

〈1주차 실습〉

MySQL 설치 및 실습

Database Programming



MySQL 설치



MySQL 실행

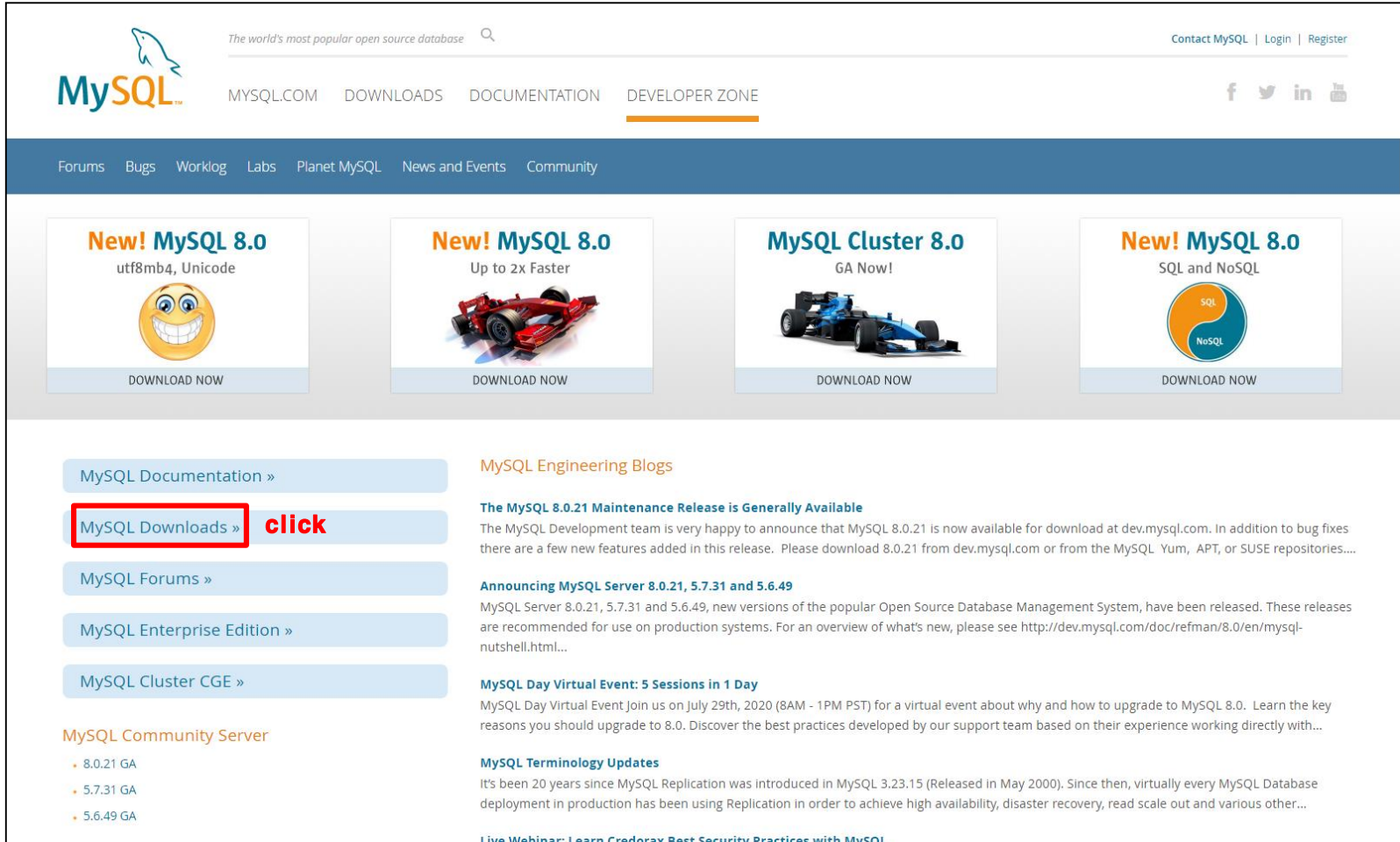


데이터베이스 생성 및 사용



MySQL 기타 명령어

- 1) “https://dev.mysql.com/” 사이트에 접속
- 2) “MySQL Download” 클릭



The screenshot shows the MySQL Developer Zone website. The top navigation bar includes links for MySQL.COM, DOWNLOADS, DOCUMENTATION, and DEVELOPER ZONE. The DEVELOPER ZONE link is highlighted. Below the navigation bar, there are four promotional cards for MySQL 8.0, MySQL Cluster 8.0, and MySQL 8.0 SQL and NoSQL. The left sidebar contains a list of links: MySQL Documentation, MySQL Downloads (highlighted with a red box and labeled 'click'), MySQL Forums, MySQL Enterprise Edition, and MySQL Cluster CGE. The main content area features several articles under the heading 'MySQL Engineering Blogs', including 'The MySQL 8.0.21 Maintenance Release is Generally Available', 'Announcing MySQL Server 8.0.21, 5.7.31 and 5.6.49', 'MySQL Day Virtual Event: 5 Sessions in 1 Day', 'MySQL Terminology Updates', and 'Live Webinar: Learn Credorax Best Security Practices with MySQL'.

MySQL Documentation »

MySQL Downloads » click

MySQL Forums »

MySQL Enterprise Edition »

MySQL Cluster CGE »

MySQL Community Server

- 8.0.21 GA
- 5.7.31 GA
- 5.6.49 GA

MySQL Engineering Blogs

The MySQL 8.0.21 Maintenance Release is Generally Available

The MySQL Development team is very happy to announce that MySQL 8.0.21 is now available for download at dev.mysql.com. In addition to bug fixes there are a few new features added in this release. Please download 8.0.21 from dev.mysql.com or from the MySQL Yum, APT, or SUSE repositories....

Announcing MySQL Server 8.0.21, 5.7.31 and 5.6.49

MySQL Server 8.0.21, 5.7.31 and 5.6.49, new versions of the popular Open Source Database Management System, have been released. These releases are recommended for use on production systems. For an overview of what's new, please see <http://dev.mysql.com/doc/refman/8.0/en/mysql-nutshell.html>...

MySQL Day Virtual Event: 5 Sessions in 1 Day

MySQL Day Virtual Event Join us on July 29th, 2020 (8AM - 1PM PST) for a virtual event about why and how to upgrade to MySQL 8.0. Learn the key reasons you should upgrade to 8.0. Discover the best practices developed by our support team based on their experience working directly with...

MySQL Terminology Updates

It's been 20 years since MySQL Replication was introduced in MySQL 3.23.15 (Released in May 2000). Since then, virtually every MySQL Database deployment in production has been using Replication in order to achieve high availability, disaster recovery, read scale out and various other...

Live Webinar: Learn Credorax Best Security Practices with MySQL

3) “MySQL Community Server” 클릭

MySQL Community Downloads

- [MySQL Yum Repository](#)
- [MySQL APT Repository](#)
- [MySQL SUSE Repository](#)
- [MySQL Community Server](#) **click**
- [MySQL Cluster](#)
- [MySQL Router](#)
- [MySQL Shell](#)
- [MySQL Workbench](#)
- [MySQL Installer for Windows](#)
- [MySQL for Excel](#)
- [MySQL for Visual Studio](#)
- [MySQL Notifier](#)
- [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](#)

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4) “Go to Download Page” 클릭

MySQL Community Downloads

MySQL Community Server

General Availability (GA) Releases Archives

MySQL Community Server 8.0.21

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 >](#) click

Other Downloads:

Windows (x86, 64-bit), ZIP Archive (mysql-8.0.21-winx64.zip)	8.0.21	111.1M	Download
MD5: 06d745c77b254e160807bdc215245352 Signature			
Windows (x86, 64-bit), ZIP Archive Debug Binaries & Test Suite (mysql-8.0.21-winx64-debug-test.zip)	8.0.21	510.6M	Download
MD5: e494aaf4cb3da4c709136d23c3cb5f27 Signature			

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

5) Community 버전 “Download” 클릭 (web-community 버전 아님)

MySQL Community Downloads

MySQL Installer

General Availability (GA) ReleasesArchives*i*

MySQL Installer 8.0.21

Select Operating System:
Microsoft Windows

Looking for previous GA versions?

Windows (x86, 32-bit), MSI Installer (mysql-installer-web-community-8.0.21.0.msi)	8.0.21	24.5M	Download
Windows (x86, 32-bit), MSI Installer (mysql-installer-community-8.0.21.0.msi)	8.0.21	427.6M	Download click

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

- 6) “No thanks, just start my download” 클릭
- 7) 다운로드 완료 후, 설치 파일 실행

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.

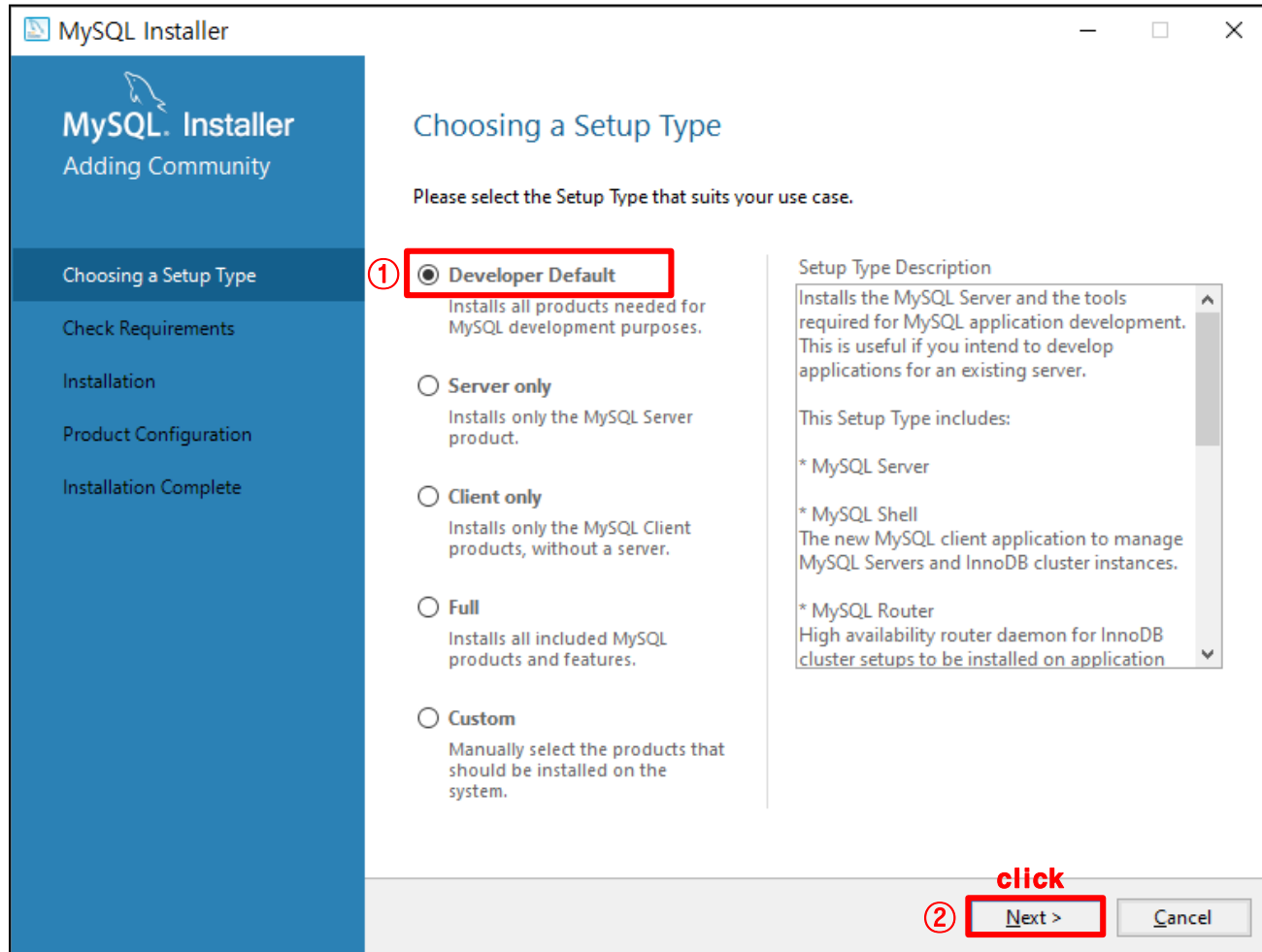
click

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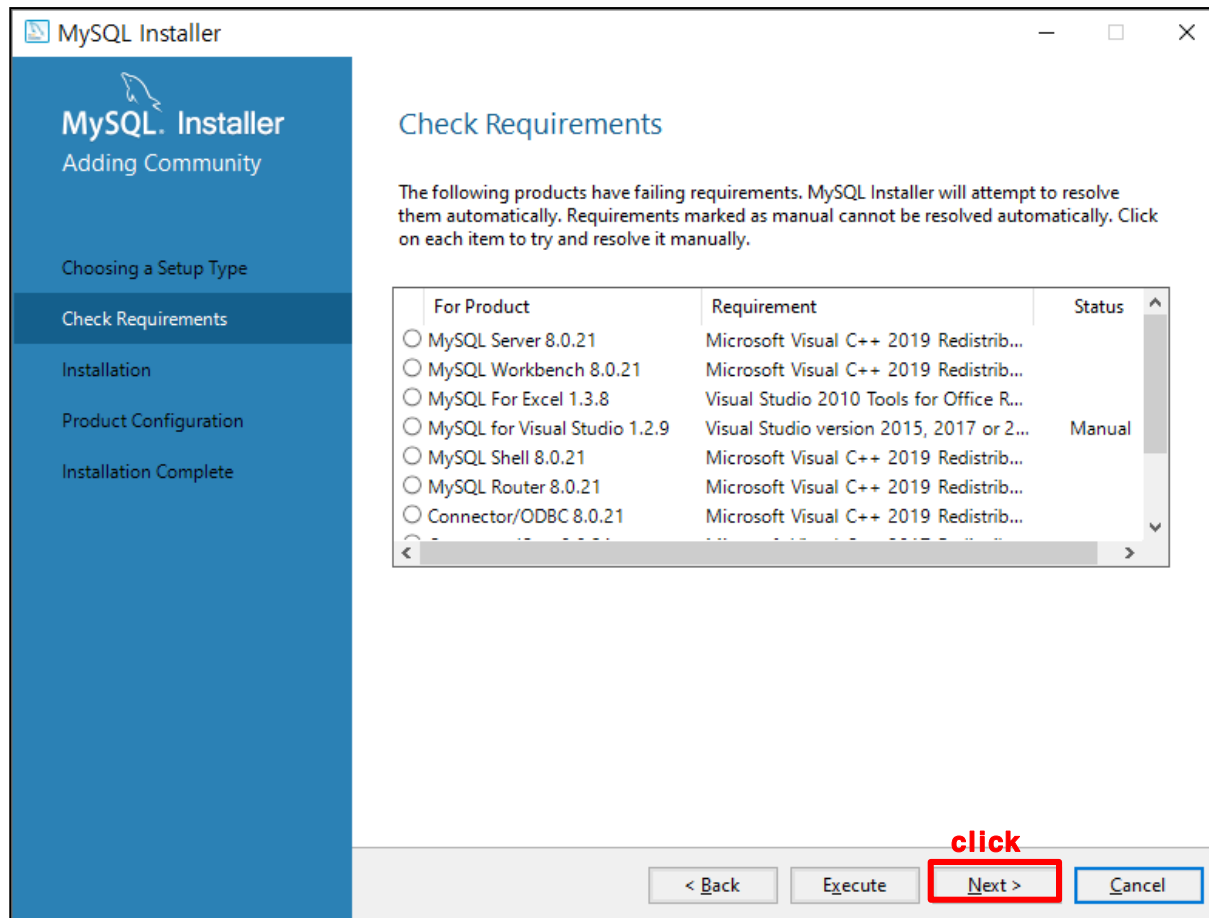
[Legal Policies](#) | [Your Privacy Rights](#) | [Terms of Use](#) | [Trademark Policy](#) | [Contributor Agreement](#) | [루키 환경설정](#)

