

# DATABASE SYSTEM LABS – PREPARE

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# OBJECTIVES

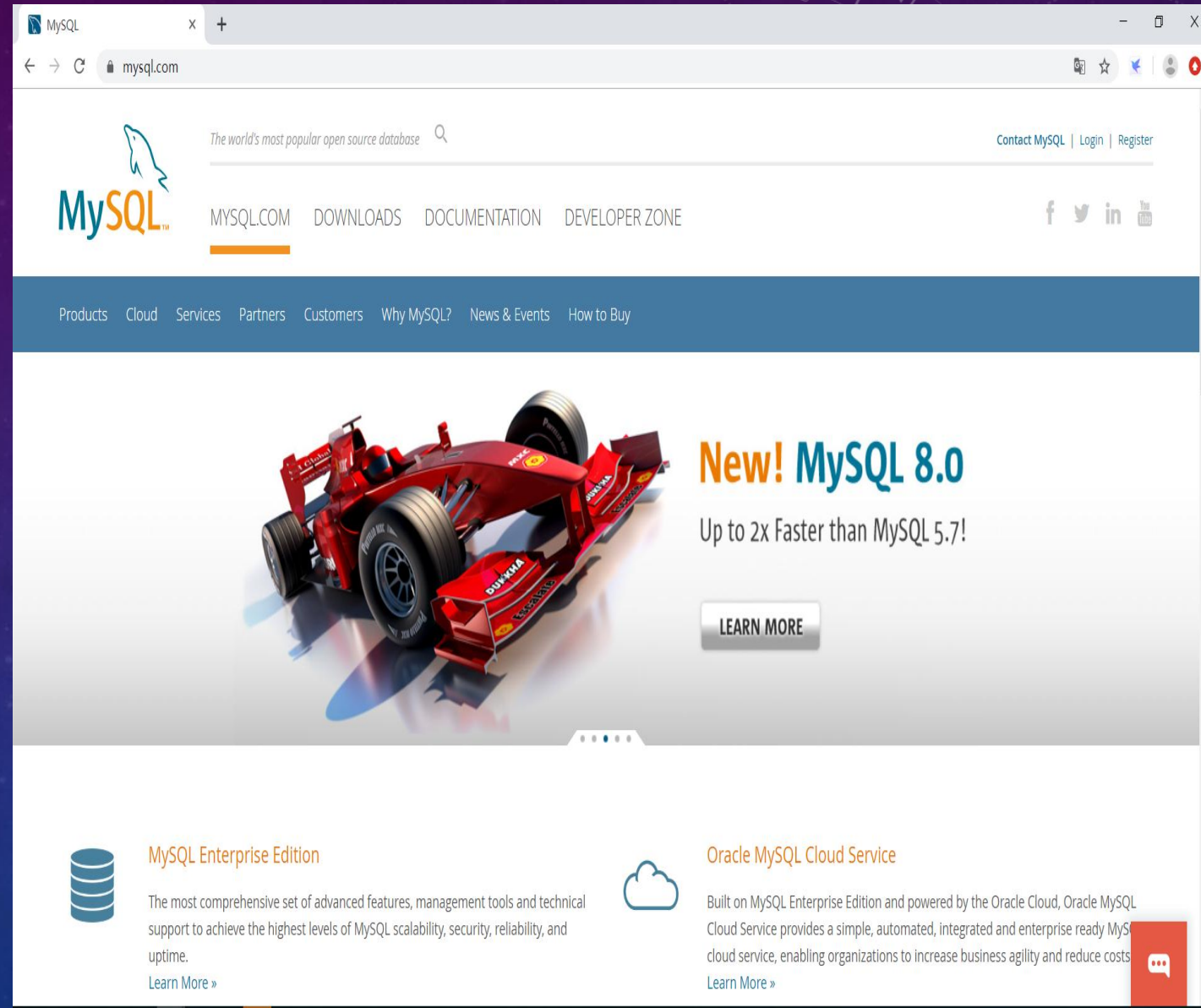
- DBMS Installation: Server (MySQL), Client (MysqlWorkbench)
- DBMS Login using super user
- Install Git and Use Git
- Install Python3.6 and Pycharm
- Connect MySQL using python

# Install mysql db server and client



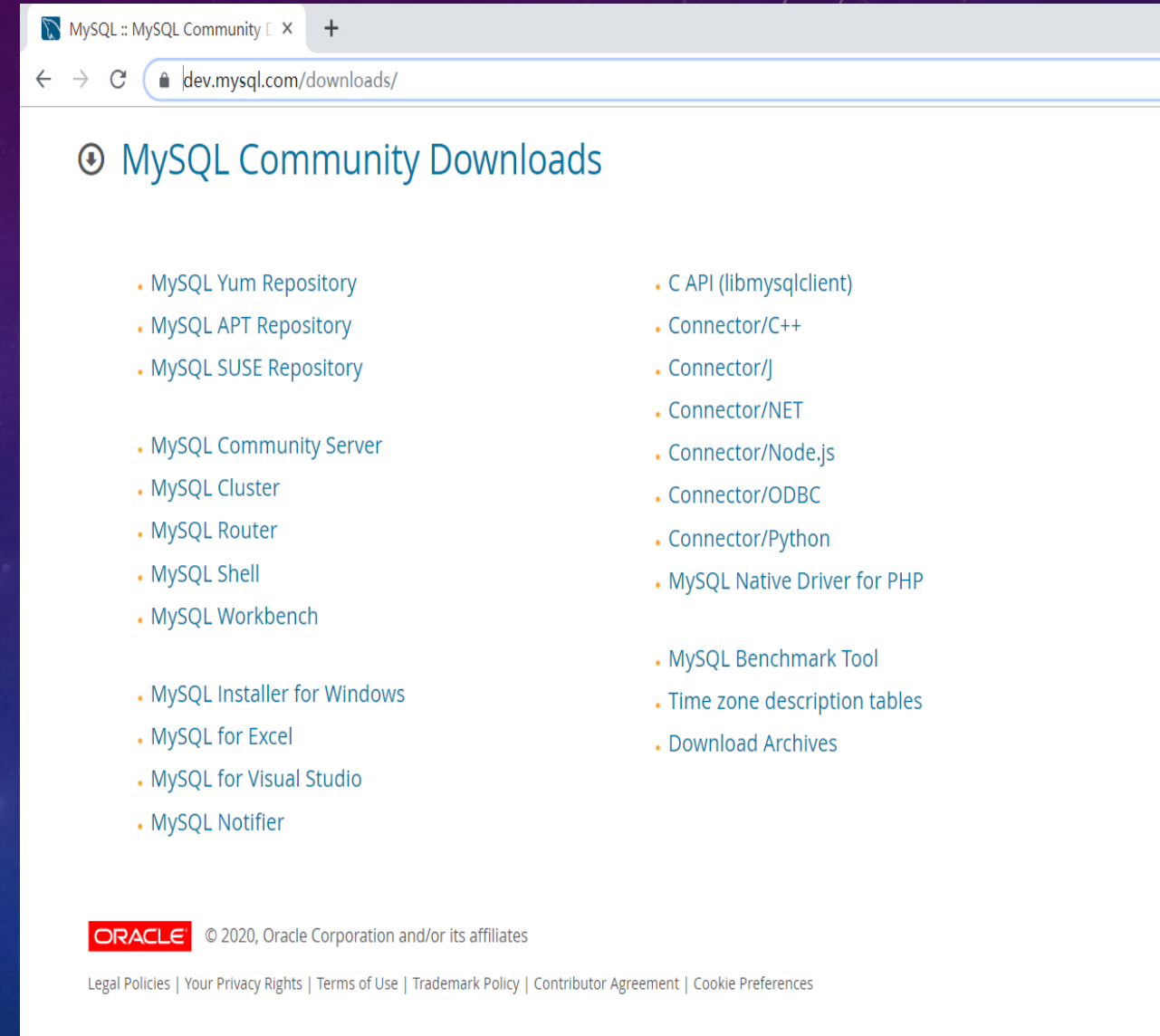
# LABS PREPARE

- mysql
  - <https://www.mysql.com/>
  - MySQL 8.0
  - MySQL Community Edition (GPL)

