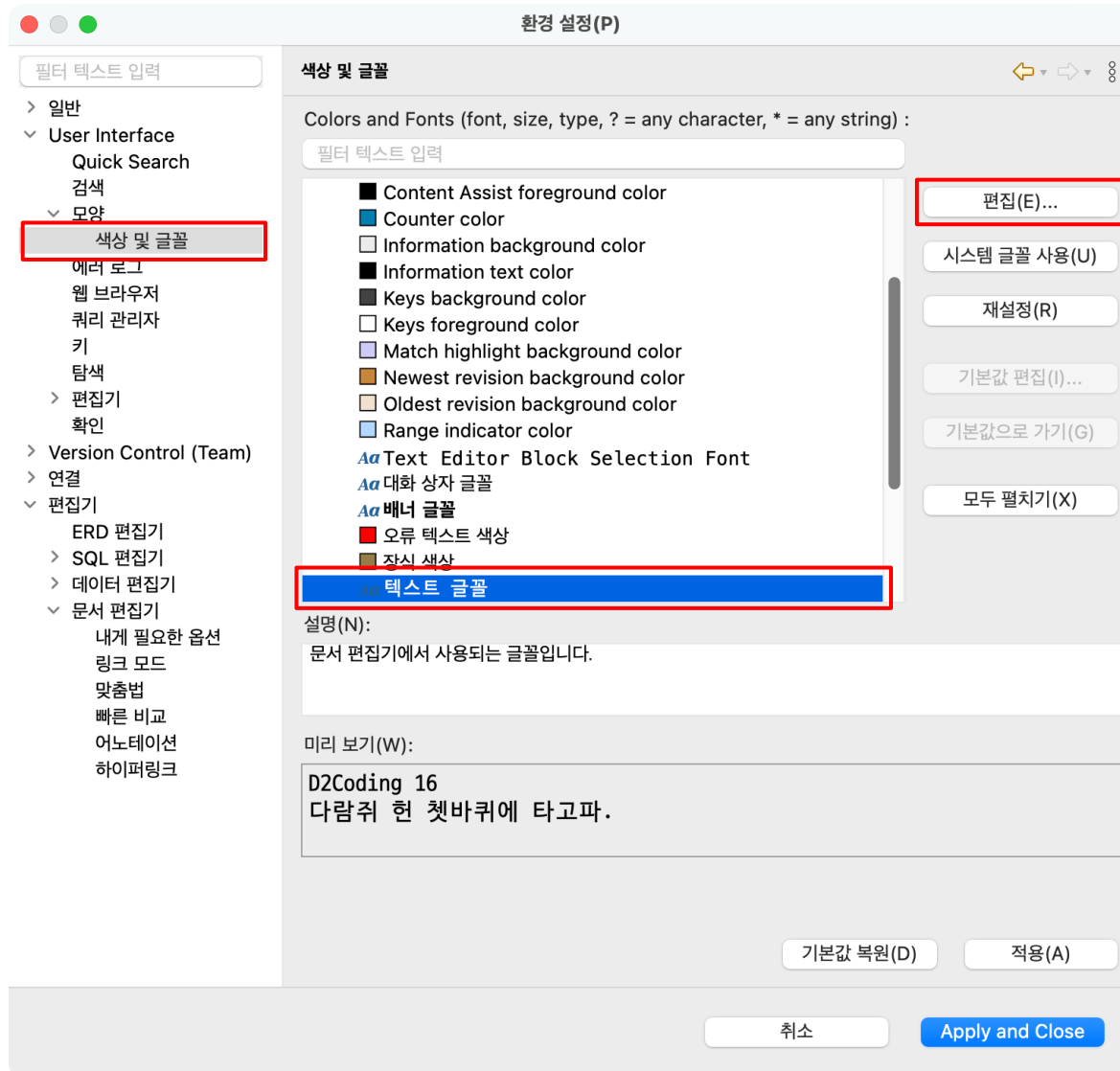
DBeaver 설정: SQL 편집기 줄 번호 표시

■ 환경 설정 > 문서 편집기 > 행 번호 표시



DBeaver 설정: 폰트 변경

■ 환경 설정 > 모양 > 색상 및 글꼴





Questions?