8) “Developer Default” 체크 → “Next” 클릭

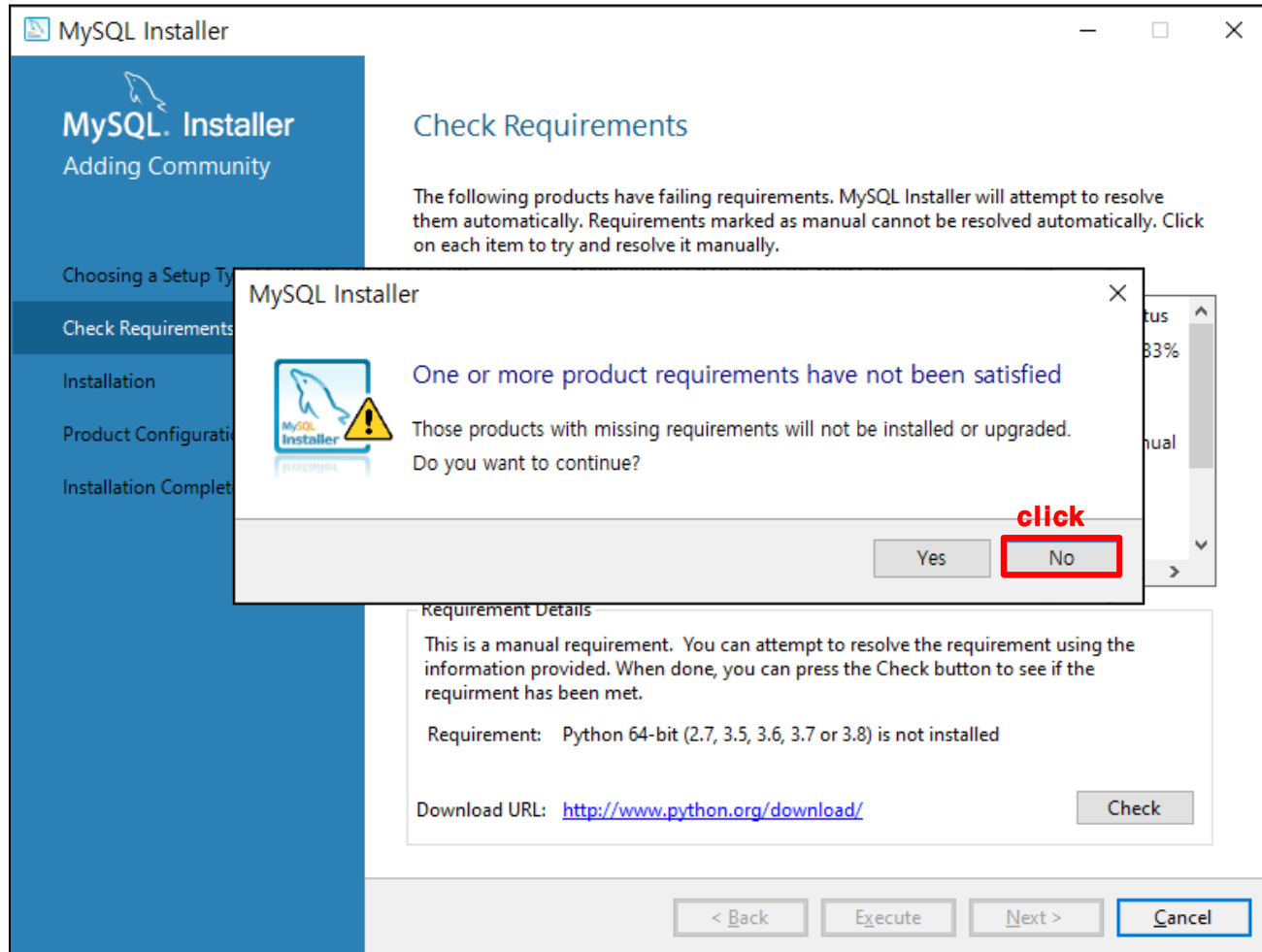


9) “Next” 클릭

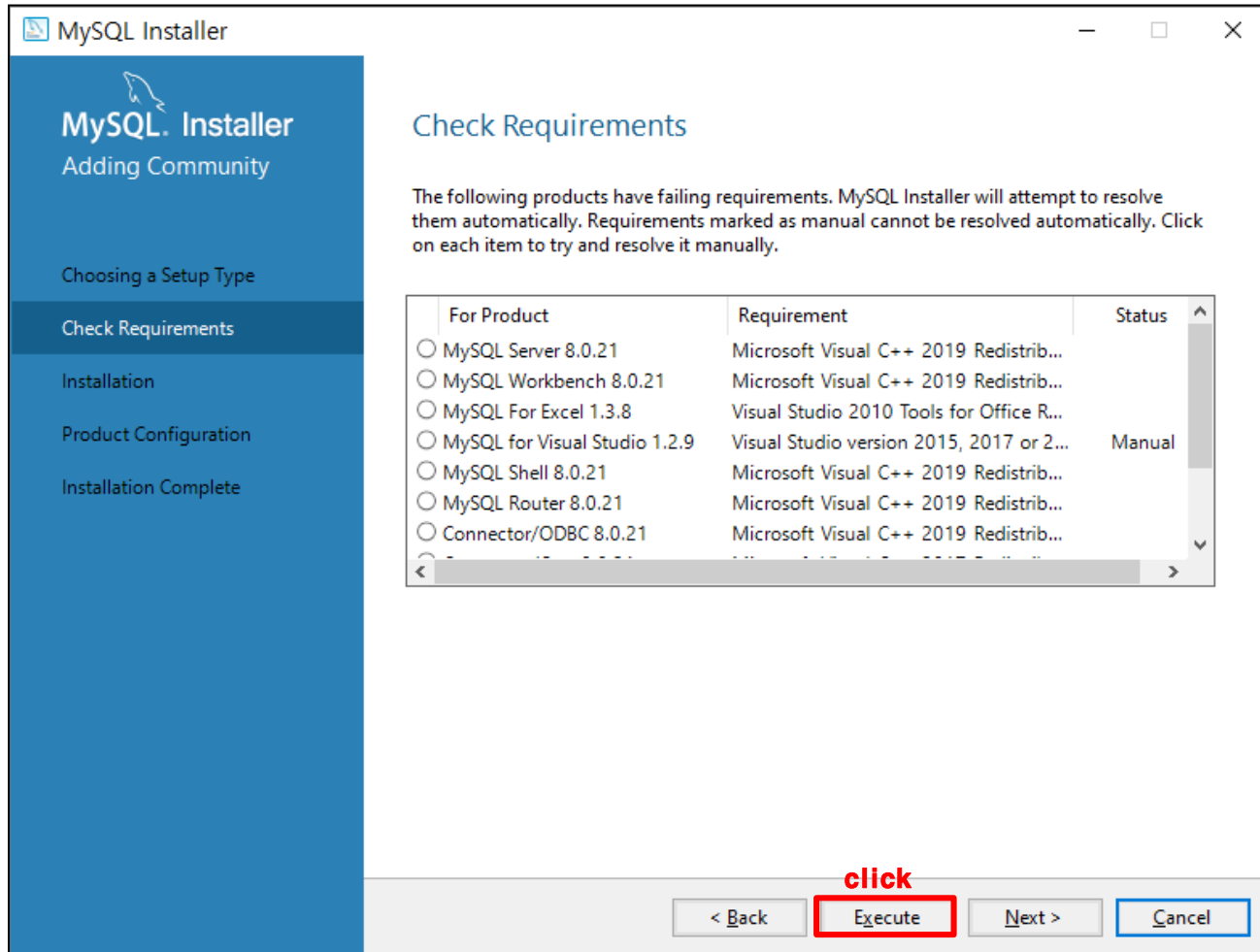
- Requirement 프로그램이 설치된 경우 : 15번 단계로
- Requirement 프로그램이 설치되지 않은 경우 : 10번 단계로



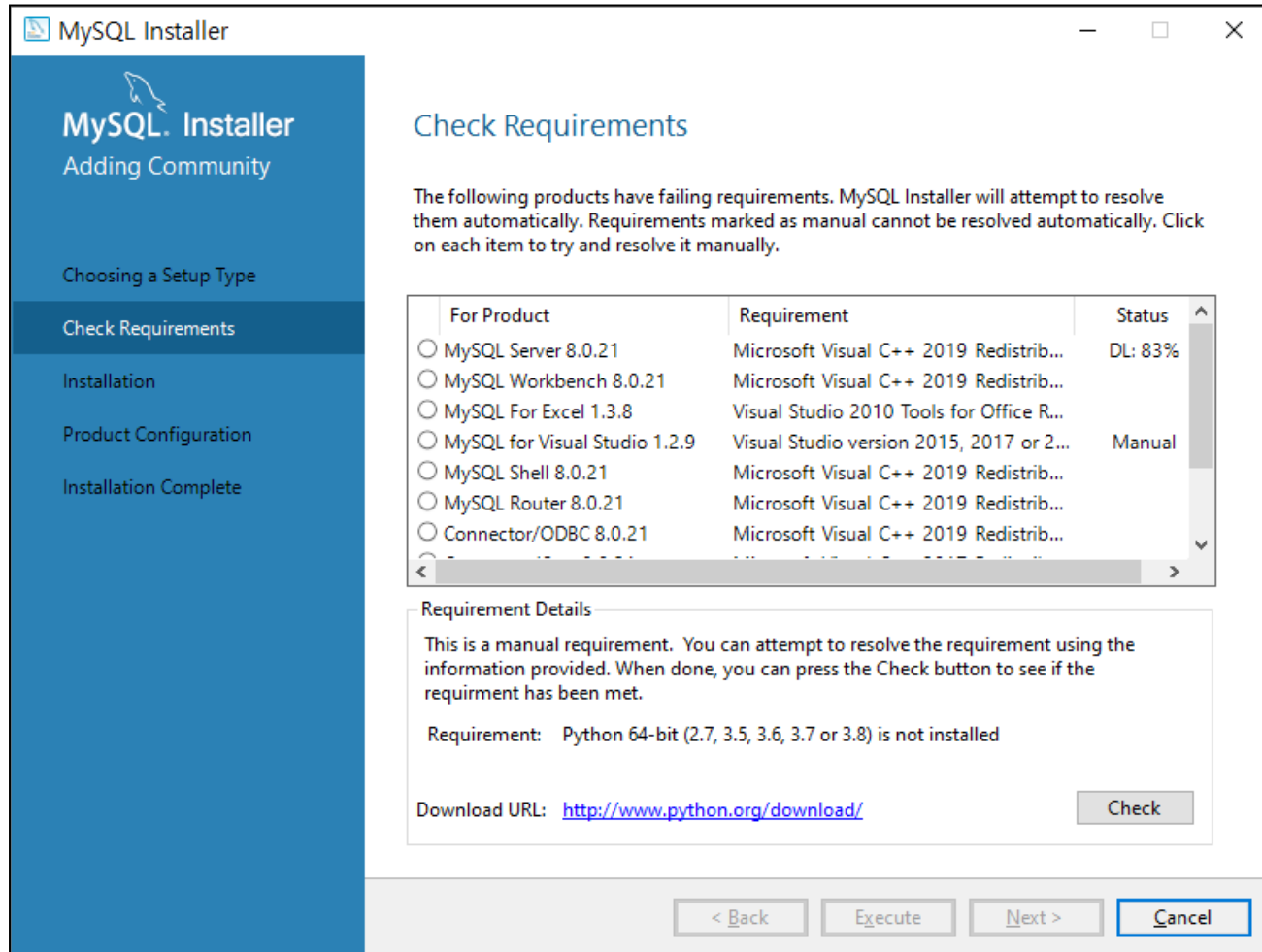
10) Requirement 프로그램이 설치 생략 팝업이 나오면 “No” 클릭