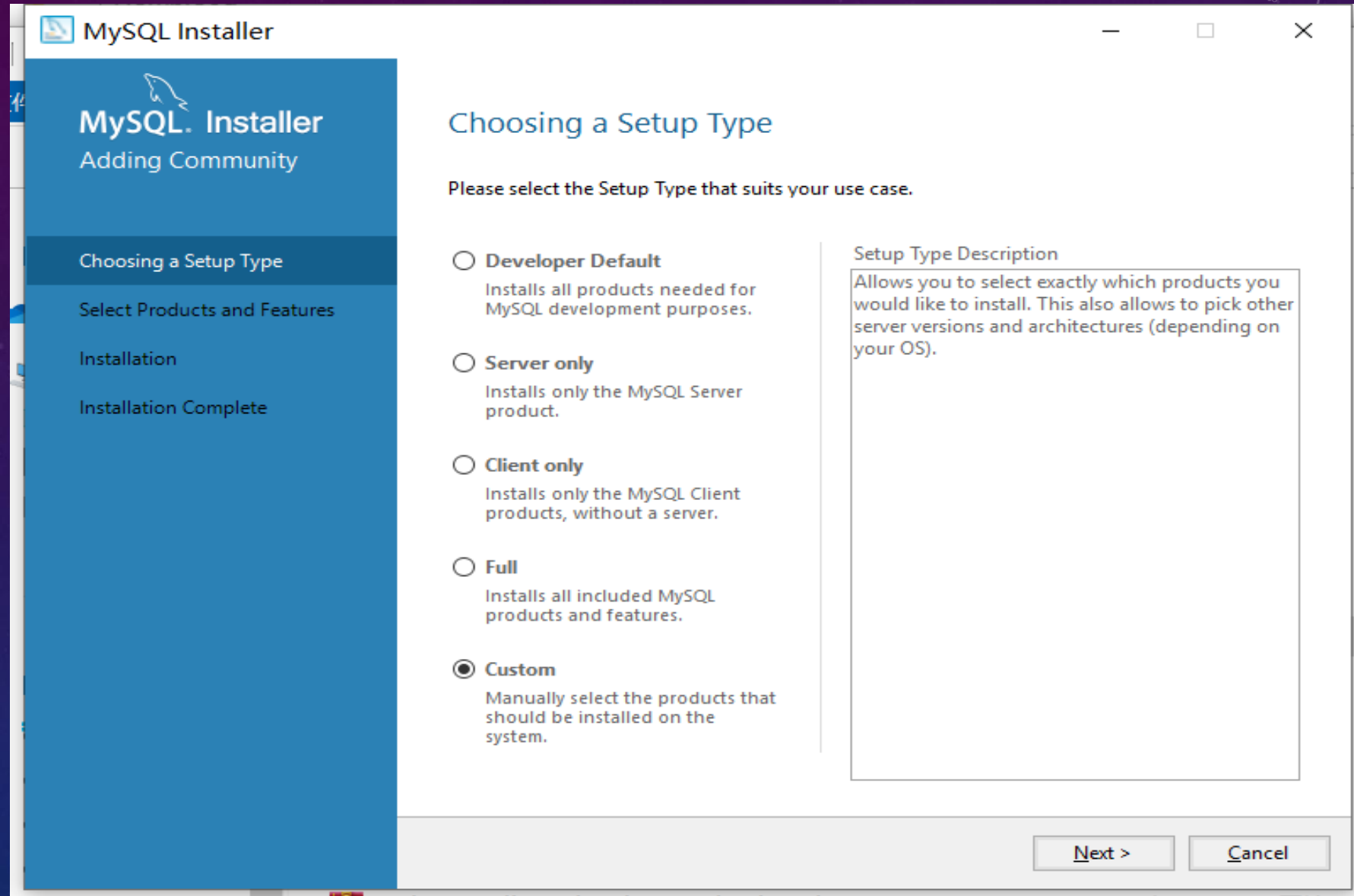


# LABS PREPARE

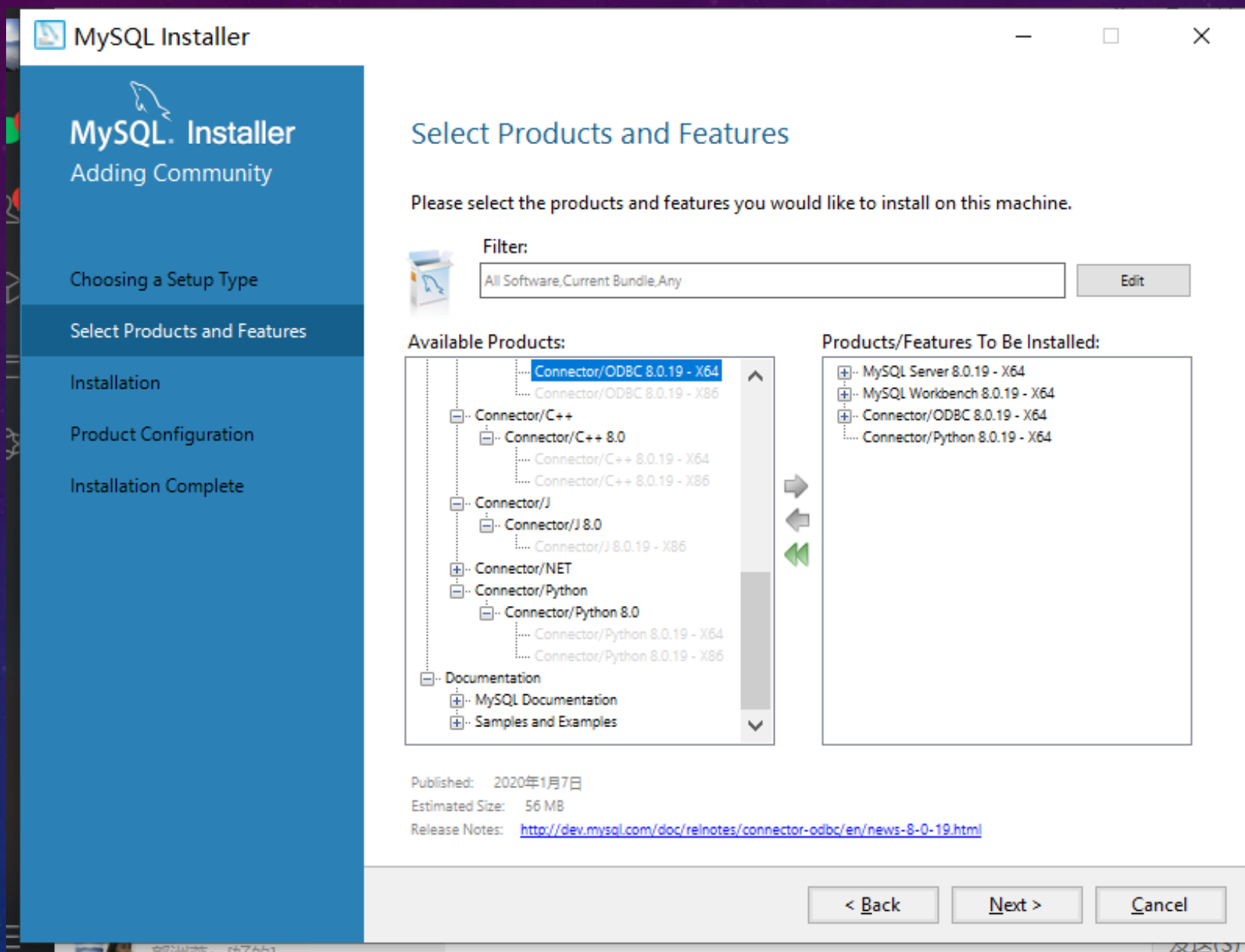
- mysql
  - <https://www.mysql.com/>
  - MySQL 8.0
  - MySQL Community Edition (GPL)
  - Server & Client & Connectors



