

# How to set-up JDBC for IntelliJ IDEA Ultimate

---

Index

## How to set-up JDBC for IntelliJ IDEA Ultimate

[Introduction](#)

[List of Software](#)

[IntelliJ IDEA Ultimate Edition](#)

[XAMPP](#)

[Configuring XAMPP](#)

[CAUTION!](#)

[Configuring IntelliJ IDEA Ultimate Edition](#)

## Introduction

---

JDBC (or short for Java Database Connectivity) is a series of drivers created by the Java Developers for adding capabilities for a Java program to interact with a database that is hosted on a web-server. Since we know little to nothing about web-servers right now, we will use our own computer as a web-server. We will host a sample database on that server and create a program that will talk to the database.

Right now, all the values that we input and/or generate are wiped out after the program is restarted, we want some capabilities so that the values can be saved and/or accessed by the program even if the program is restarted.

After you complete this tutorial, you will be able to create a program which can persist the values in a database.

---

## List of Software

---

1. [IntelliJ IDEA Ultimate Edition](#)
  2. [XAMPP \(For emulating a server and a database on your computer\)](#)
- 

## IntelliJ IDEA Ultimate Edition

I hope you have already installed the IntelliJ IDEA Ultimate Edition on your computer and it is linked to your JetBrains' Student License, because you might need it. If you're using the free Community Edition, the UI/UX of the process would be a little different than explained in this tutorial so I would suggest you install the IntelliJ IDEA Ultimate Edition before continuing.

If you haven't already downloaded and installed the **Ultimate** Edition of IntelliJ IDEA, you can download it [here](#).

---

## XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

Choose the version of XAMPP that is compatible to your operating system.

If you are using Windows 7/8/8.1/10 then please use [this link](#).

If you are using Linux then please use [this link](#).

If you are using MacOS then please [this link](#). OR you can use MAMP if XAMPP is not compatible/working on your computer; you can download it [here](#).

---

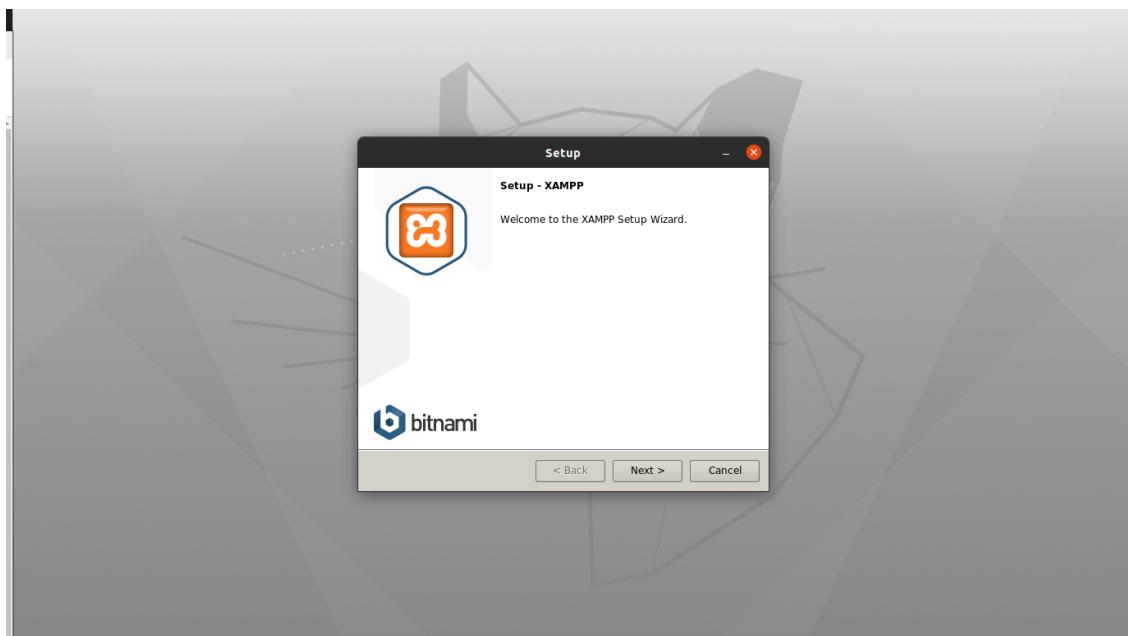
Since I am using Linux on my computer (I highly suggest that you try Linux at least once in your student life, it is awesome!), majority of this tutorial would be installing and setting up the software on Linux (don't worry, the installation process is largely the same on a Windows or a Mac computer too!)