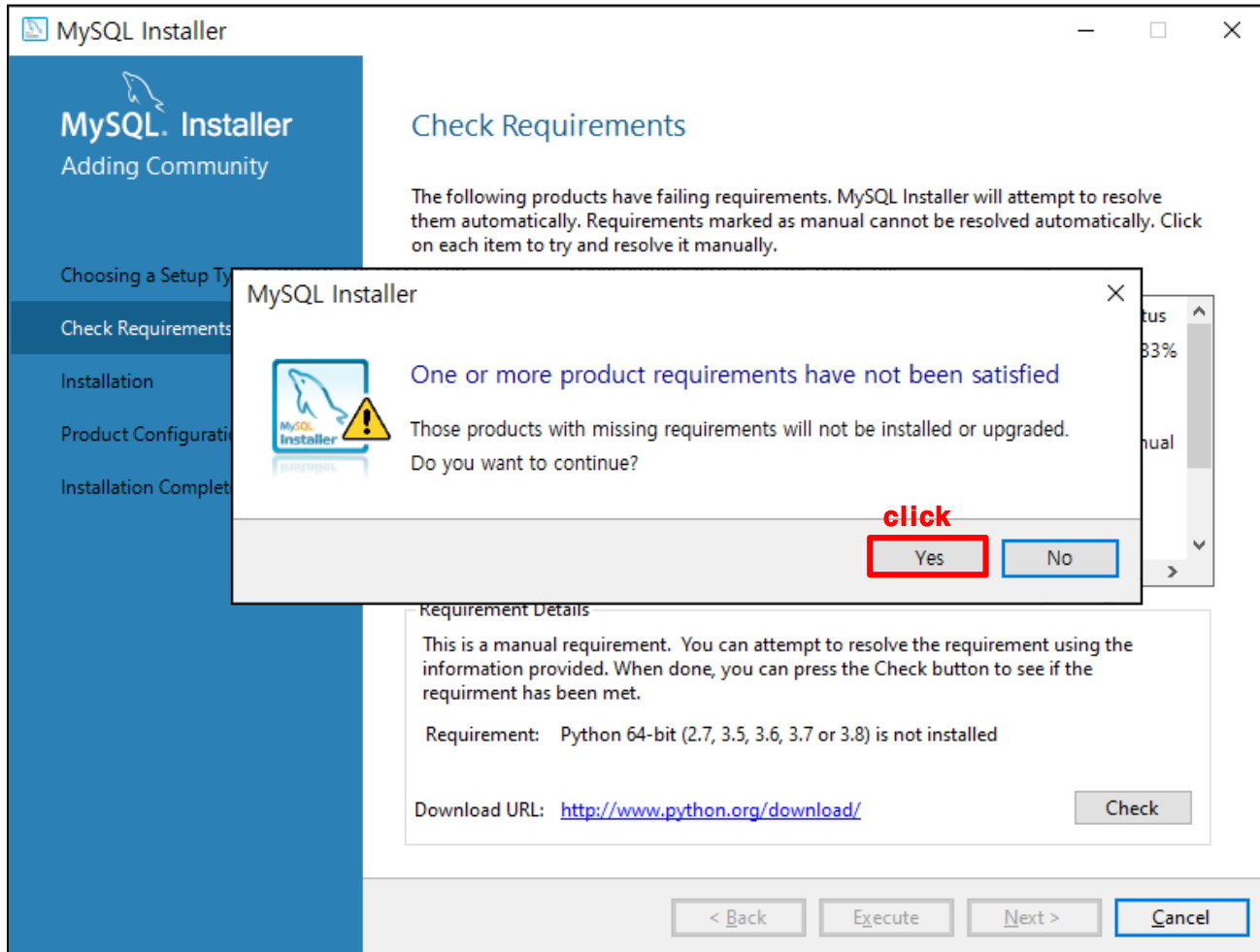
11) “Execute” 클릭



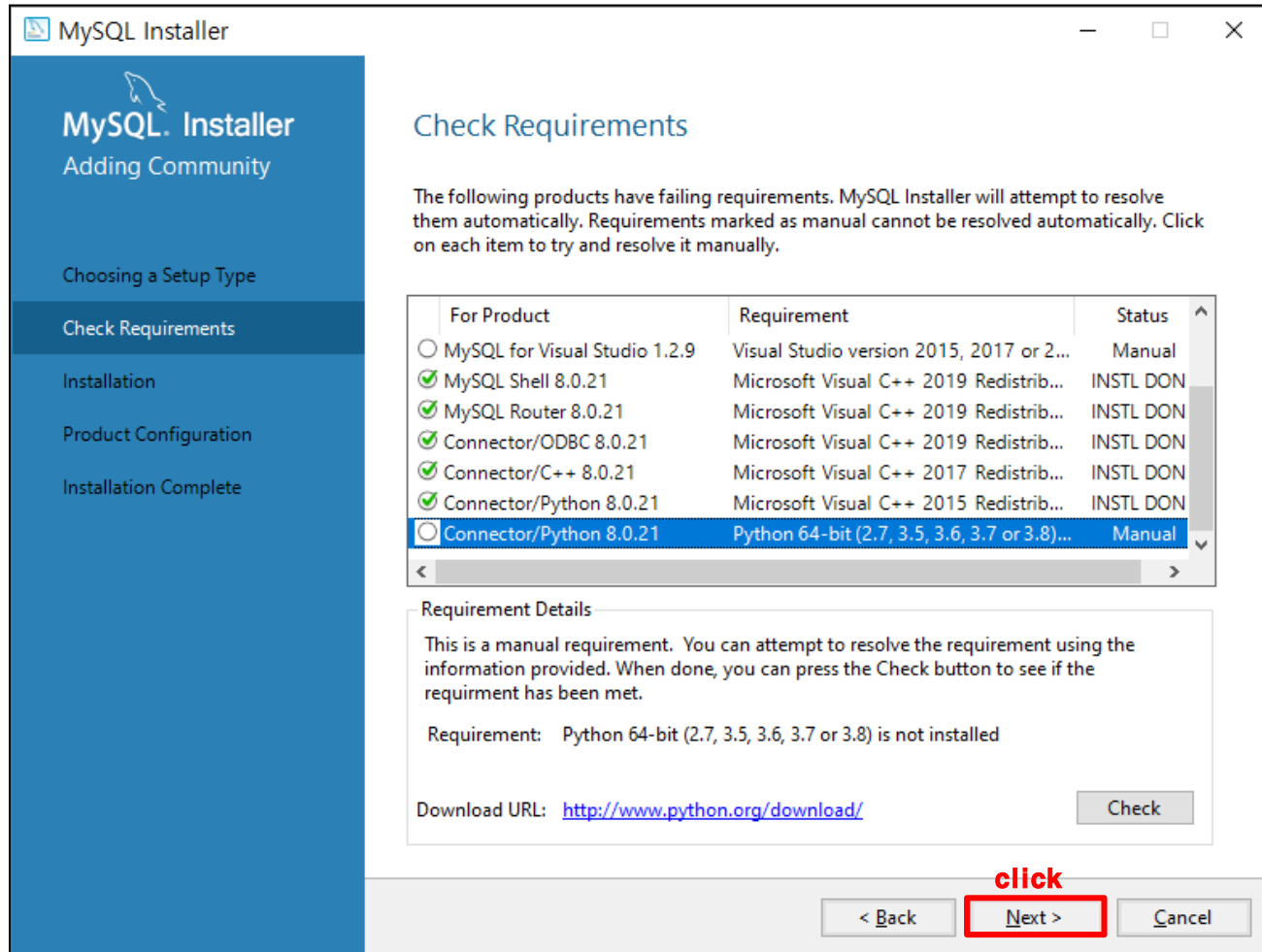
12) 설치 중 화면



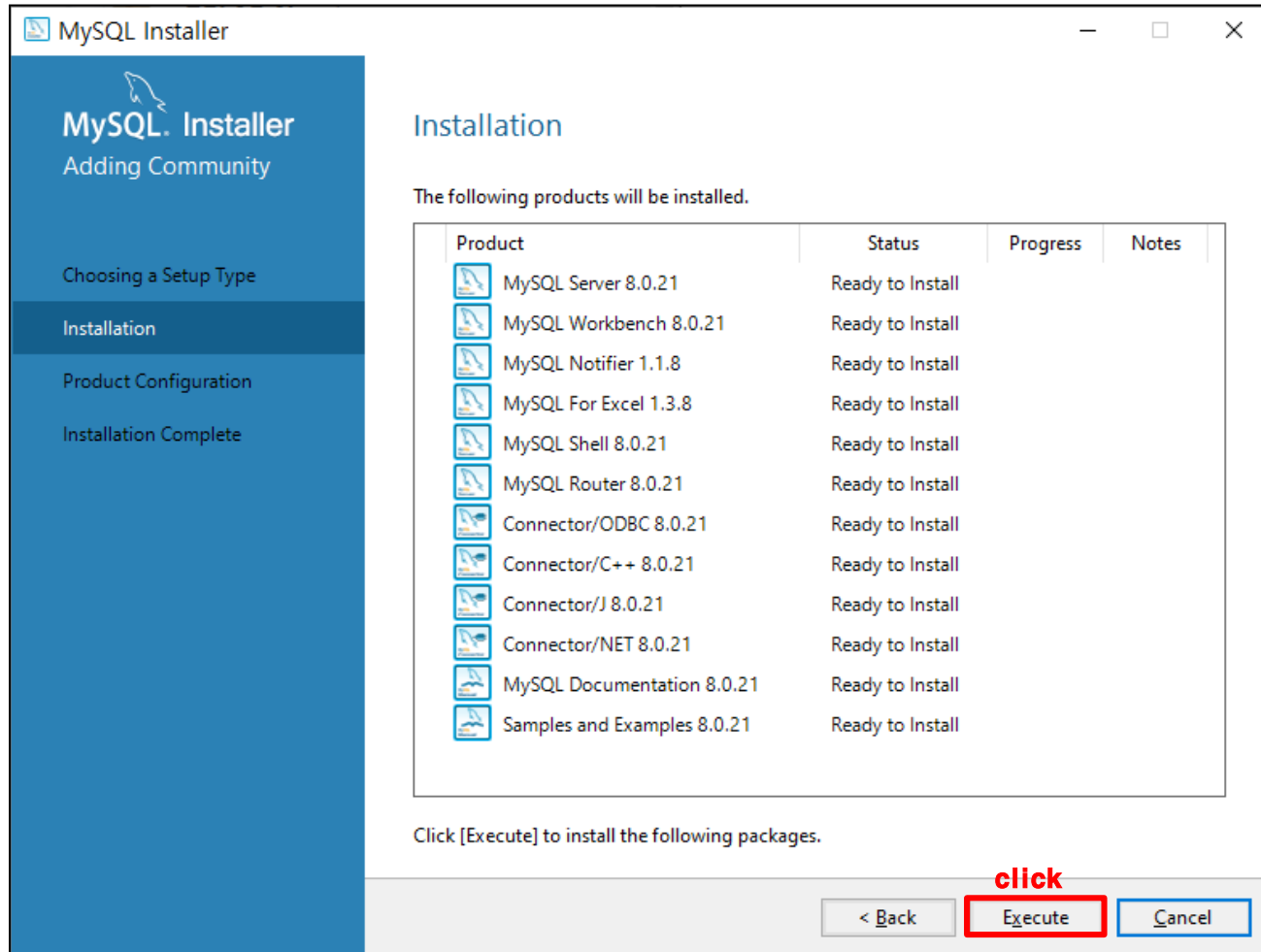
13) Requirement 프로그램이 설치 생략 팝업이 나오면 “Yes” 클릭