# MYSQL INSTALL

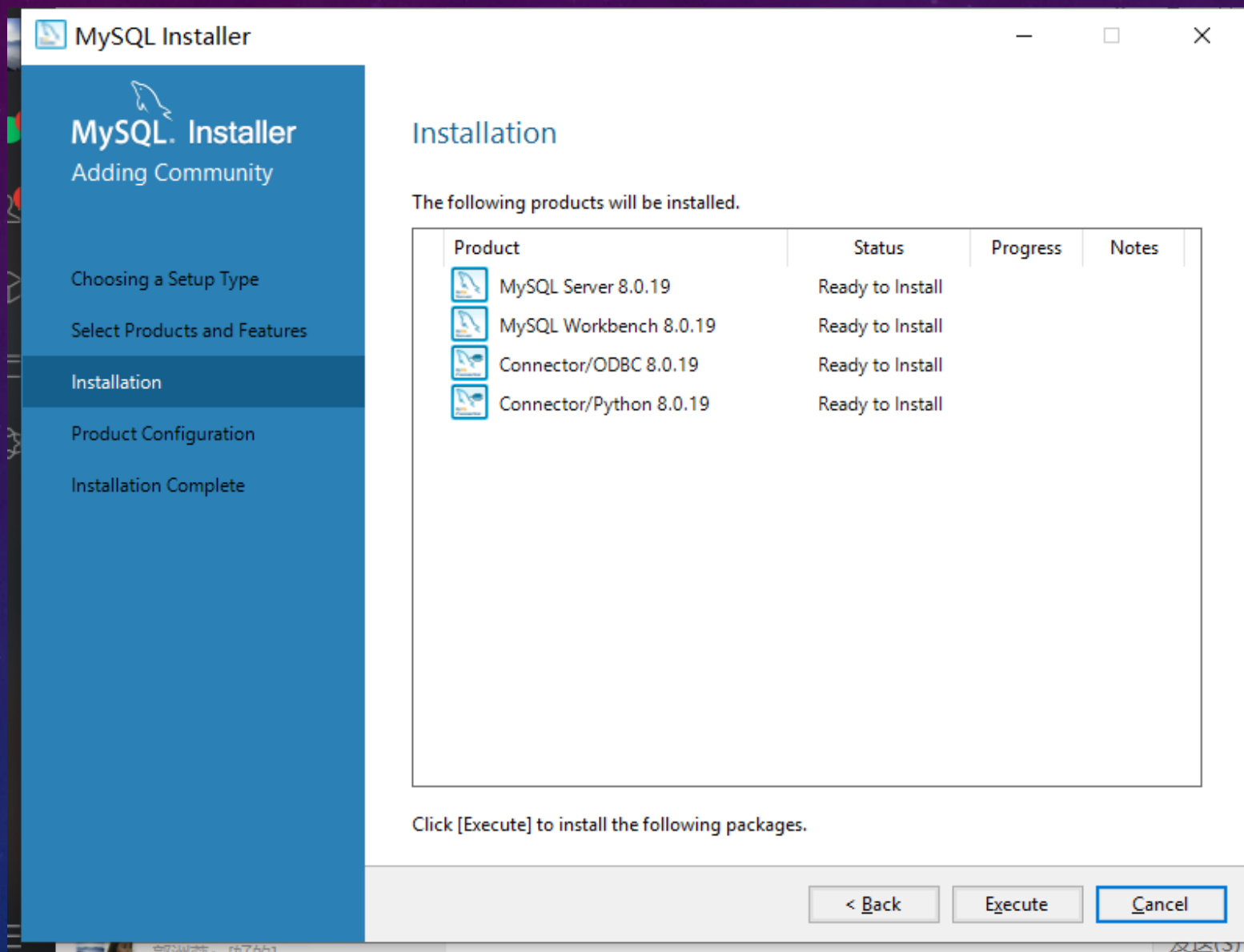


# MYSQL INSTALL



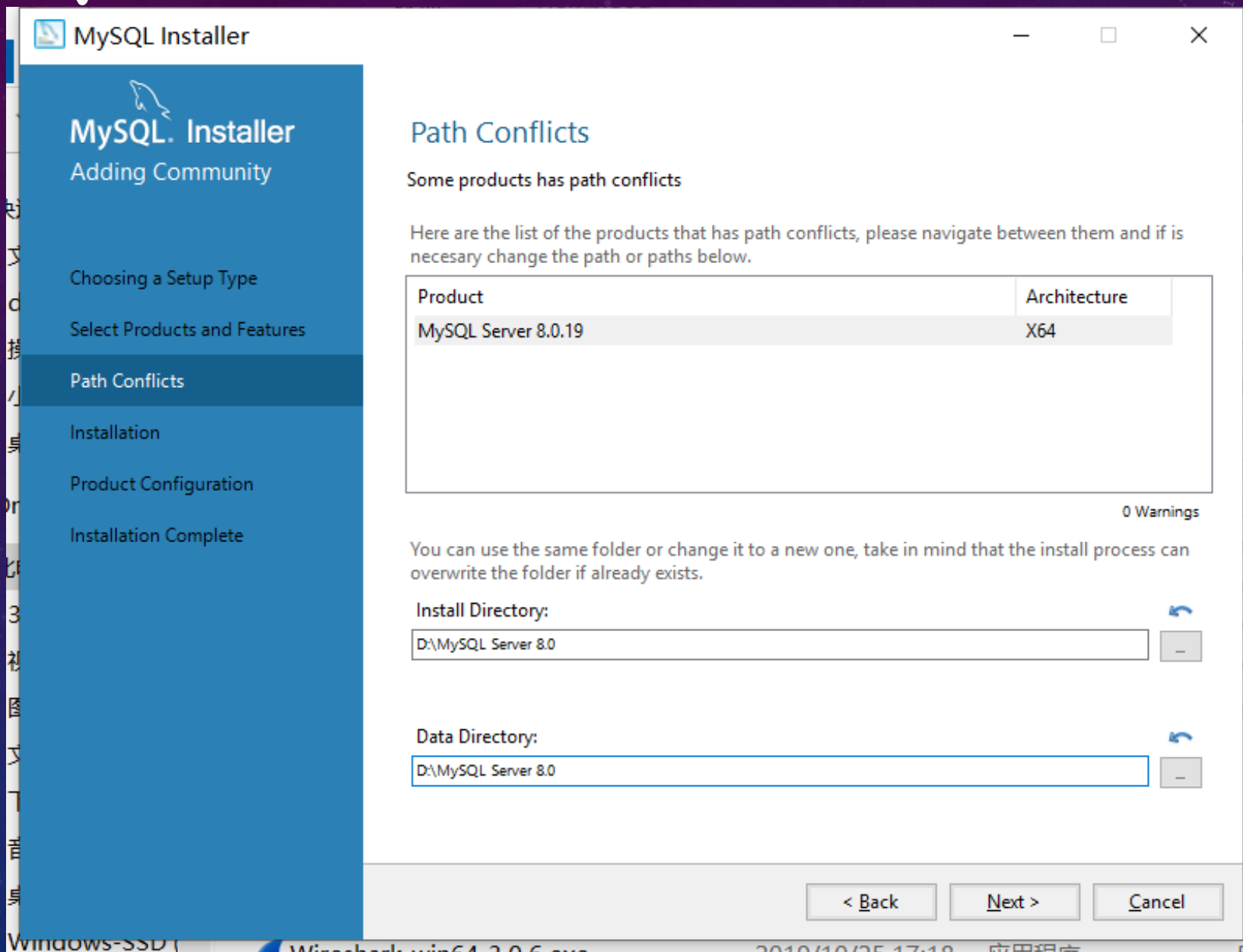


# MYSQL INSTALL

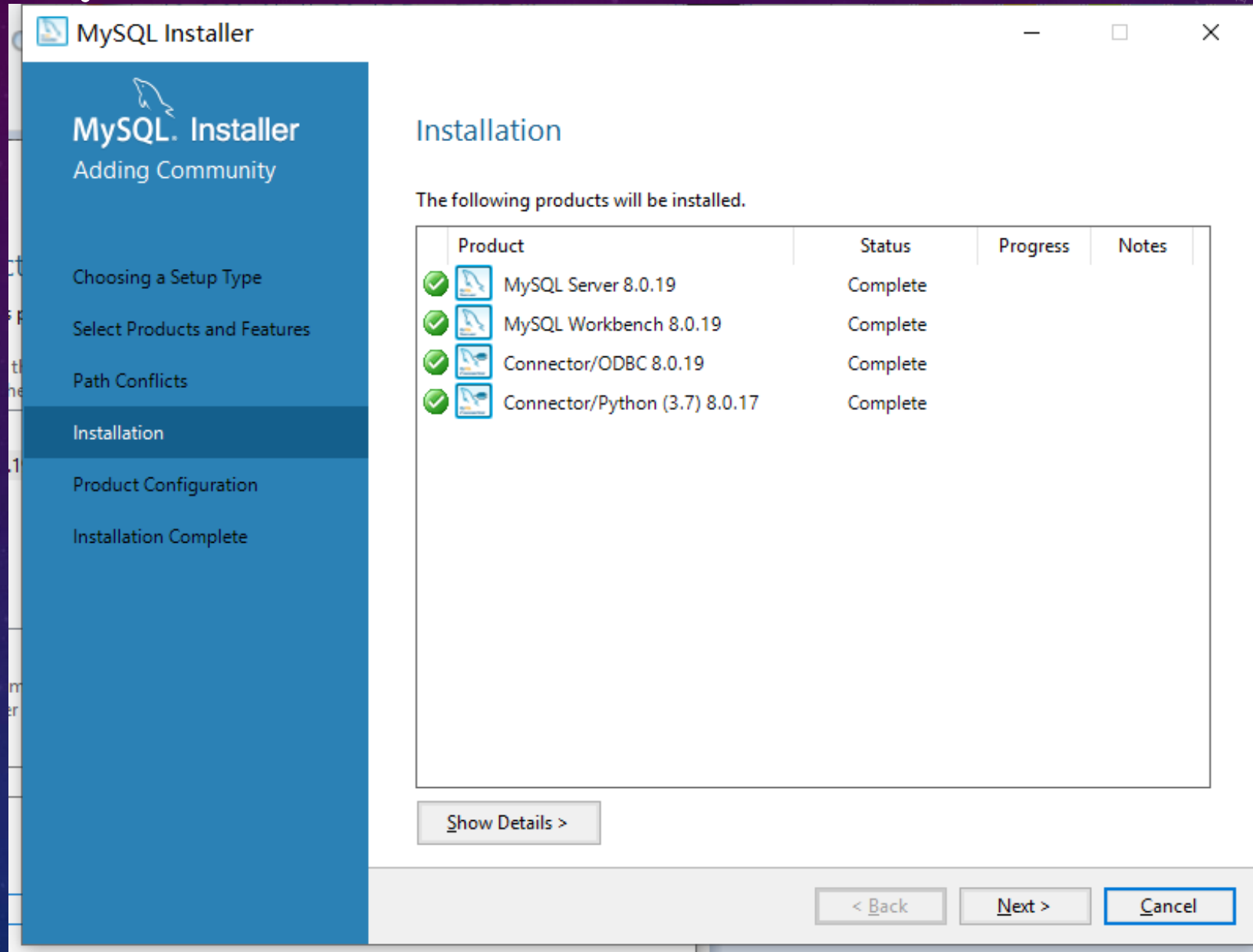




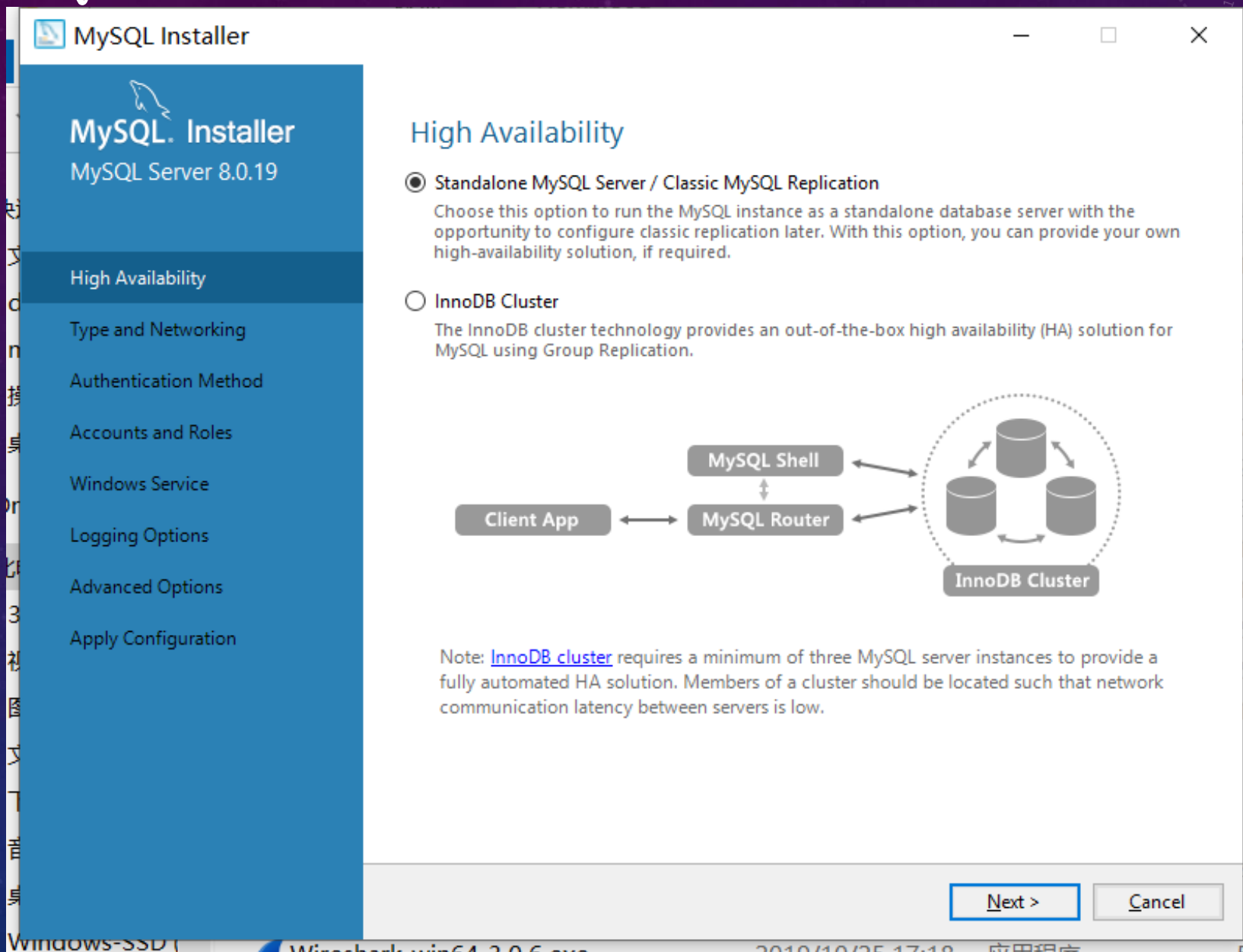
# MYSQL INSTALL



# MYSQL INSTALL



# MYSQL INSTALL



# MYSQL INSTALL

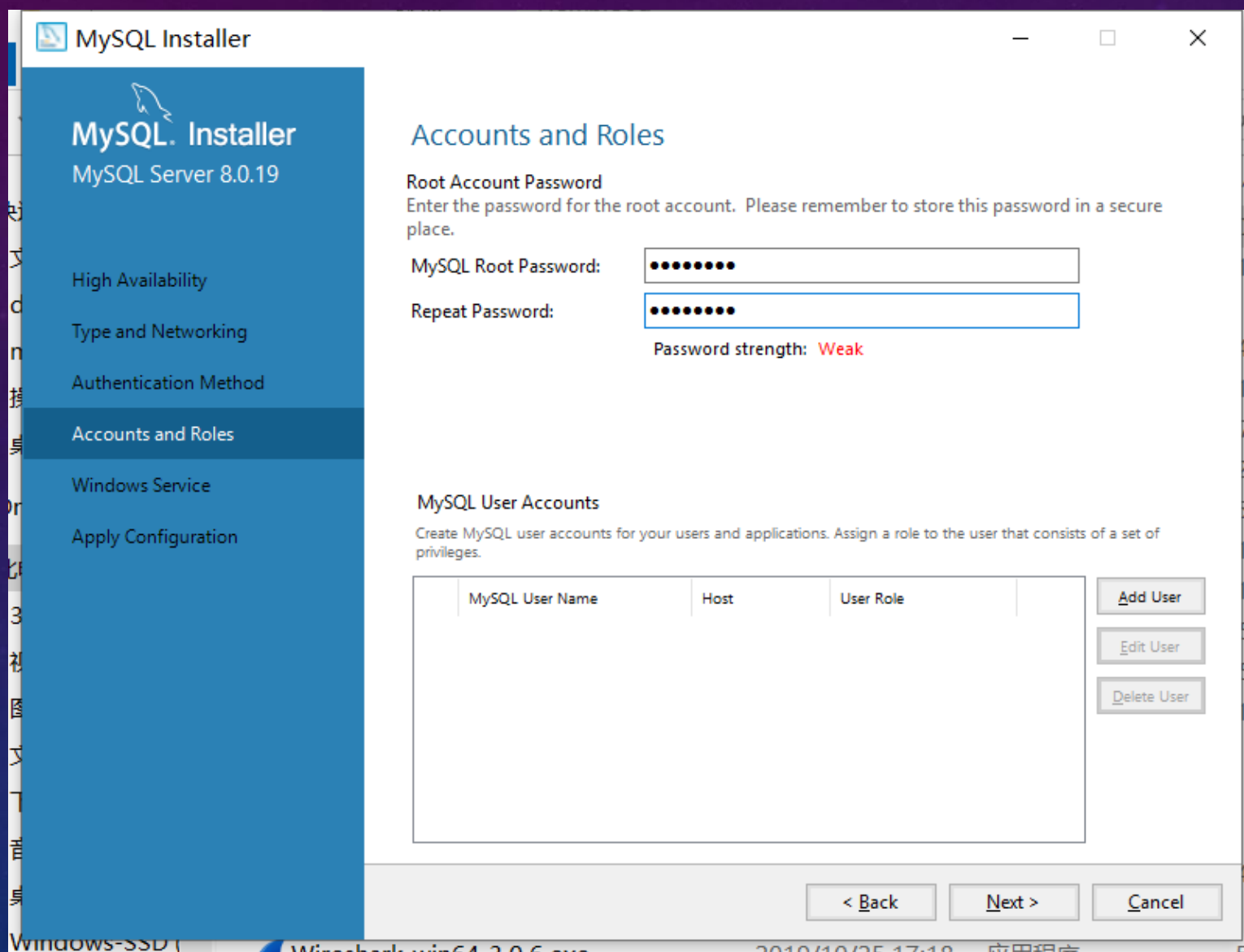
The screenshot shows the MySQL Installer window for MySQL Server 5.7.17. The left sidebar contains the following navigation items: MySQL. Installer, MySQL Server 5.7.17, Type and Networking (selected), Accounts and Roles, Windows Service, Plugins and Extensions, and Apply Server Configuration. The main 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:
- Connectivity**  
Use the following controls to select how you would like to connect to this server.
  - ☒ TCP/IP Port Number:
  - ☒ Open Firewall port for network access
  - ☐ Named Pipe Pipe Name:
  - ☐ Shared Memory Memory Name:
- Advanced Configuration**  
Select the checkbox below to get additional configuration page where you can set advanced options for this server instance.
  - ☐ Show Advanced Options

At the bottom right, there are 'Next >' and 'Cancel' buttons. A faint URL 'http://http://ebdngnes.com/ebdngnes.com/' is visible in the background of the bottom right area.



# MYSQL INSTALL



The screenshot shows the MySQL Installer window for MySQL Server 8.0.19. The left sidebar contains the following 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: 'Root Account Password' and 'MySQL User Accounts'. The 'Root Account Password' section has two password input fields, both filled with dots, and a 'Password strength: Weak' indicator. The 'MySQL User Accounts' section has a table with columns 'MySQL User Name', 'Host', and 'User Role', and buttons for 'Add User', 'Edit User', and 'Delete User'. At the bottom are navigation buttons: '< Back', 'Next >', and 'Cancel'.

