Getting Started with JDBC

We will be using the following tools to write programs that interact with our databases:

* MySQL
* Java
* JDBC Driver
* Netbeans

You are welcome to write your Java code with another IDE, or even a text editor, but these instructions will assume you are using Netbeans. Netbeans is a free IDE that runs on all operating systems.

At this point, we should all have the latest version of MySQL installed.

# Make MySQL Less Secure

Starting with MySQL 8.0, MySQL, by default, expects all incoming connections to be encrypted. This is absolutely a best practice, but for our purposes, I think it best to connect to MySQL directly, without the added complication of making sure our connection is encrypted/secure. Once you can reliably establish a connection between your java code asd MySql, you are welcome to return to the default configuration. To reconfigure your MySql instance, please run the following SQL query in MySQL Workbench:

ALTER USER 'root'@'localhost' IDENTIFIED WITH

mysql\_native\_password BY '[YOURPASSWORD]'

Note that I am using the root user to connect to MySQL. This is how I configured MySQL; if you have configured your instance to use a different user, make sure you run the above query for your configured user.

For more information, please see: [Encrypted Login Option](https://dev.mysql.com/doc/refman/8.0/en/caching-sha2-pluggable-authentication.html#:~:text=In%20MySQL%208.0%2C%20caching_sha2_password%20is,as%20the%20Preferred%20Authentication%20Plugin)

# Create a Project in Netbeans

Please create a new project, and add the source file MealPlanning.java to your project.

# Download A JDBC Driver

There are two things to consider when downloading a JDBC driver:

* What version of MySql are you using?
* What operating system are you using?

For this class, it is assumed that you are using the latest versions, and that you simply need to download the latest version of the MySQL JDBC driver and add it to your project library. For more information on how to do this, please see: [JDBC Dev Environment Help](https://www.mysqltutorial.org/setting-up-mysql-jdbc-development-environment/)

# Add your Database credentials as Run Parameters in Net Beans

The most basic thing a program using JDBC needs to do is connect to MySQL. Because we all have different credentials to access our database, I designed this example program with a basic means of entering credentials: adding them as Run Parameters.

Right click on your Project Name, select properties, and under Run, add your user name and password as parameters. Do not use a command to separate the two.

For projects going forward, this method of entering credentials is acceptable. You may also prompt the user to enter their username and password. Do not hardcode credentials within your code.

# Create a Stored Procedure

In order to successfully run the example program, you need a stored procedure added to your meal planning database:

delimiter $$

CREATE PROCEDURE GetRecipes () BEGIN

select \* from Recipe;

END $$

delimiter ;