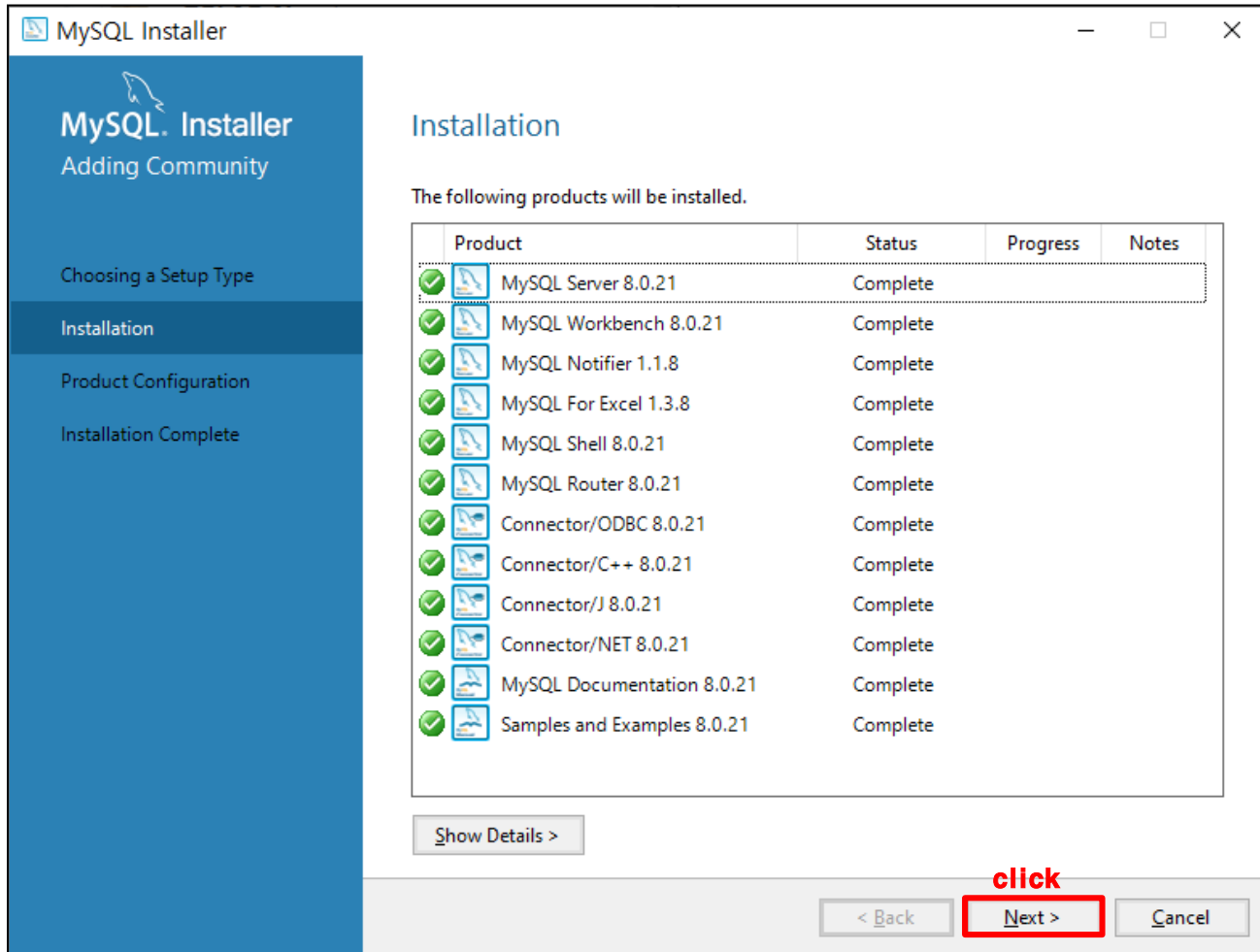
14) 설치 완료 후 “Next” 클릭



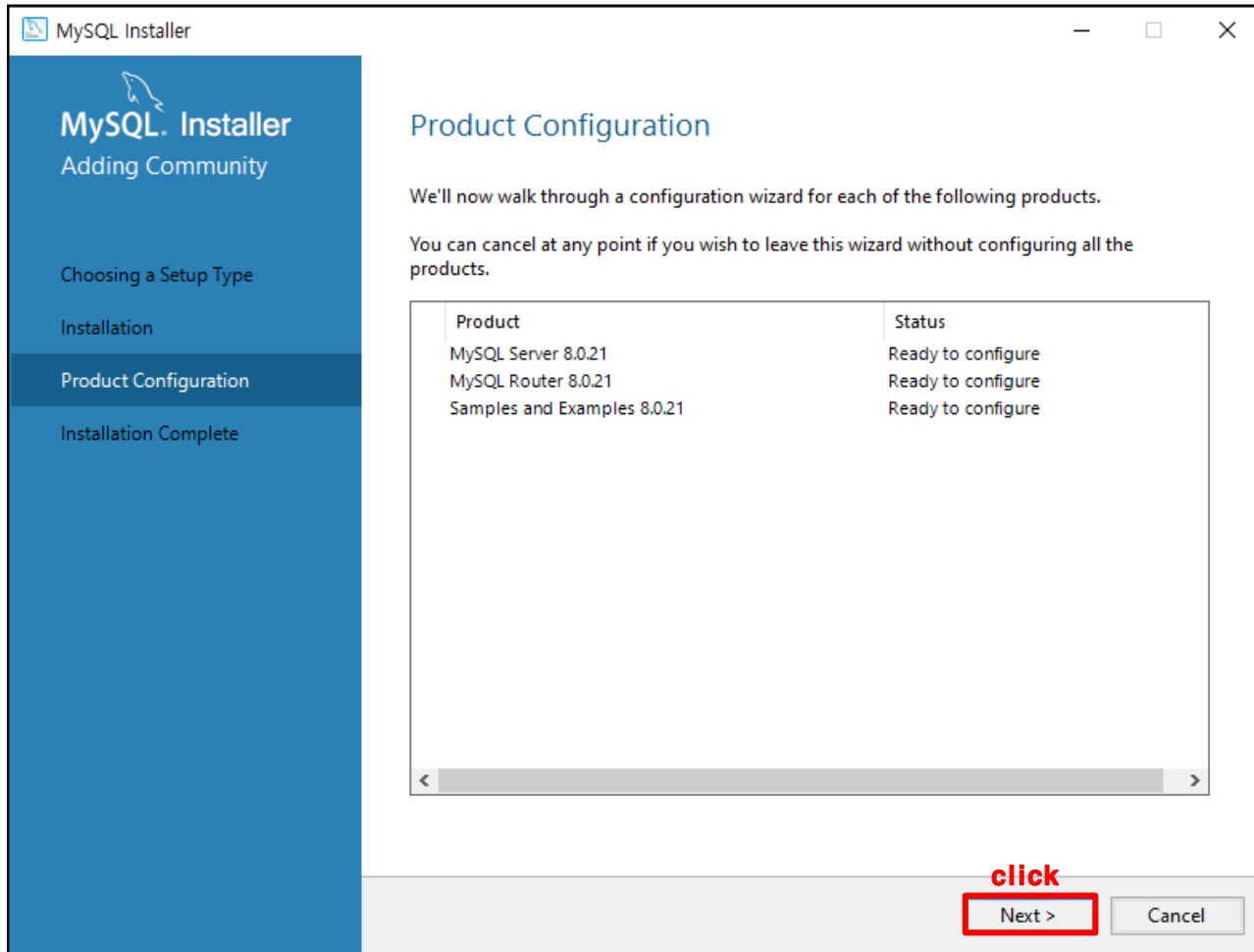
15) “Execute” 클릭



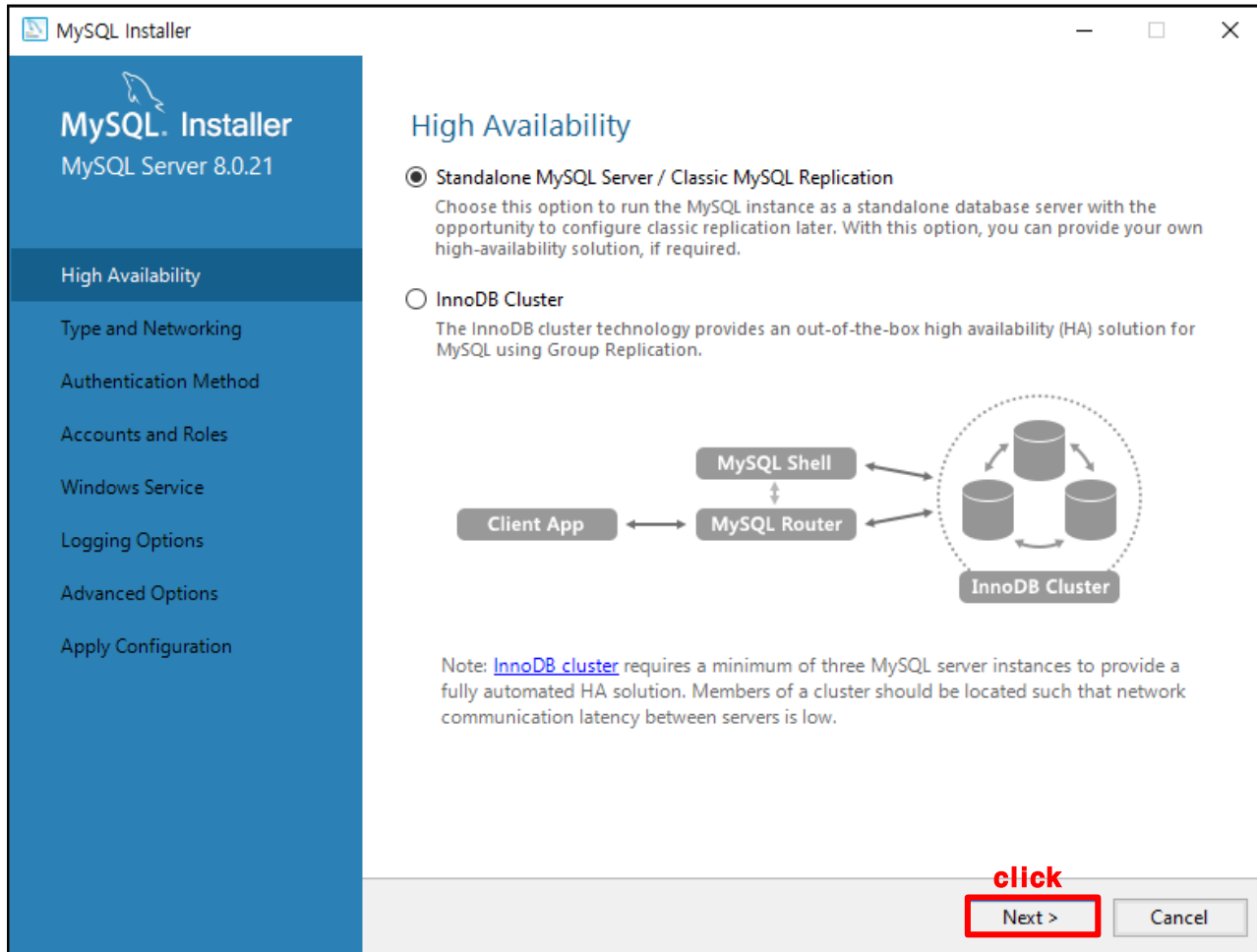
16) “Next” 클릭



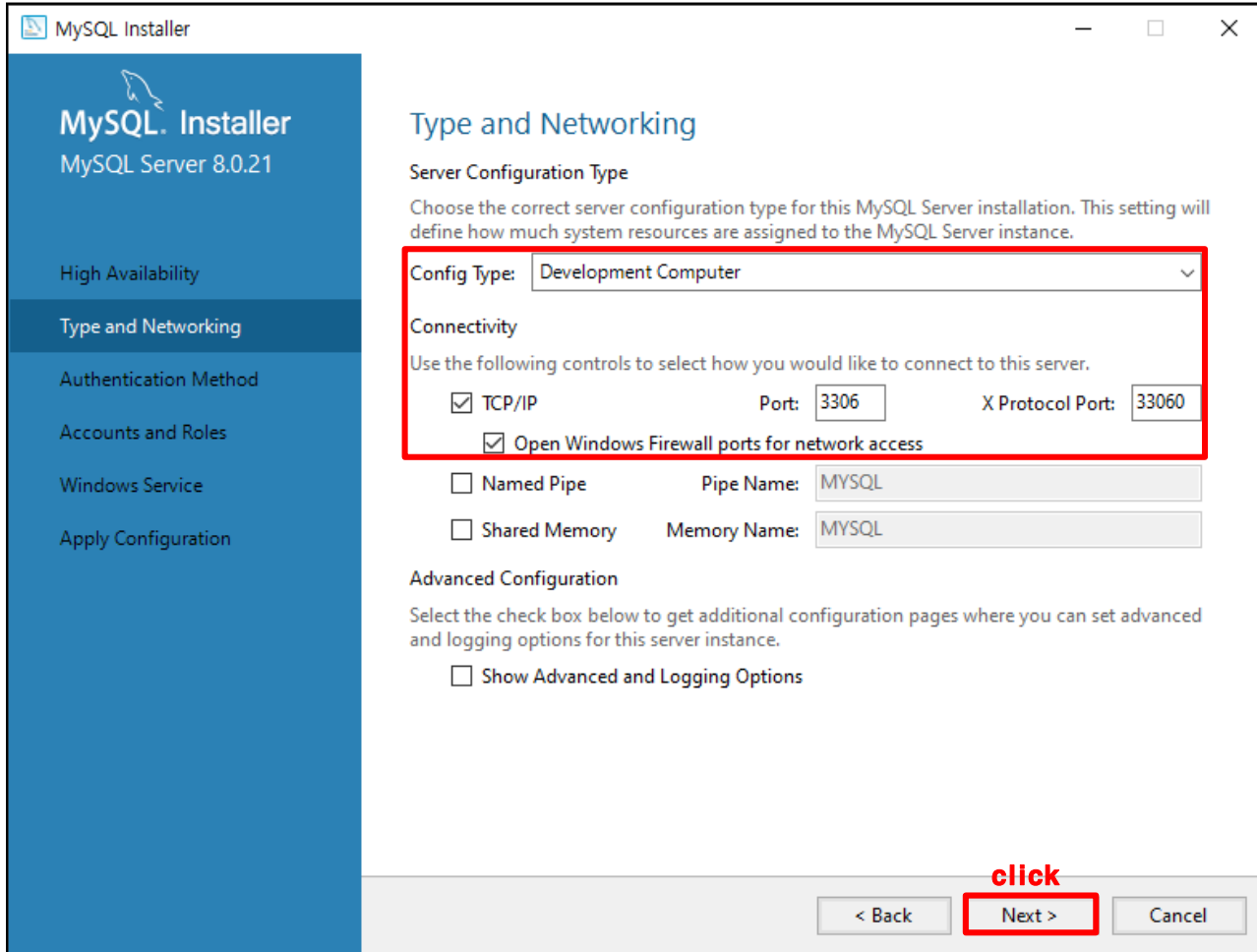
17) “Next” 클릭



18) “Next” 클릭



19) 접속 기본 설정 확인 후 “Next” 클릭

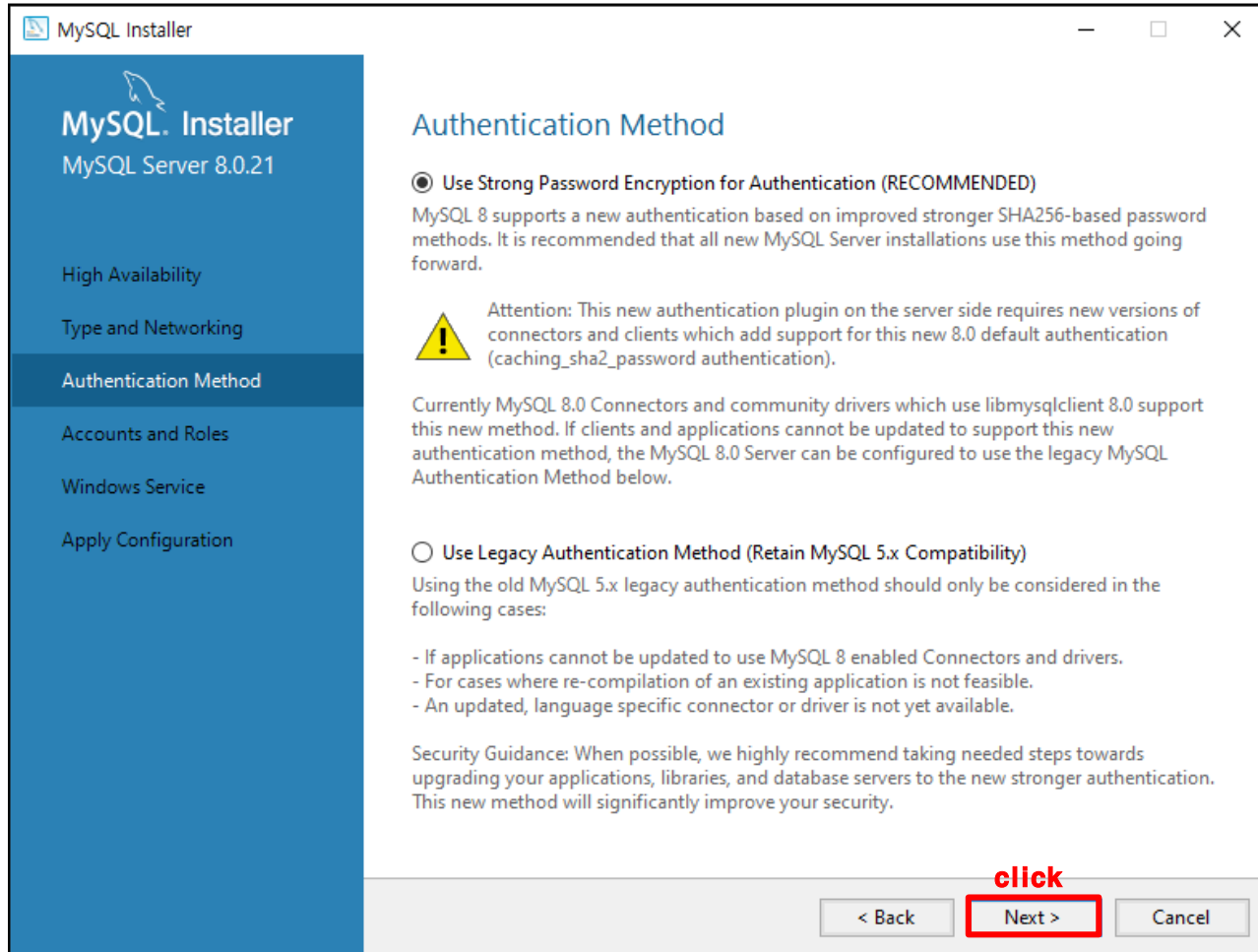


The image shows the MySQL Installer window for MySQL Server 8.0.21. The left sidebar contains the following options: High Availability, Type and Networking (selected), Authentication Method, Accounts and Roles, Windows Service, and Apply Configuration. The main area is titled 'Type and Networking' and contains the following sections:

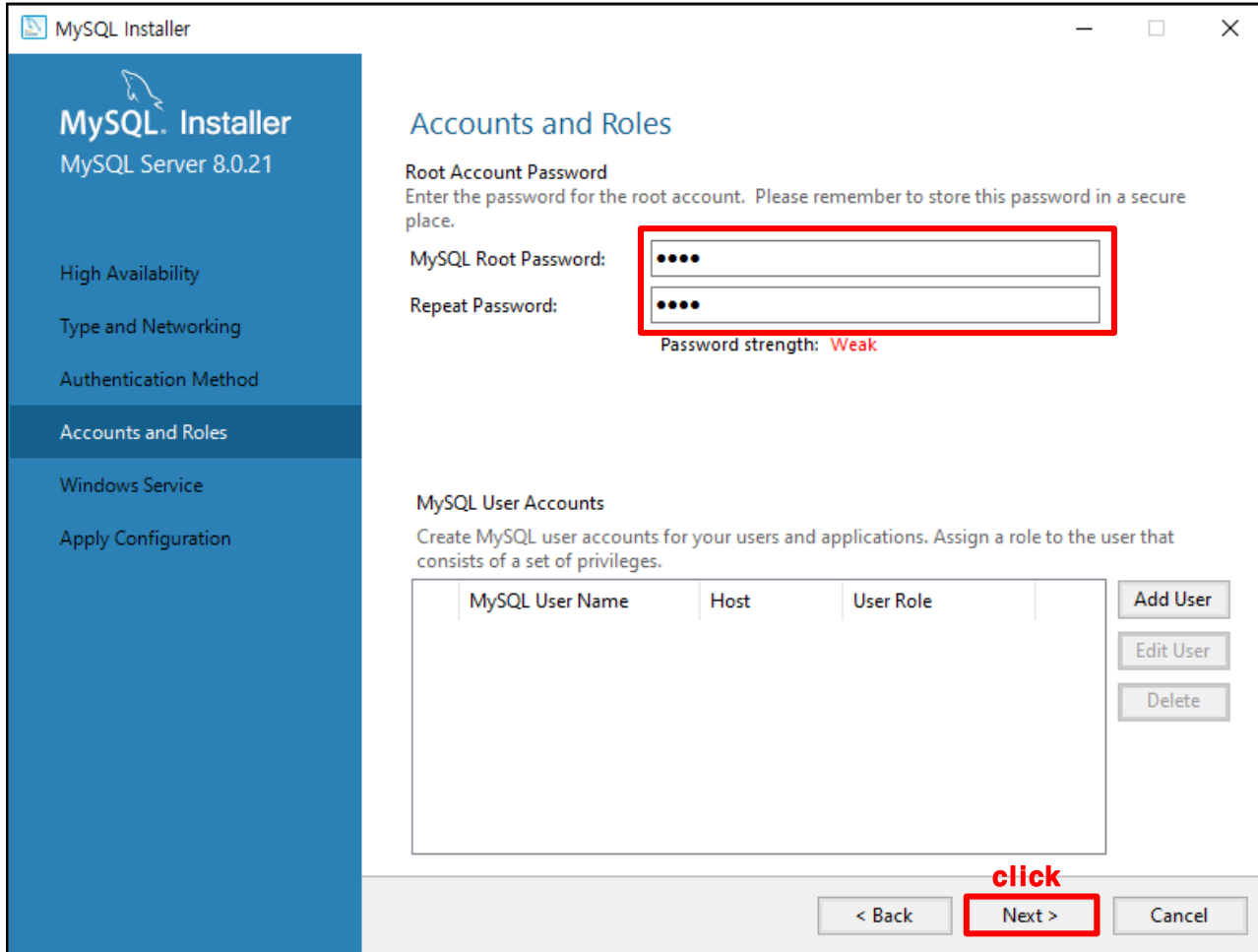
- Server Configuration Type**
Choose the correct server configuration type for this MySQL Server installation. This setting will define how much system resources are assigned to the MySQL Server instance.
Config Type: Development Computer
- Connectivity**
Use the following controls to select how you 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

At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a red box and the word 'click' above it), and 'Cancel'.

20) “Next” 클릭



21) Password 입력 → “Next” 클릭 (Password를 반드시 기억해야 함)



The screenshot shows the MySQL Installer window for MySQL Server 8.0.21. The left sidebar lists installation options: High Availability, 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 'Root Account Password' section prompts the user to enter a password for the root account, with fields for 'MySQL Root Password' and 'Repeat Password'. Both fields are currently filled with four dots. A red box highlights these two password input fields. Below them, the 'Password strength' is indicated as 'Weak' in red text. The 'MySQL User Accounts' section prompts the user to create MySQL user accounts, with a table for listing users. The table has columns for 'MySQL User Name', 'Host', and 'User Role'. To the right of the table are buttons for 'Add User', 'Edit User', and 'Delete'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. A red box highlights the 'Next >' button, and the word 'click' is written in red above it.