MySQL Installer  
MySQL Server 8.0.19

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**

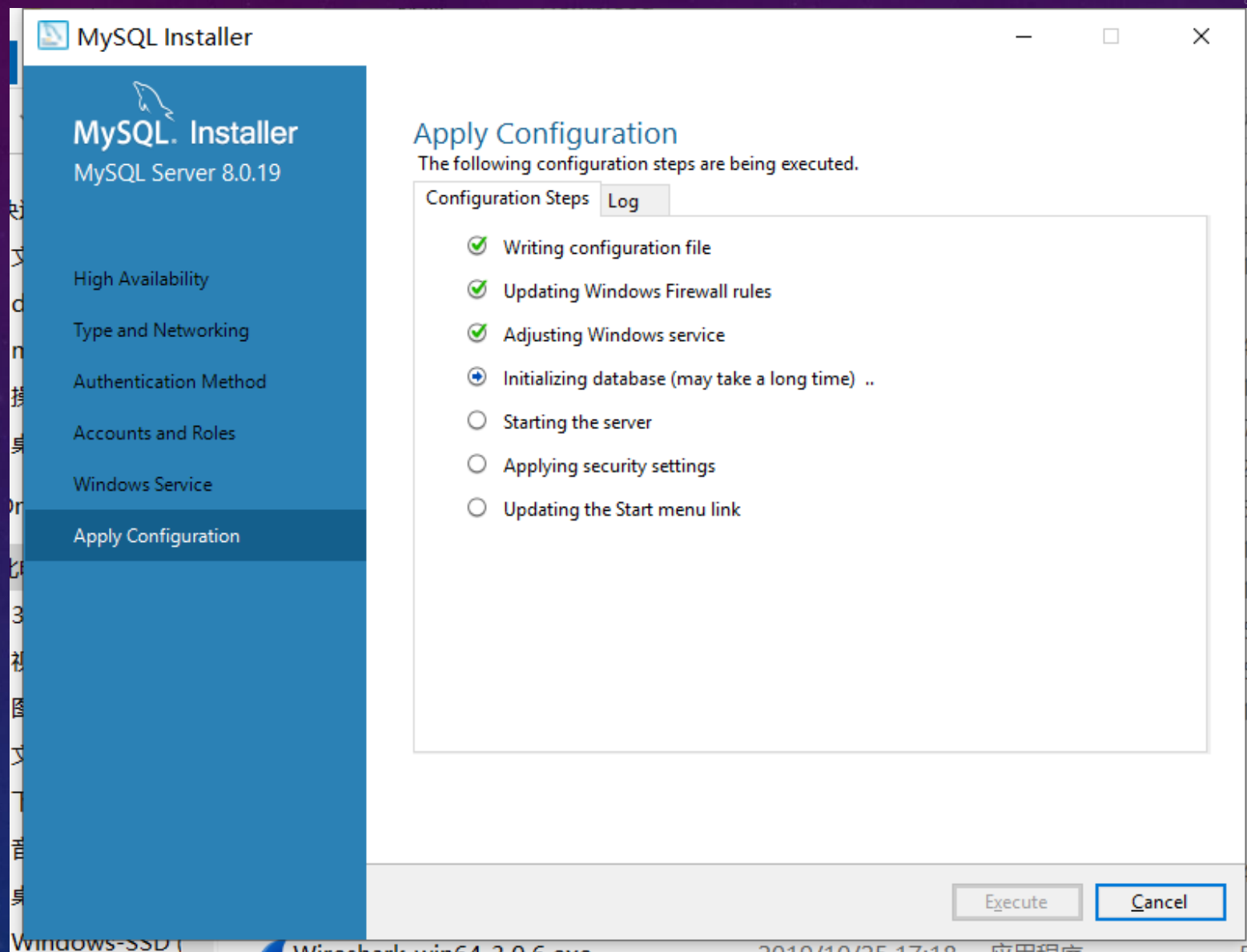
**MySQL User Accounts**  
Create MySQL user accounts for your users and applications. Assign a role to the user that consists of a set of privileges.

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

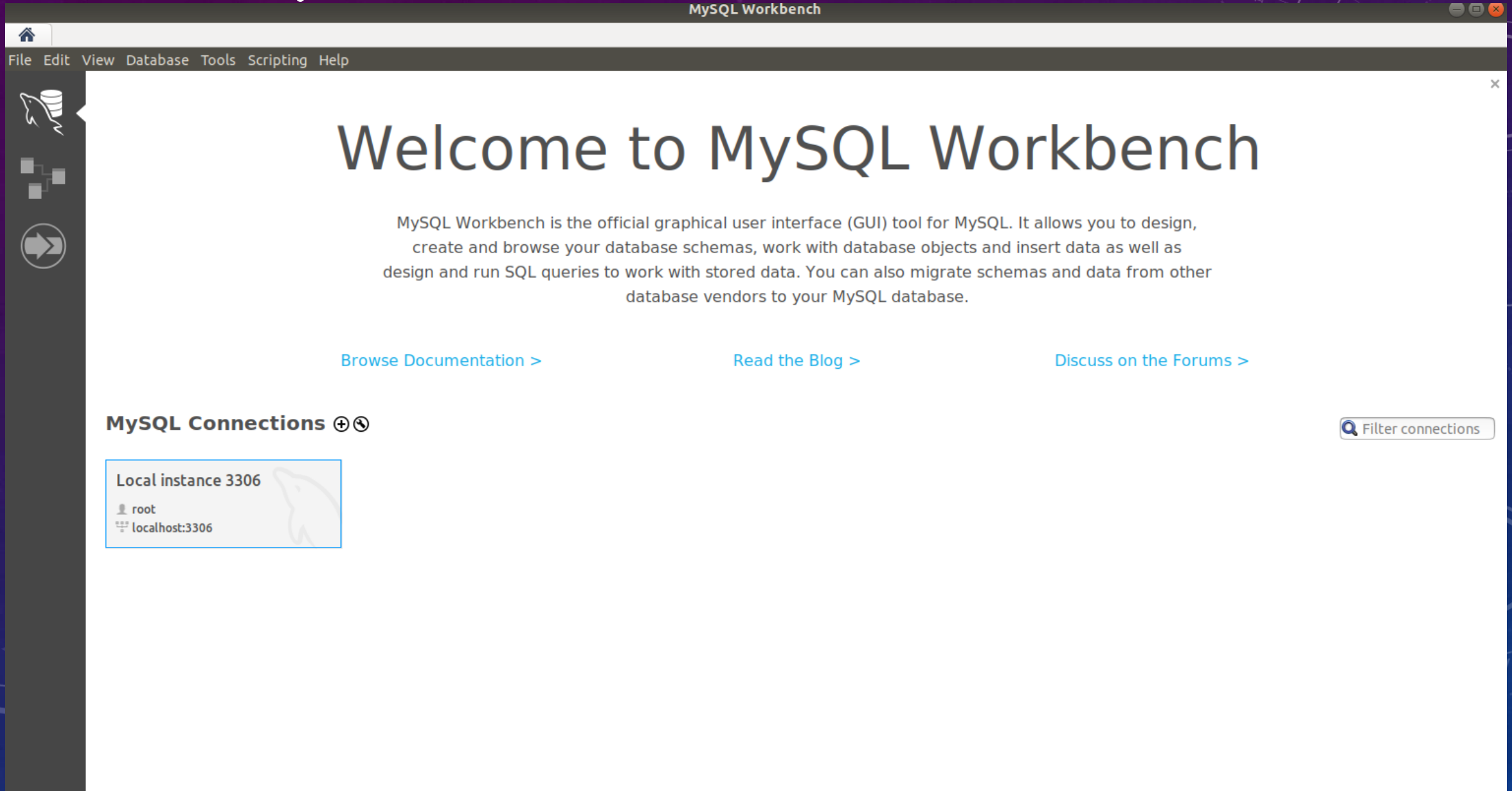
[Add User](#)  
[Edit User](#)  
[Delete User](#)

< Back   Next >   Cancel

# MYSQL INSTALL



# MYSQL: GUI CLIENT APPLICATION



# MYSQL: GUI CLIENT APPLICATION

MySQL Workbench

Local instance 3306

File Edit View Query Database Server Tools Scripting Help

Administration Schemas

SCHEMAS

Filter objects

- sys
  - Tables
    - sys\_config
      - Columns
        - variable
        - value
        - set\_time
        - set\_by
      - Indexes
      - Foreign Keys
      - Triggers
    - Views
    - Stored Procedures
    - Functions
  - testdb2019

Query 1

Limit to 1000 rows

```
1 • select variable , value from sys.sys_config;
```

Result Grid

#	variable	value
1	diagnostics.allow_i_s_tables	OFF
2	diagnostics.include_raw	OFF
3	ps_thread_trx_info.max_length	65535
4	statement_performance_analyzer.limit	100
5	statement_performance_analyzer.vi...	NULL
6	statement_truncate_len	64
*	NULL	NULL

Object Info Session

No object selected

sys\_config 1

Apply Revert

Query Completed

Context Help Snippets

Automatic context help is available in the toolbar to manually open the current caret position or automatic help.