MySQL Installer

MySQL Server 8.0.21

High Availability

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

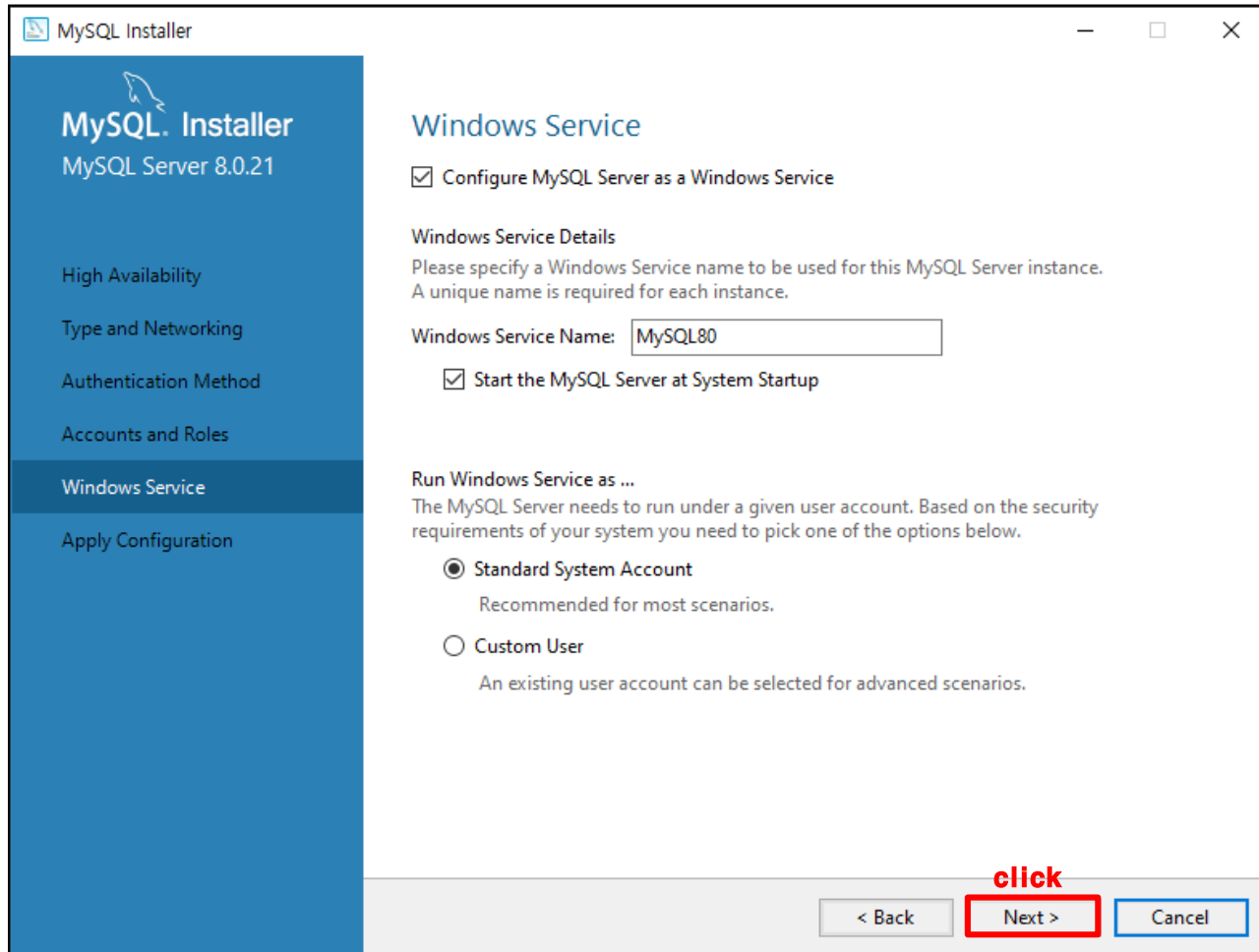
Delete

< Back

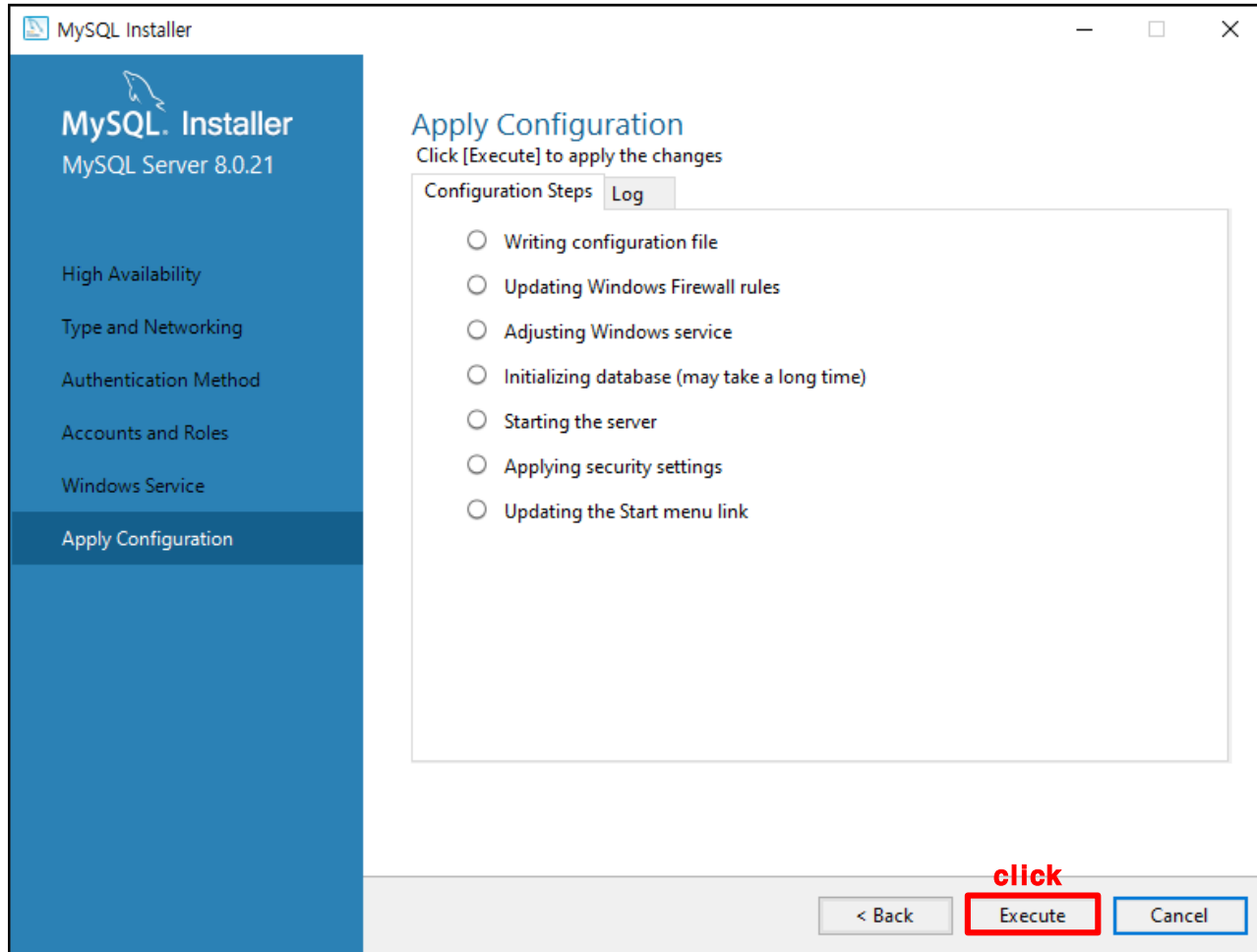
click
Next >

Cancel

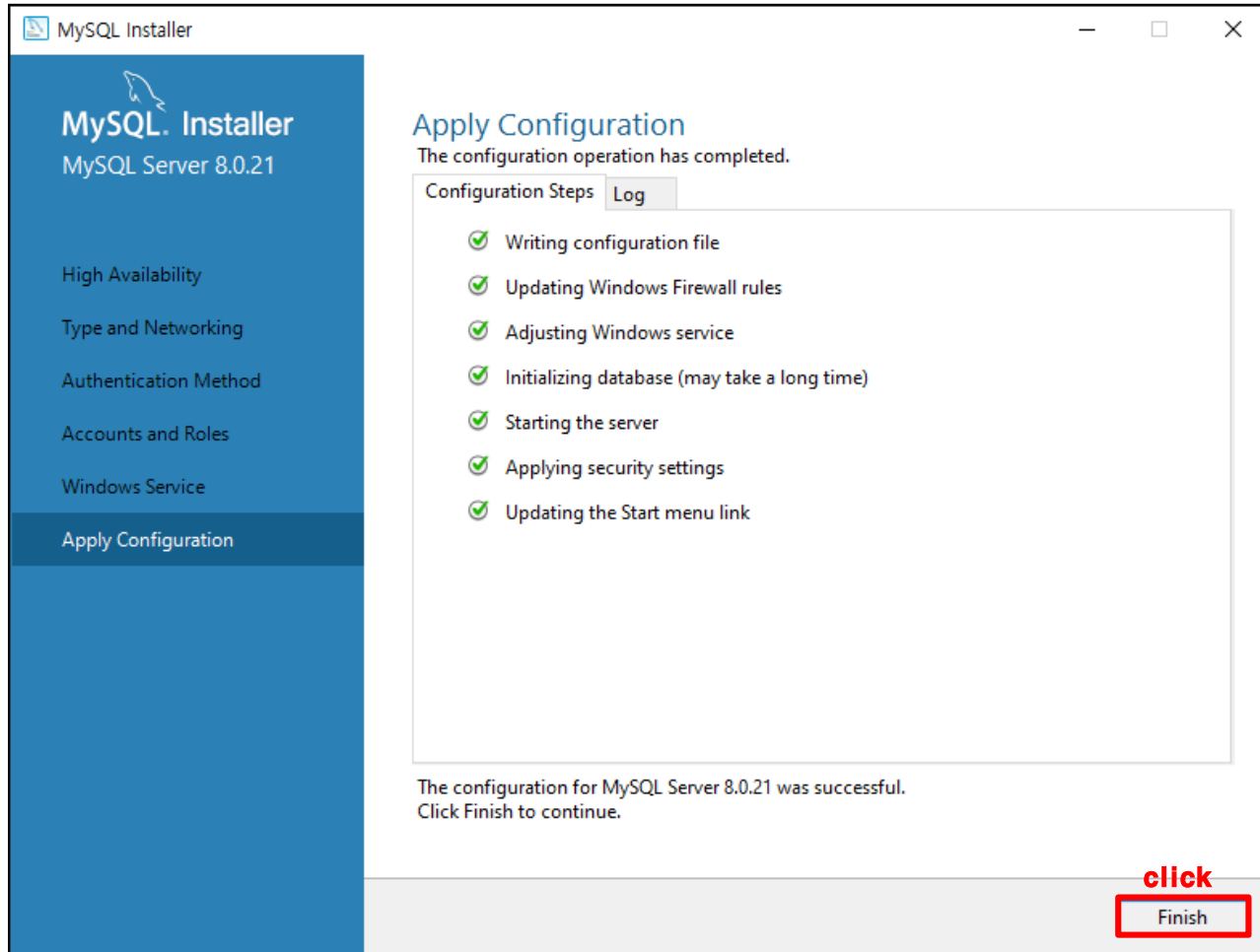
22) “Next” 클릭



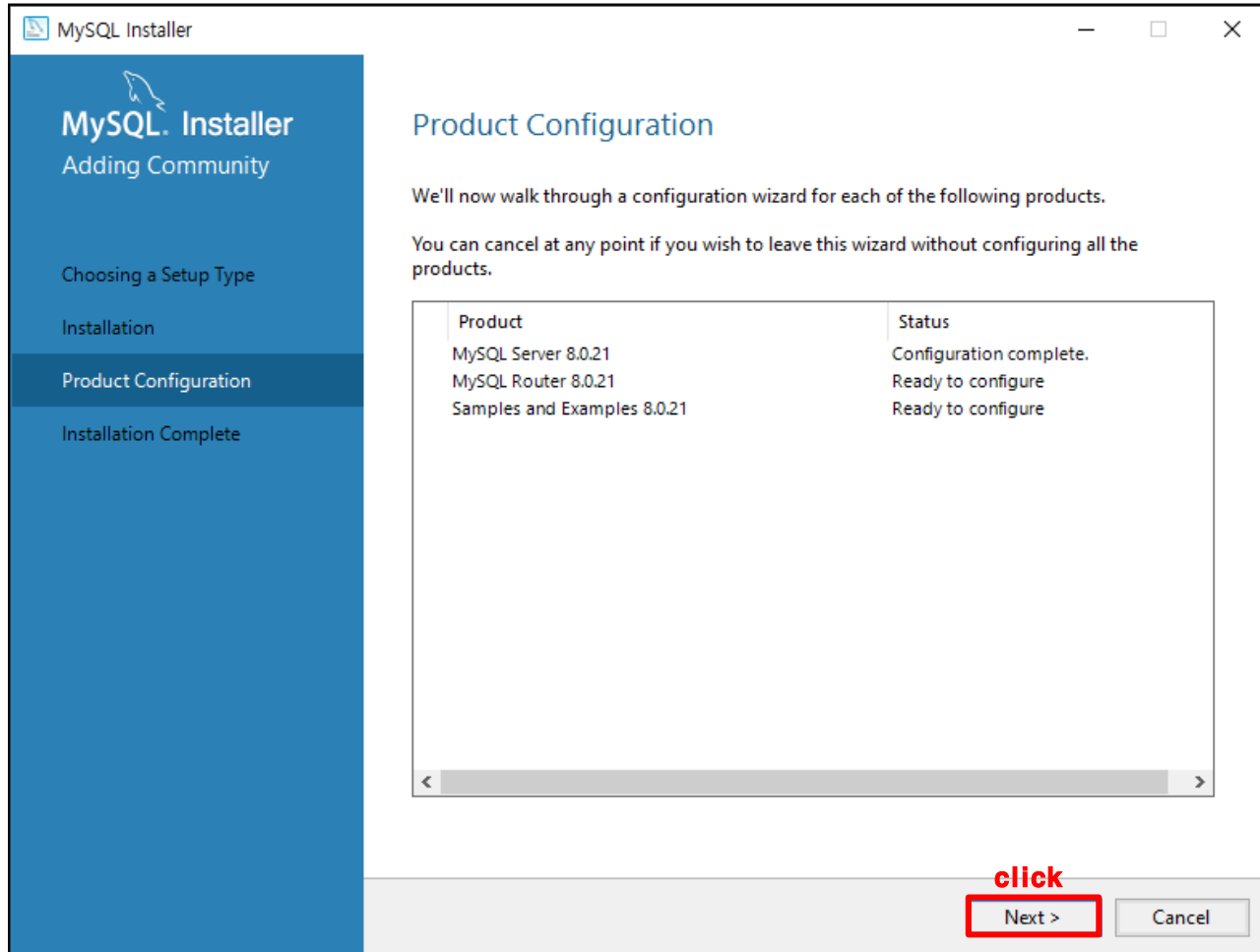
23) “Execute” 클릭



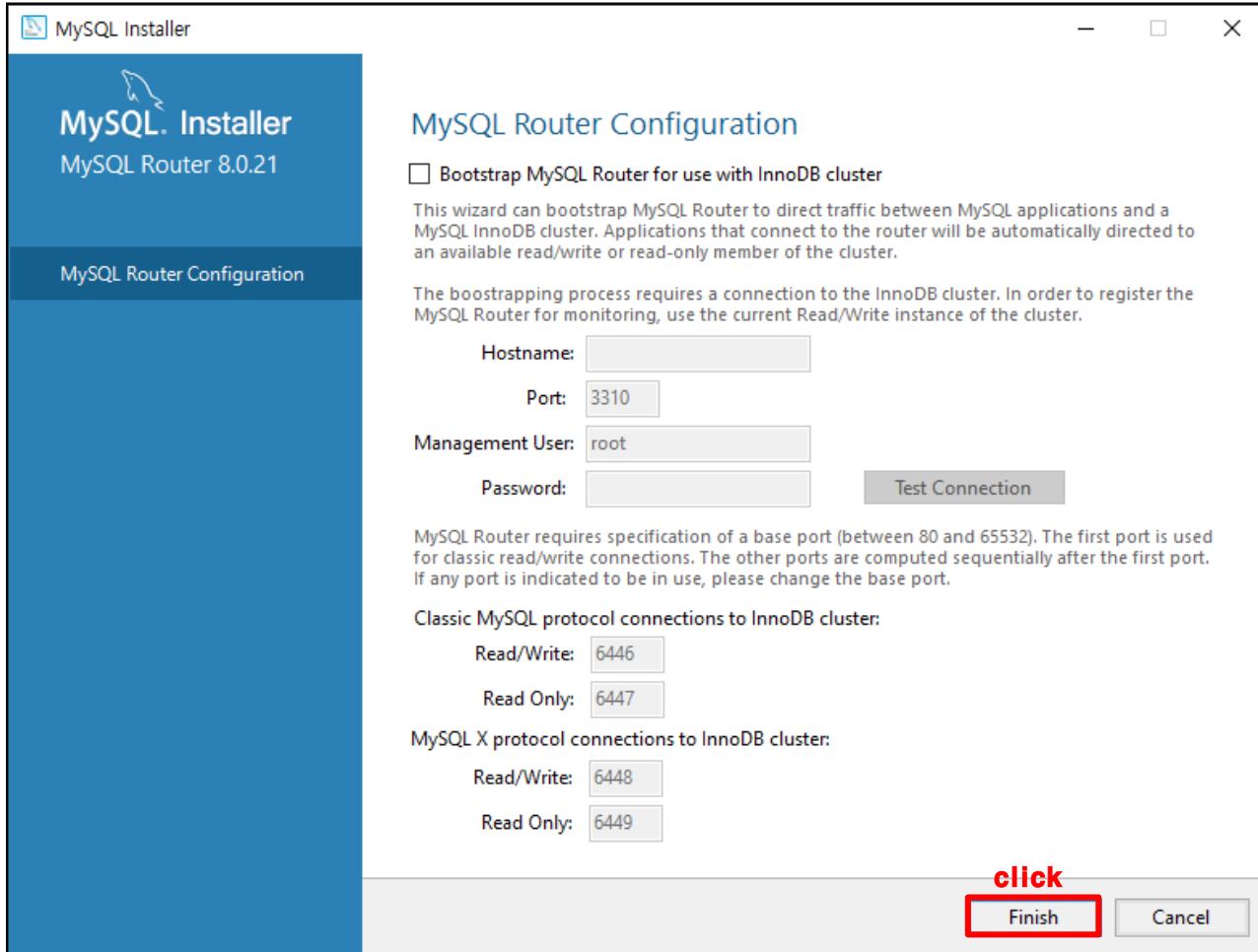
24) “Finish” 클릭



25) “Next” 클릭



26) “Finish” 클릭



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 8.0.21'. The main area is white and contains the title 'MySQL Router Configuration'. Below the title, there is a checkbox labeled 'Bootstrap MySQL Router for use with InnoDB cluster' which is currently unchecked. Below this, there is a paragraph of text explaining the wizard's purpose. Then, there are several input fields: 'Hostname:', 'Port:' (with '3310' entered), 'Management User:' (with 'root' entered), and 'Password:'. To the right of the 'Password:' field is a 'Test Connection' button. Below these fields, there is another paragraph of text. Then, there are two sections for port configuration: 'Classic MySQL protocol connections to InnoDB cluster:' with 'Read/Write:' (6446) and 'Read Only:' (6447) fields, and 'MySQL X protocol connections to InnoDB cluster:' with 'Read/Write:' (6448) and 'Read Only:' (6449) fields. At the bottom right, there are two buttons: 'Finish' and 'Cancel'. The 'Finish' button is highlighted with a red rectangle and the word 'click' in red text above it.

MySQL Installer

MySQL Router 8.0.21

MySQL Router Configuration

MySQL Router Configuration

☐ Bootstrap MySQL Router for use with InnoDB cluster

This wizard can bootstrap MySQL Router to direct traffic between MySQL applications and a MySQL 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 the 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:

MySQL X protocol connections to InnoDB cluster:

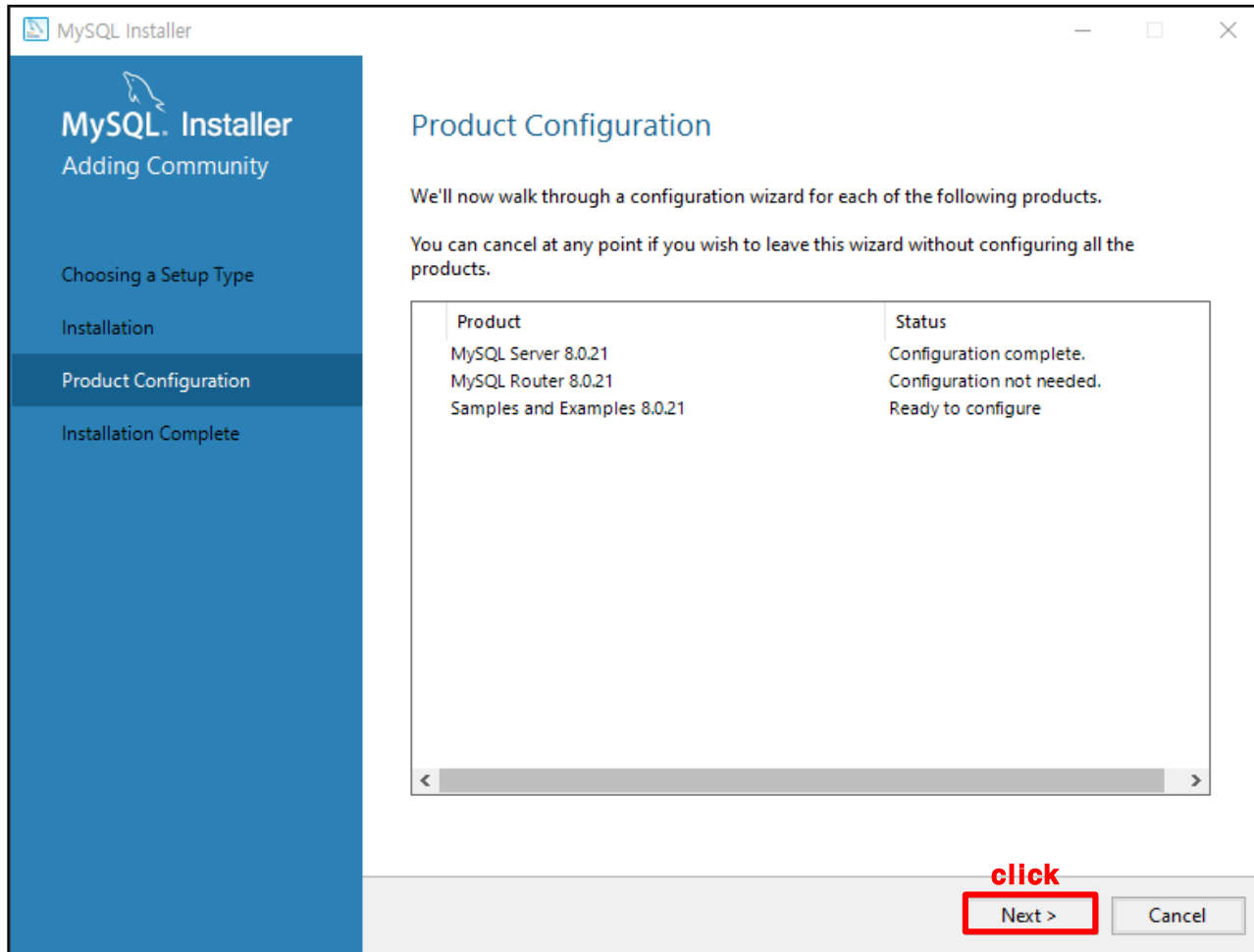
Read/Write:

Read Only:

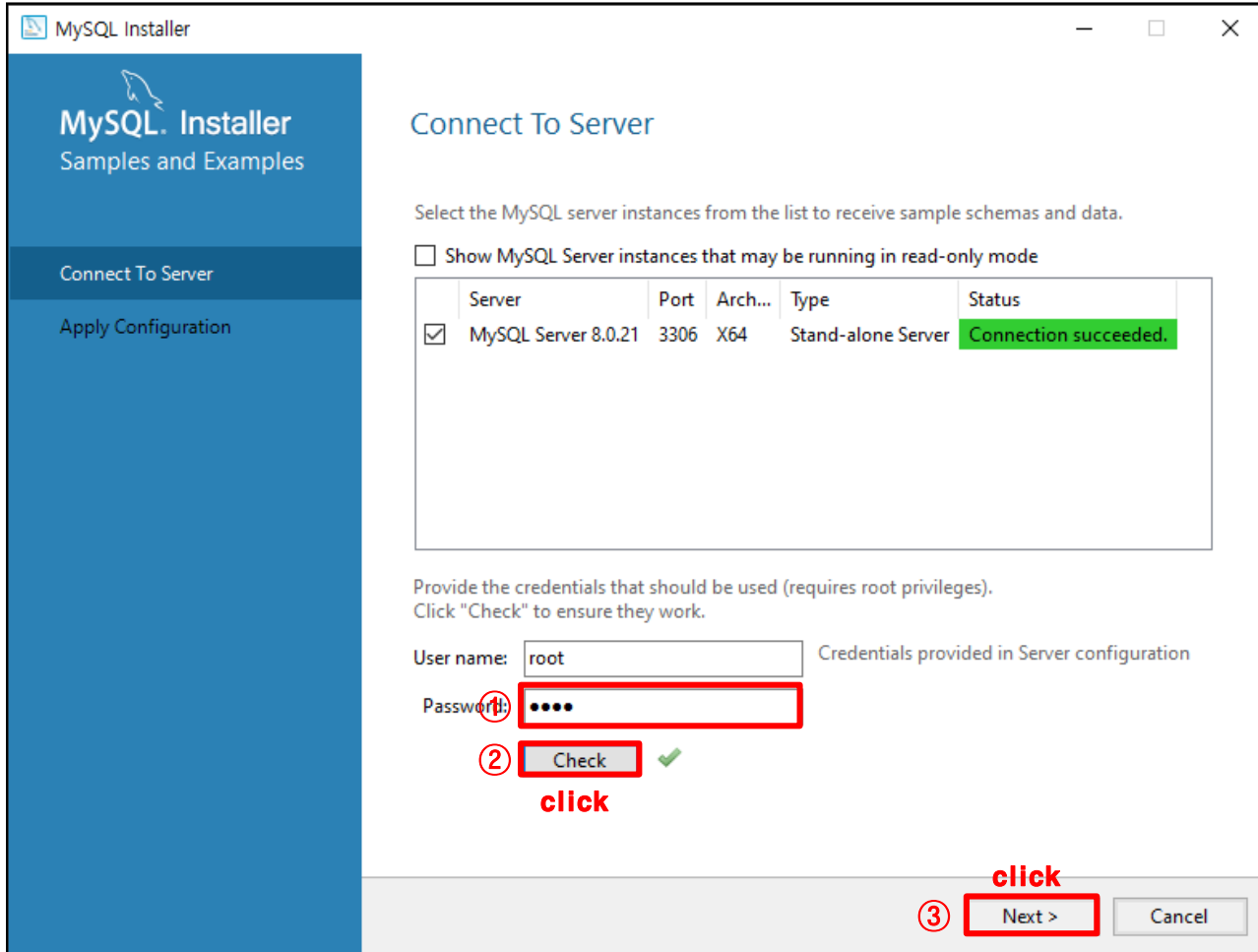
click

Finish Cancel

27) “Next” 클릭



28) Password 입력 후 “Check” 클릭 → “Next” 클릭 (Password는 21번 단계에서 설정한 Password)

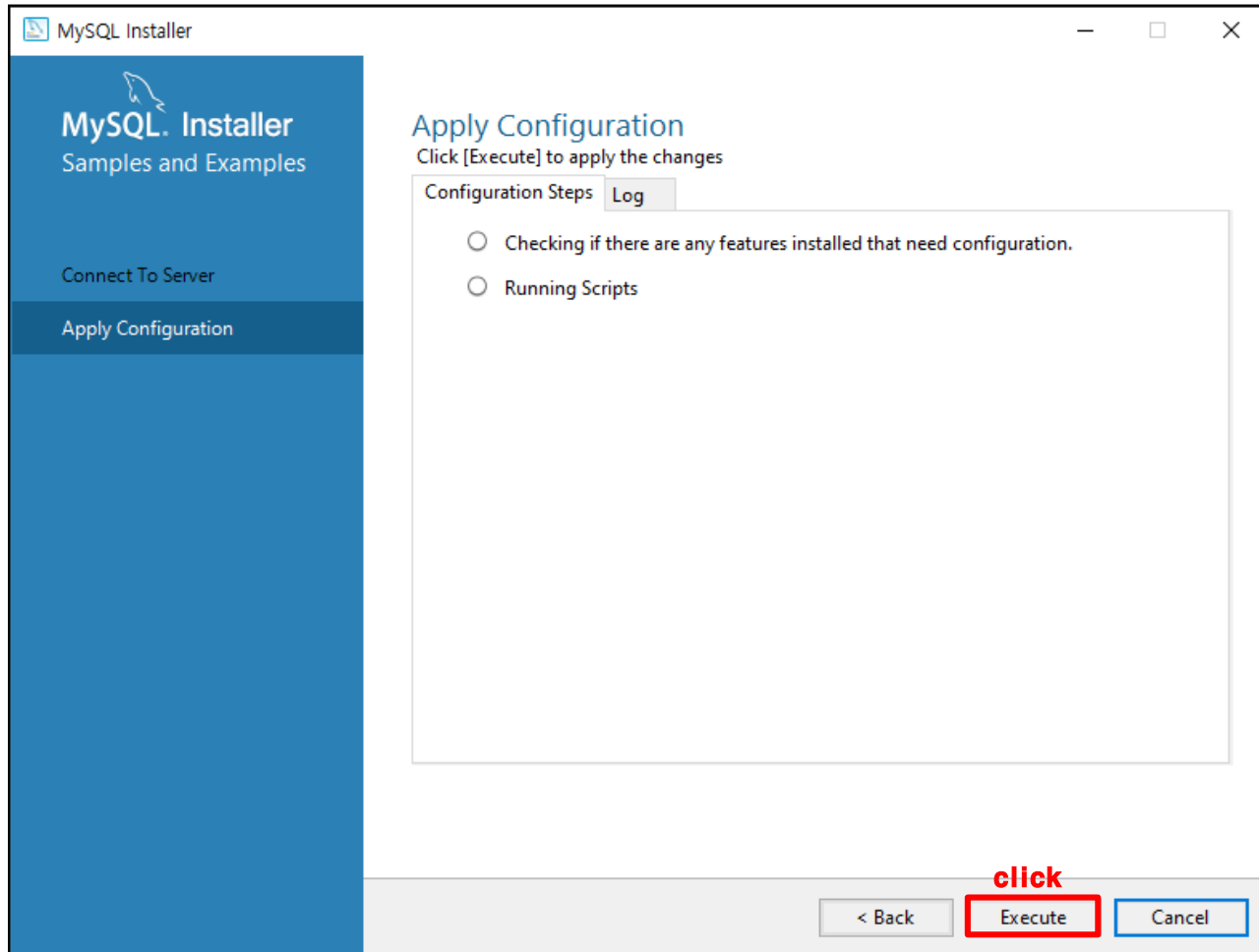


The screenshot shows the 'Connect To Server' window in the MySQL Installer. The left sidebar has three options: 'MySQL. Installer Samples and Examples', 'Connect To Server' (which is selected), and 'Apply Configuration'. The main area is titled 'Connect To Server' and contains the following elements:

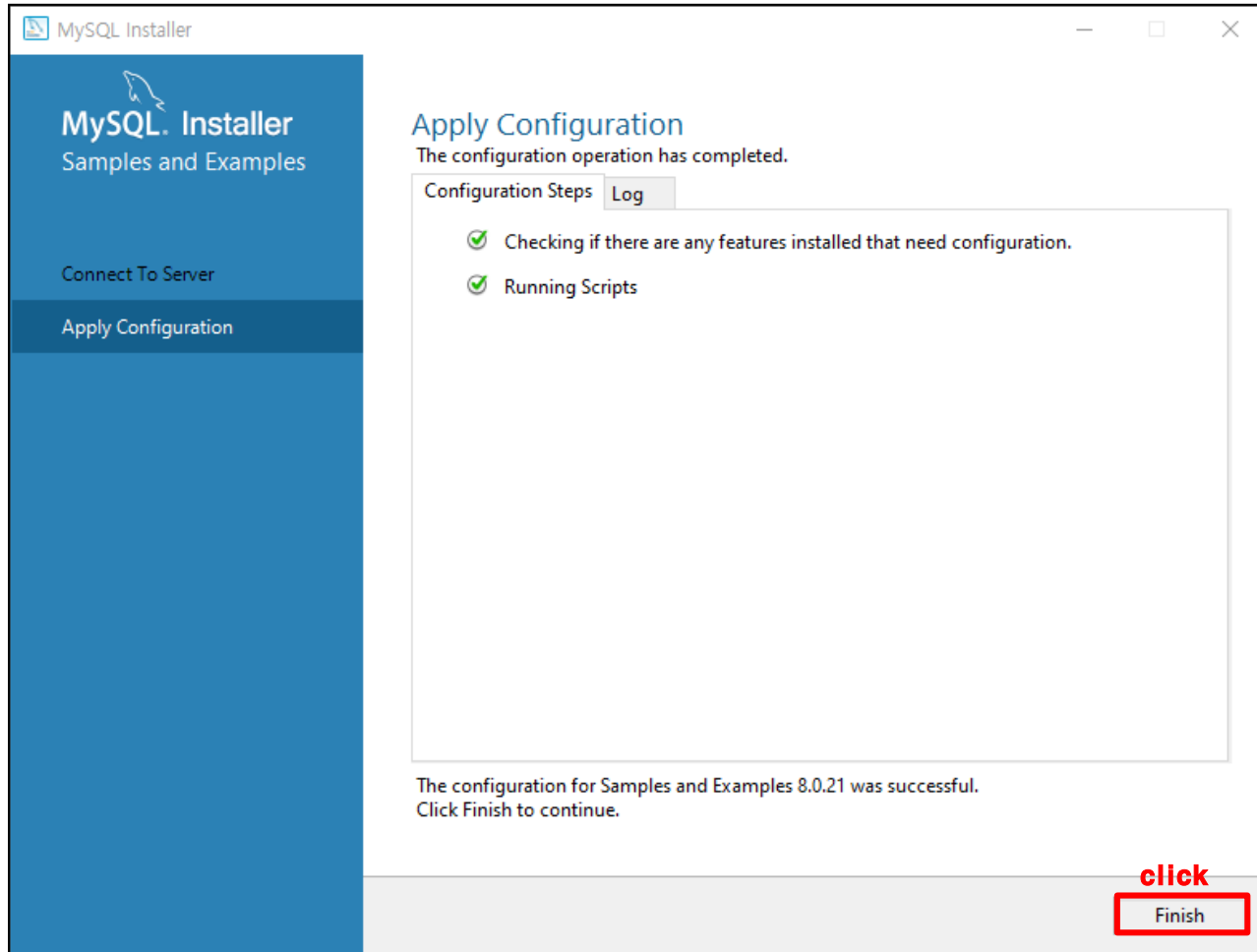
- A checkbox labeled 'Show MySQL Server instances that may be running in read-only mode'.
- A table with the following data:

	Server	Port	Arch...	Type	Status
<input checked="" type="checkbox"/>	MySQL Server 8.0.21	3306	X64	Stand-alone Server	Connection succeeded.
- Instructions: 'Provide the credentials that should be used (requires root privileges). Click "Check" to ensure they work.'
- Fields for 'User name' (containing 'root') and 'Password' (containing four dots). The 'Password' field is highlighted with a red rectangle.
- A 'Check' button with a green checkmark icon. It is circled with a red circle containing the number 2, and the word 'click' is written below it.
- At the bottom right, a 'Next >' button is circled with a red circle containing the number 3, and the word 'click' is written above it. A 'Cancel' button is also present.