Result Grid  
Form Editor  
Field Types  
Query Stats  
Execution Plan

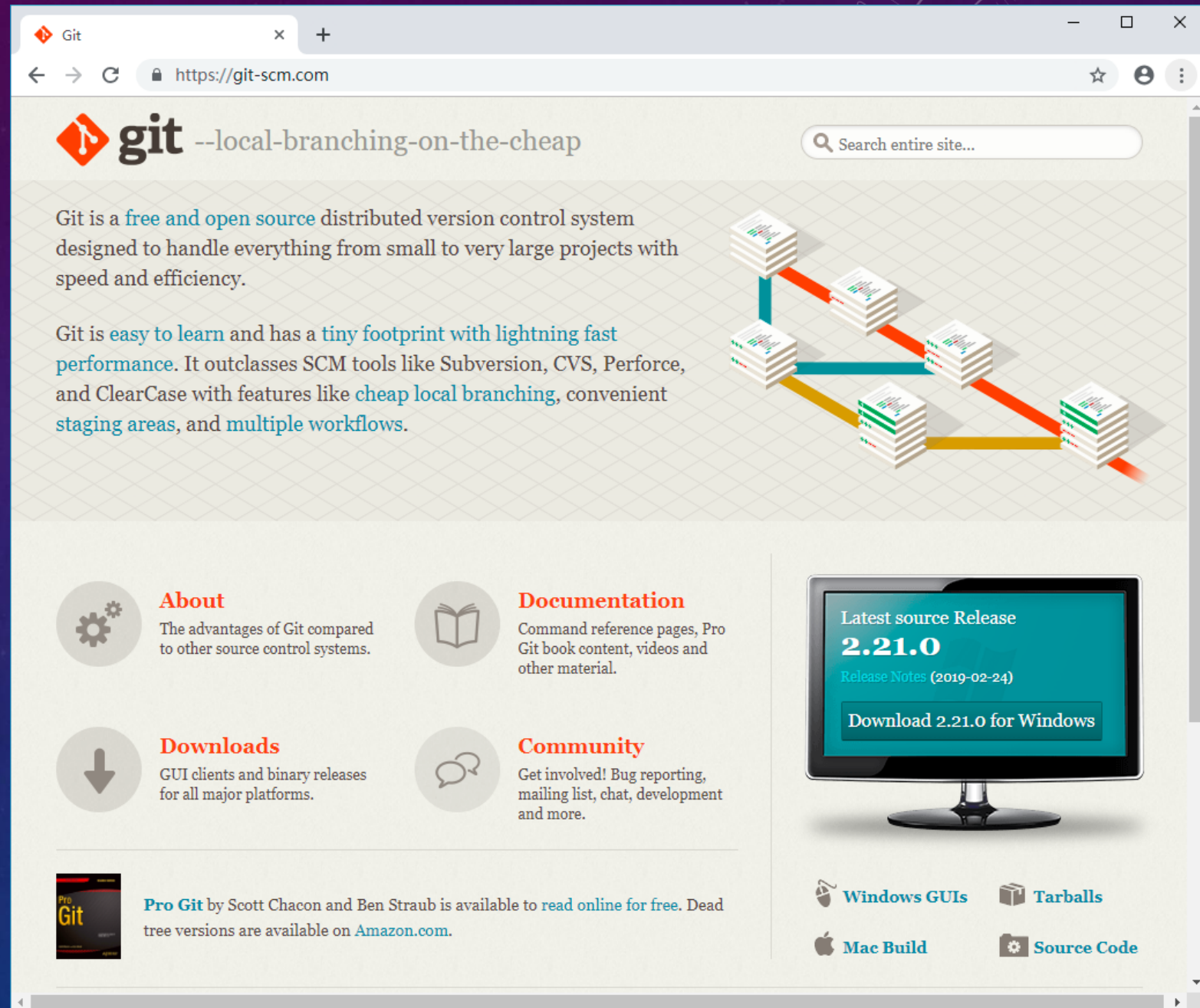




# Download courseware

# LABS PREPARE

- git
  - <https://git-scm.com>
  - Download
  - Install



# LABS PREPARE

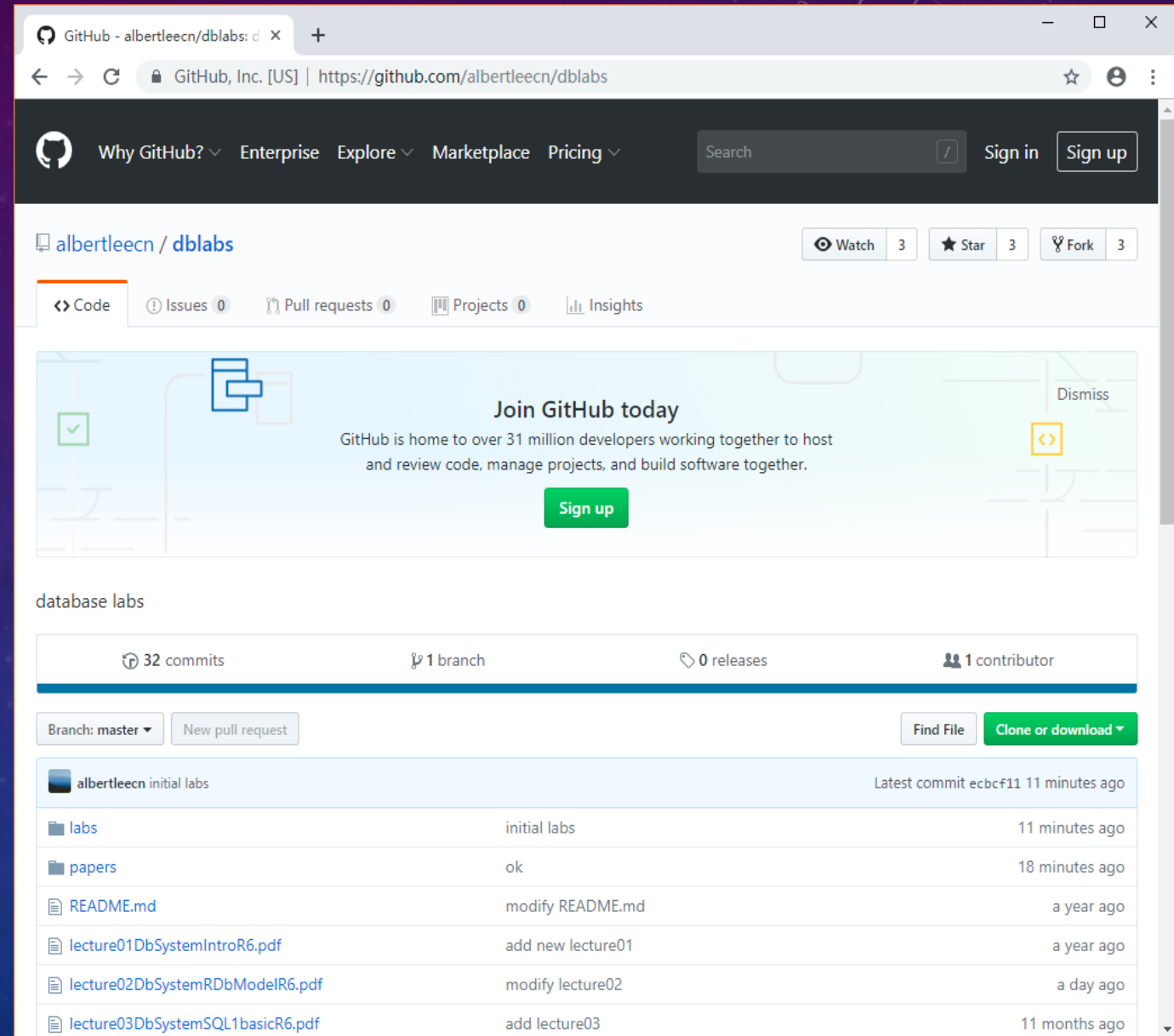
- material of DB course

- git clone

<https://github.com/albertleecn/dblabs>

- git pull

Get the latest documentation



The screenshot shows the GitHub repository page for `albertleecn/dblabs`. The page includes the GitHub navigation bar at the top, followed by the repository name and statistics (3 watches, 3 stars, 3 forks). Below this are tabs for Code, Issues (0), Pull requests (0), Projects (0), and Insights. A large banner promotes joining GitHub today. The repository details section shows 32 commits, 1 branch, 0 releases, and 1 contributor. At the bottom, a table lists the files in the repository and their commit history.

File	Commit Message	Time Ago
albertleecn initial labs	Latest commit ecbcf11	11 minutes ago
labs	initial labs	11 minutes ago
papers	ok	18 minutes ago
README.md	modify README.md	a year ago
lecture01DbSystemIntroR6.pdf	add new lecture01	a year ago
lecture02DbSystemRDbModelR6.pdf	modify lecture02	a day ago
lecture03DbSystemSQL1basicR6.pdf	add lecture03	11 months ago

# Install Python3.6 and Pycharm



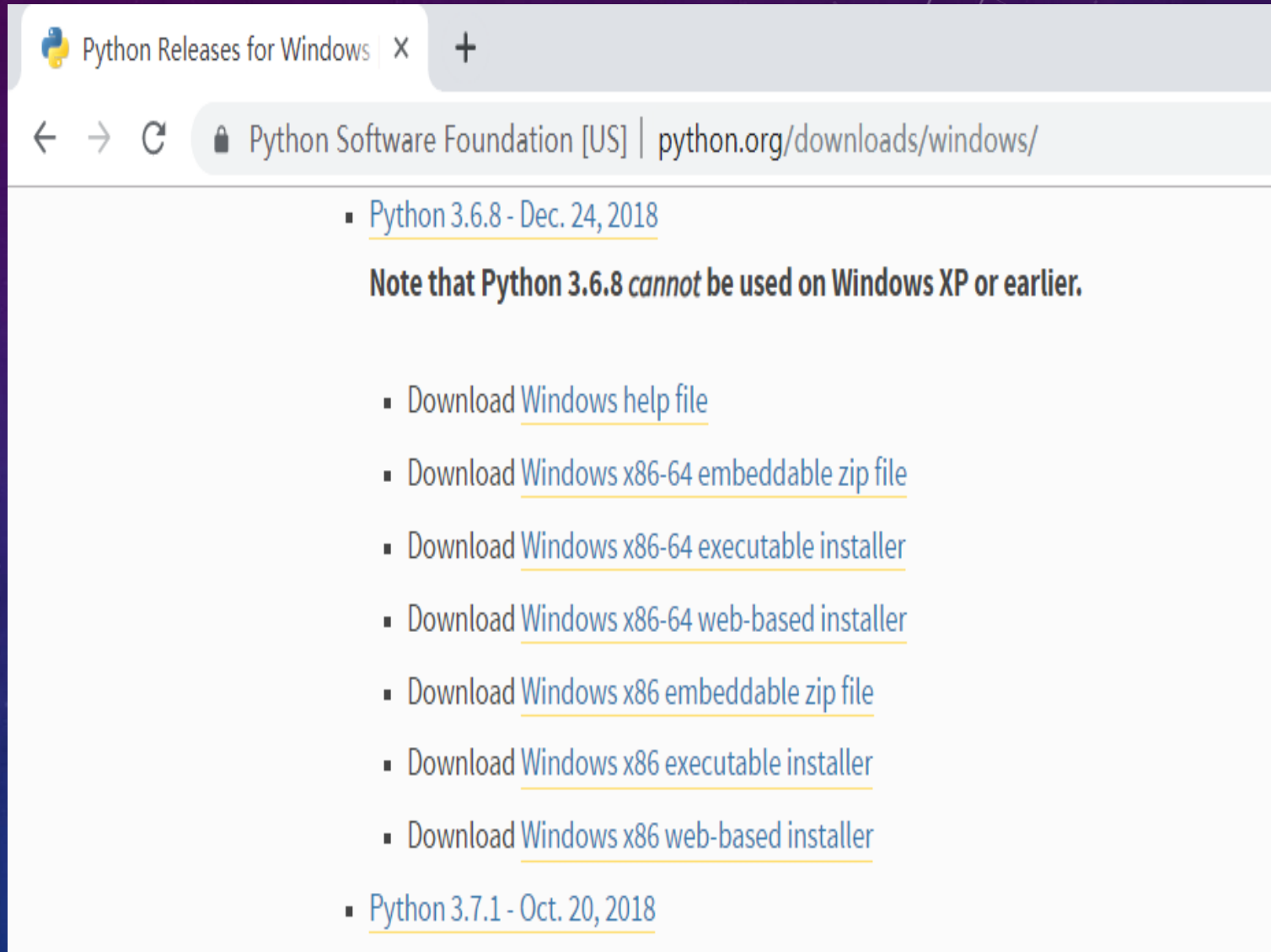
# LABS PREPARE

- python

- <https://www.python.org/downloads/windows/>

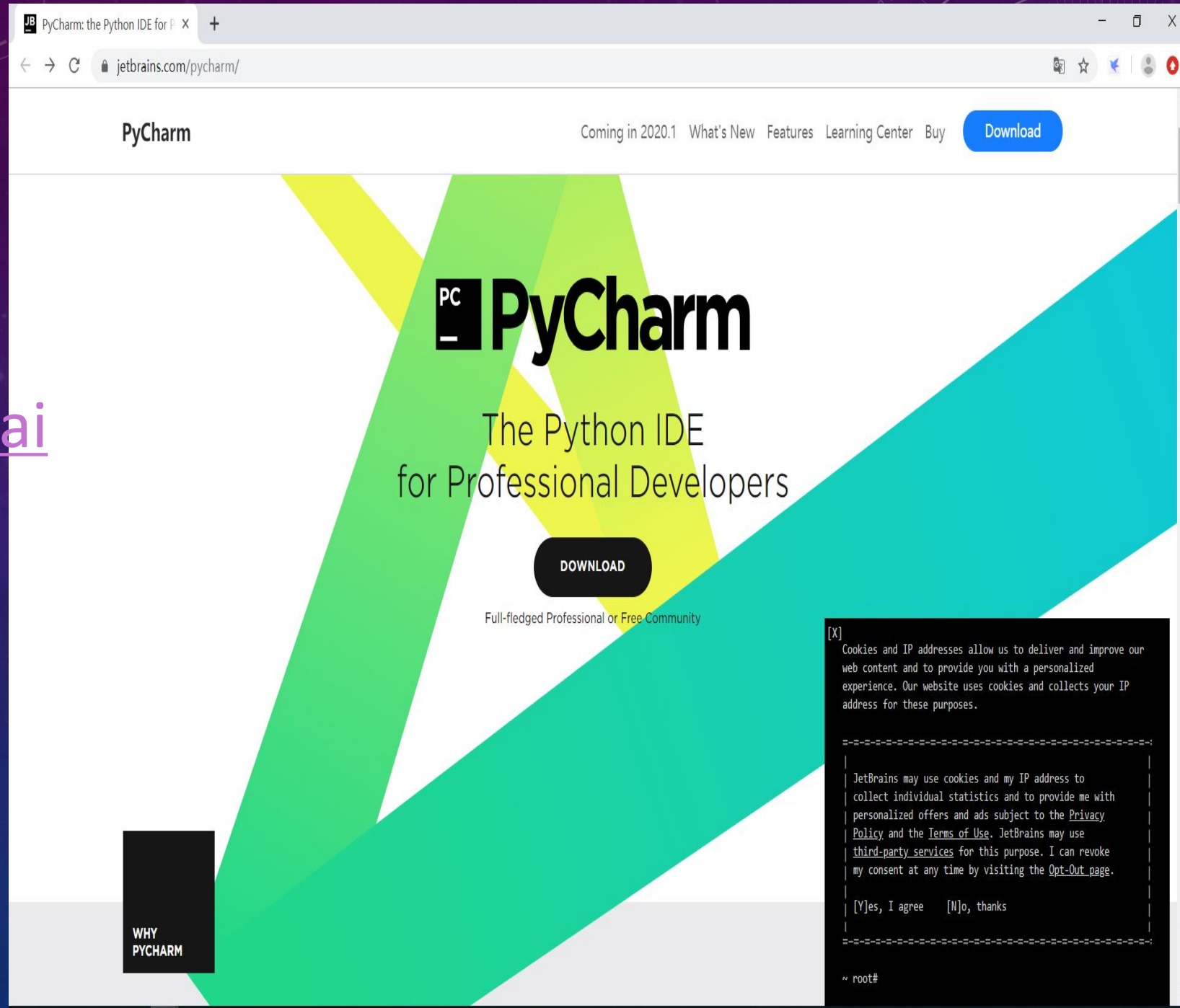
- Download

- Install



# LABS PREPARE

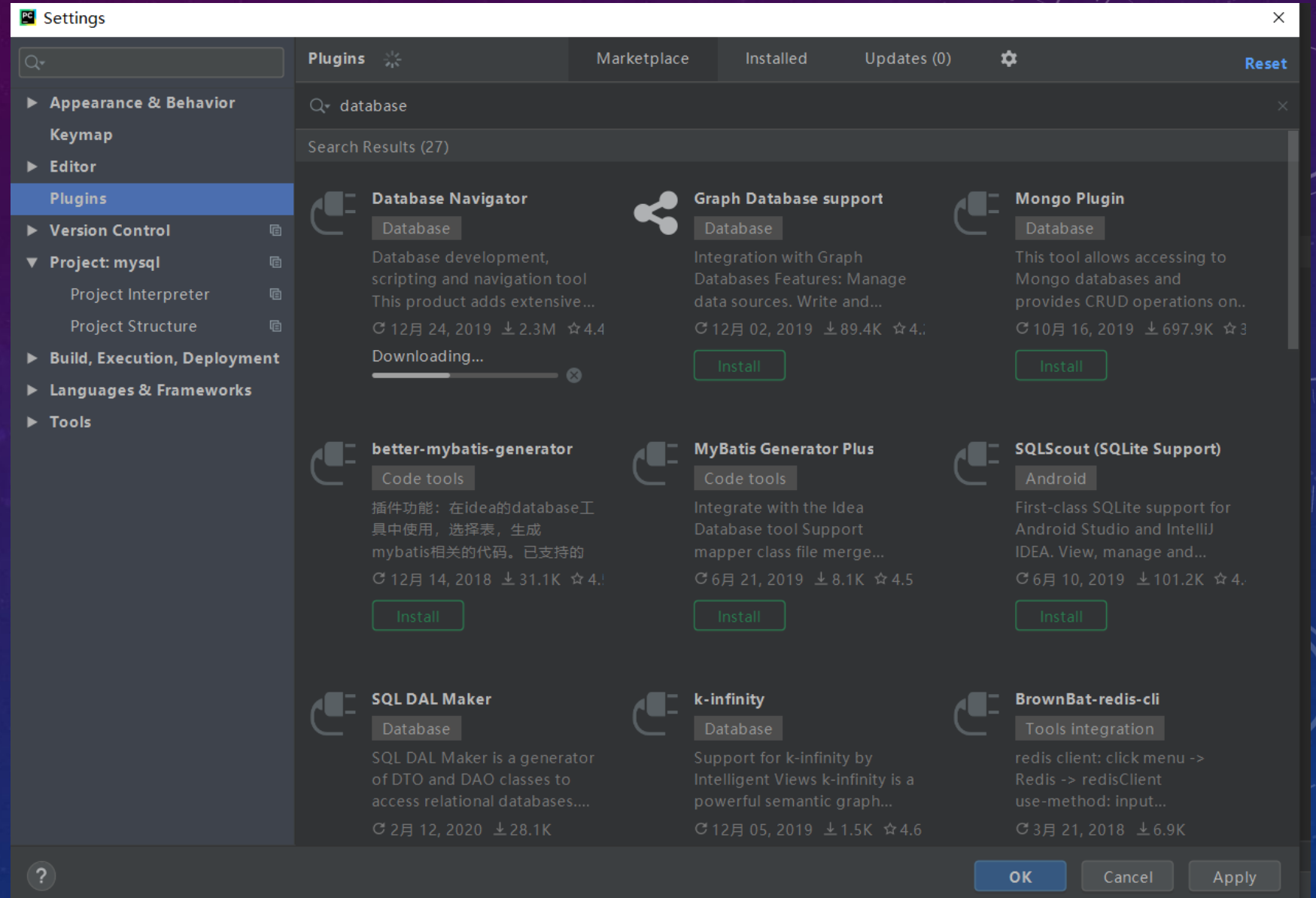
- pycharm
  - <https://www.jetbrains.com/pycharm/>
  - Download
  - Install