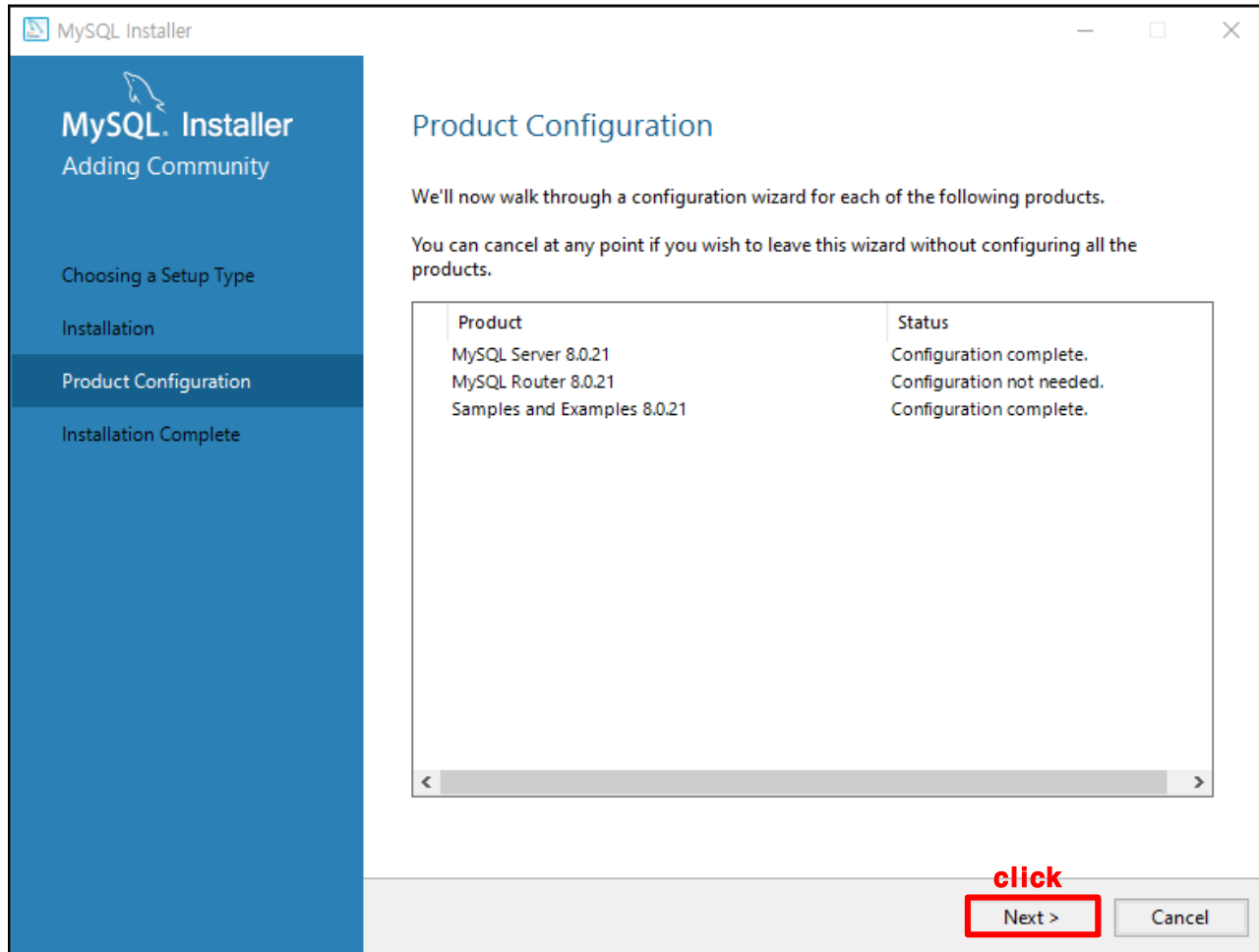
29) “Execute” 클릭



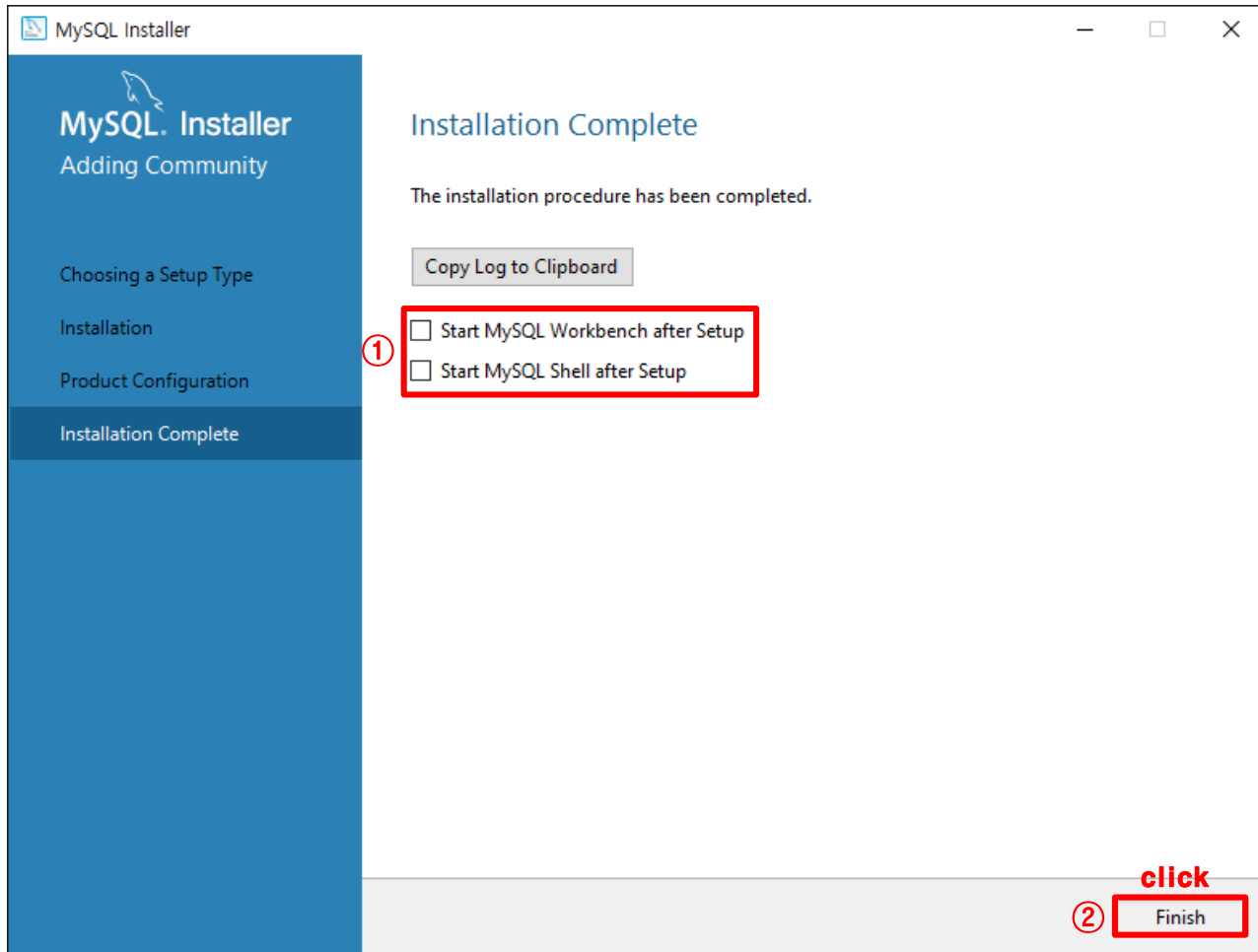
30) “Finish” 클릭



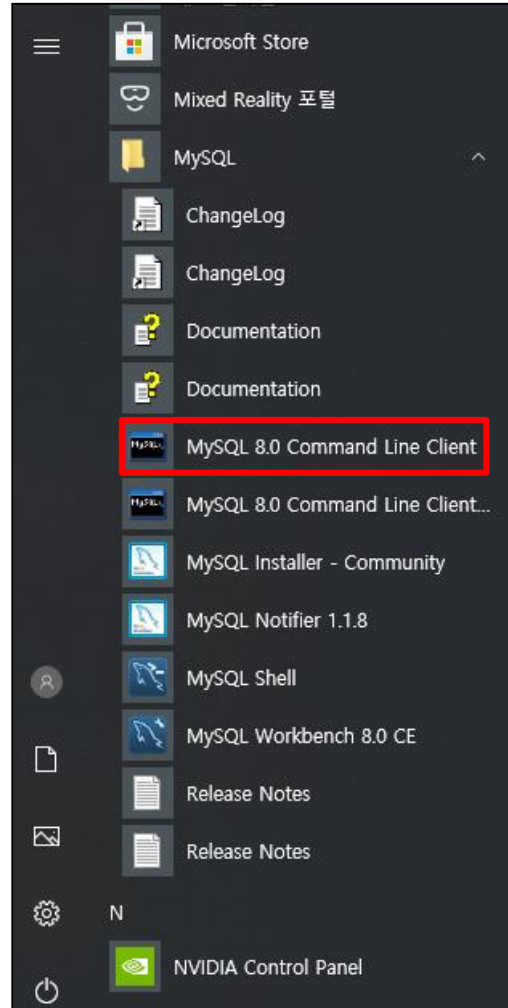
31) “Next” 클릭



32) 체크박스 해제 → “Finish” 클릭

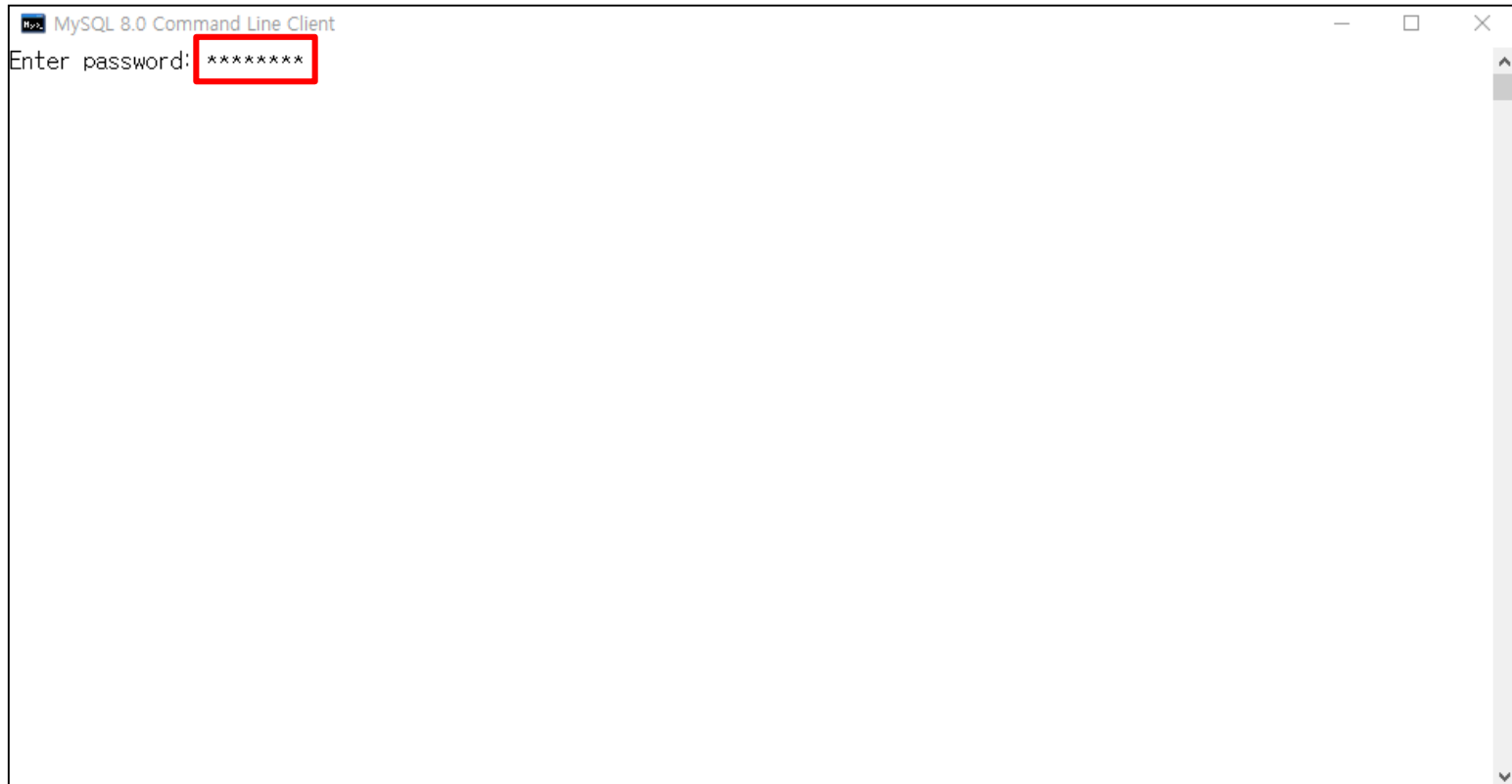


- 1) 시작 → “MySQL 8.0 Command Line Client” 클릭
(MySQL 8.0 Command Line Client – Unicode 아님)

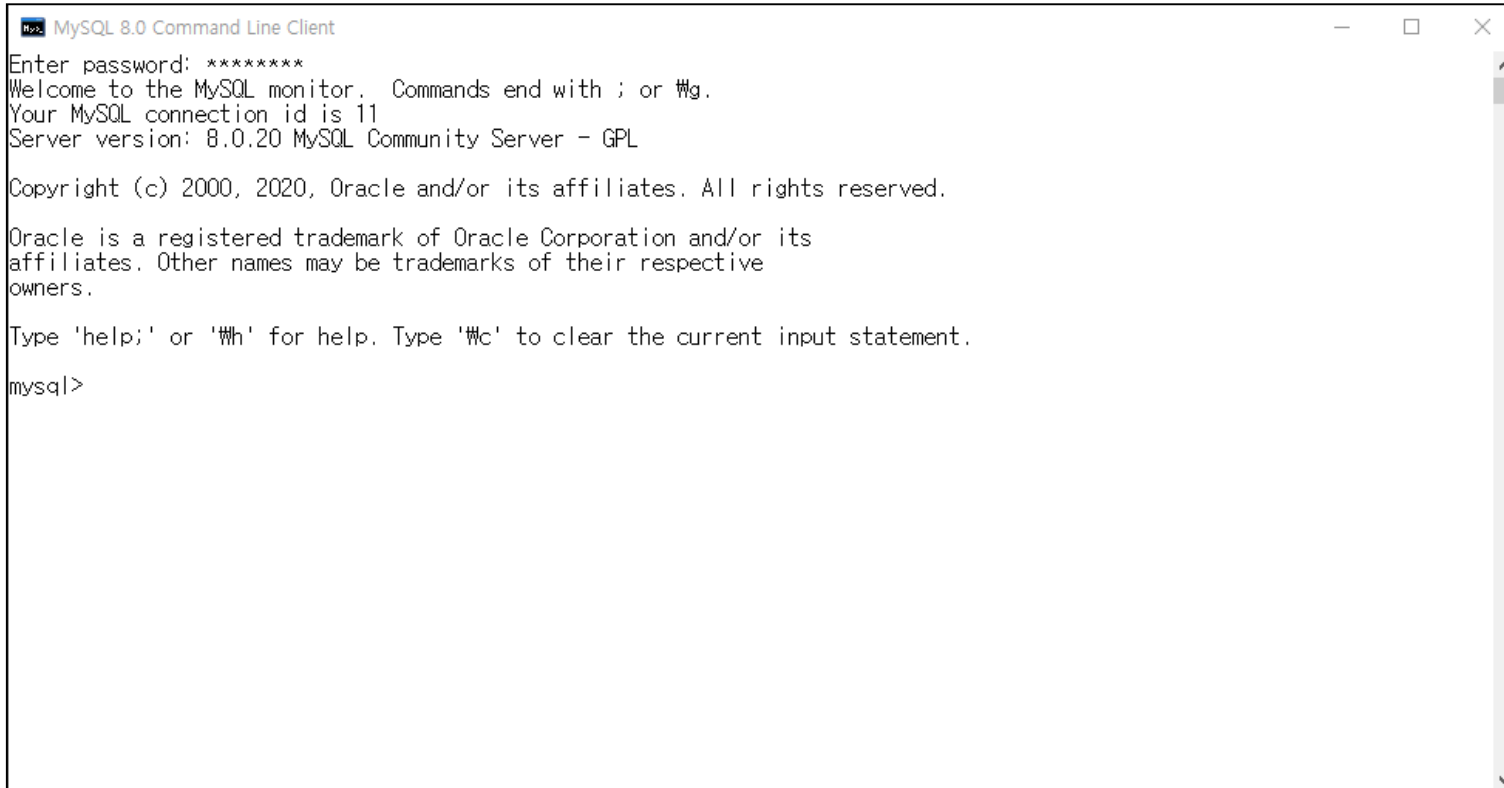


2) 비밀번호 입력

(Password는 설치 21번 단계에서 설정한 Password)



3) 접속 성공 시 화면



```
MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.20 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

- 데이터베이스 생성

```
CREATE DATABASE database_name;
```

- 데이터베이스 사용

- 사용할 데이터베이스 지정

```
USE database_name;
```

- 전체 데이터베이스 조회

```
SHOW DATABASES;
```

- 데이터베이스 삭제

```
DROP DATABASE database_name;
```

■ 데이터베이스 생성 예시

```
mysql> CREATE DATABASE dbpdb;  
Query OK, 1 row affected (0.01 sec)
```

■ 데이터베이스 사용 예시

• 사용할 데이터베이스 지정

```
mysql> USE dbpdb;  
Database changed
```

■ 전체 데이터베이스 조회 예시

```
mysql> SHOW DATABASES;  
+-----+  
| Database |  
+-----+  
| dbpdb   |  
| final   |  
+-----+  
2 rows in set (0.00 sec)
```

■ 데이터베이스 삭제 예시

```
mysql> DROP DATABASE dbpdb;  
Query OK, 0 rows affected (0.01 sec)
```

- 전체 테이블 조회

```
SHOW TABLE STATUS;    // 테이블 전체 정보 조회
```

```
SHOW TABLES;         // 테이블 이름만 조회
```

- 테이블 스키마 구조 확인

```
DESC table_name;
```

- 데이터 조회

```
SELECT * FROM table_name;
```

■ 전체 테이블 조회 예시

• 테이블이 없는 경우

```
mysql> SHOW TABLE STATUS;  
Empty set (0.00 sec)
```

```
mysql> SHOW TABLES;  
Empty set (0.00 sec)
```

• 테이블이 있는 경우

```
mysql> SHOW TABLE STATUS;  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| Name      | Engine | Version | Row_format | Rows | Avg_row_length | Data_length | Max  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| employee  | InnoDB | 10      | Dynamic    | 0    | 0              | 16384       |  
+-----+-----+-----+-----+-----+-----+-----+-----+  
1 row in set (0.01 sec)
```

```
mysql> SHOW TABLES;  
+-----+  
| Tables_in_dbpdb |  
+-----+  
| employee         |  
+-----+  
1 row in set (0.00 sec)
```

■ 테이블 스키마 확인 예시

```
mysql> DESC EMPLOYEE;
```

Field	Type	Null	Key	Default	Extra
Fname	varchar(15)	NO		NULL	
Minit	char(1)	YES		NULL	
Lname	varchar(15)	NO		NULL	
Ssn	char(9)	NO	PRI	NULL	
Bdate	date	YES		NULL	
Address	varchar(30)	YES		NULL	
Sex	char(1)	YES		NULL	
Salary	decimal(10,2)	YES		NULL	
Super_ssn	char(9)	YES		NULL	
Dno	int	NO		NULL	

10 rows in set (0.00 sec)

■ 데이터 조회 예시

• 데이터가 없는 경우

```
mysql> SELECT * FROM EMPLOYEE;
```

Empty set (0.01 sec)

• 데이터가 있는 경우

```
mysql> SELECT * FROM EMPLOYEE;
```

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000.00	333445555	5
Franklin	T	Wong	333445555	1955-12-08	683 Voss, Houston, TX	M	40000.00	888665555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000.00	333445555	5
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	NULL	1
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000.00	888665555	4
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000.00	987654321	4
Alicia	J	Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000.00	987654321	4

8 rows in set (0.00 sec)

- 실행 결과 저장

- SPOOL 시작

TEE 또는 WT 경로₩파일명.txt

- SPOOL 종료

NOTEE 또는 Wt

- 쿼리 파일 실행

SOURCE 또는 W. 경로₩파일명.txt

- MySQL 종료

QUIT 또는 Wq