# Connect MySQL using python

# PYCHARM

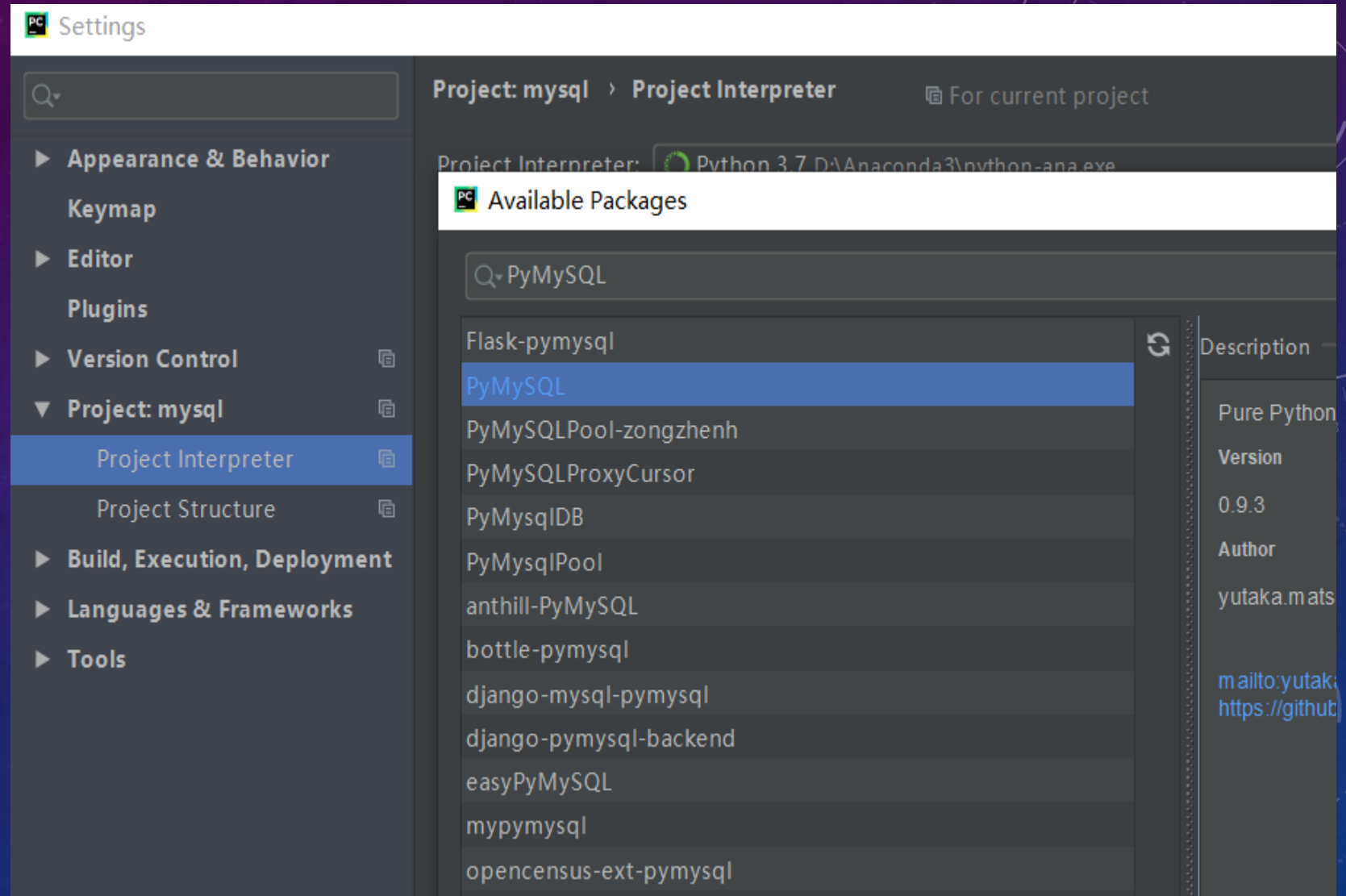
- Add reference
  - PyMySQL
    - Pip install PyMySQL





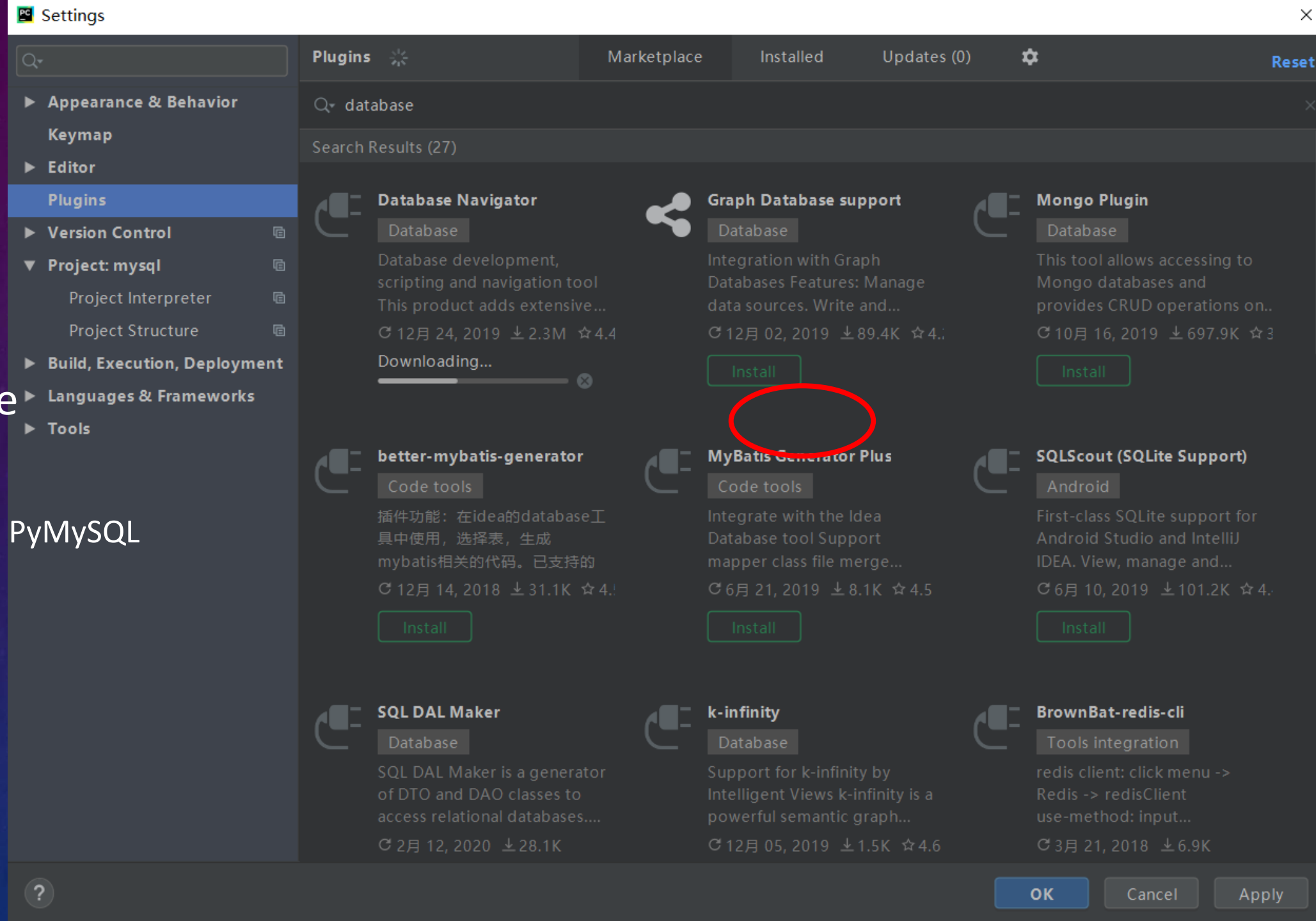
# PYCHARM

- Add reference
  - PyMySQL
  - Pip install PyMySQL



# PYCHARM

- Add reference
  - PyMySQL
    - Pip install PyMySQL



# CONNECTION

```
Database version : 8.0.19
```

```
Process finished with exit code 0
```

```
import pymysql

# 打开数据库连接
db = pymysql.connect("localhost", "root", "password", "sys")

# 使用 cursor() 方法创建一个游标对象 cursor
cursor = db.cursor()

# 使用 execute() 方法执行 SQL 查询
cursor.execute("SELECT VERSION()")

# 使用 fetchone() 方法获取单条数据.
data = cursor.fetchone()

print("Database version : %s " % data)

# 关闭数据库连接
db.close()
```



# THANKS !

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