---

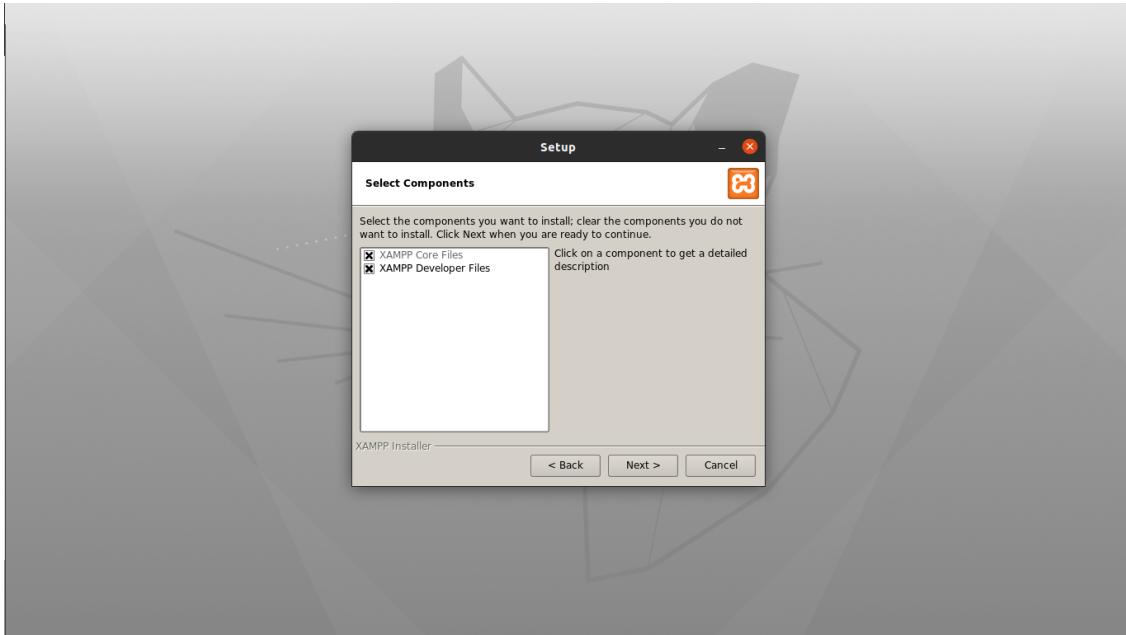
## Configuring XAMPP

---

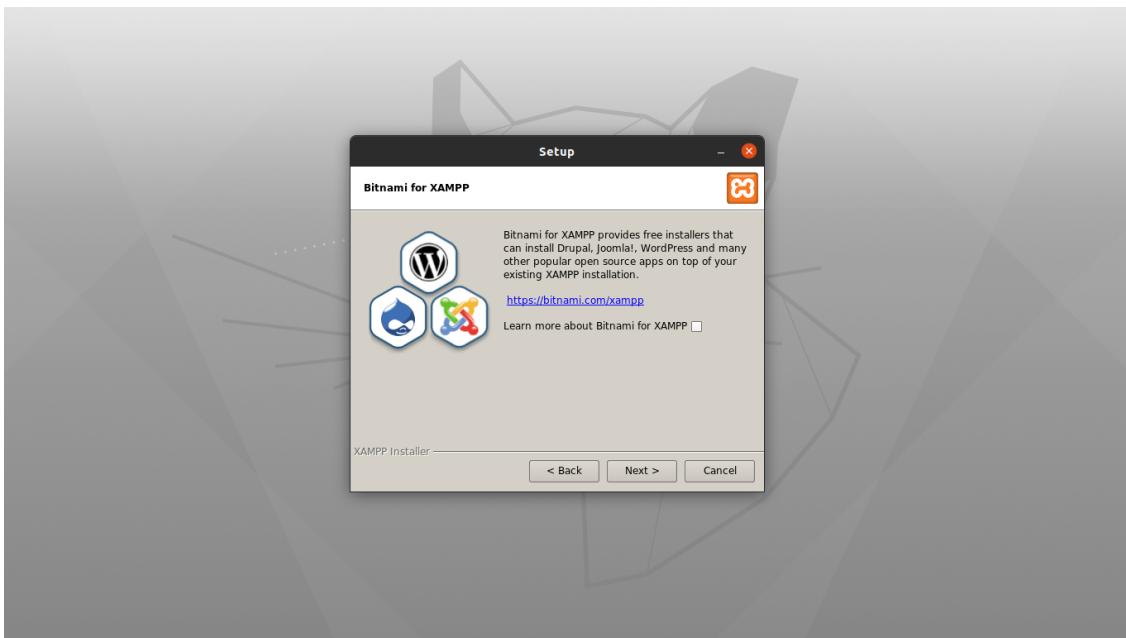
1. Download the XAMPP binaries from the official website (link is given in the previous section).
2. Open the setup software that you have downloaded (double-click on it!). If you are using a Windows operating system, then right click on the software and select the "**Run as Admin**" option.
3. When the software loads, it would look something like the following image, just click "**Next >**".



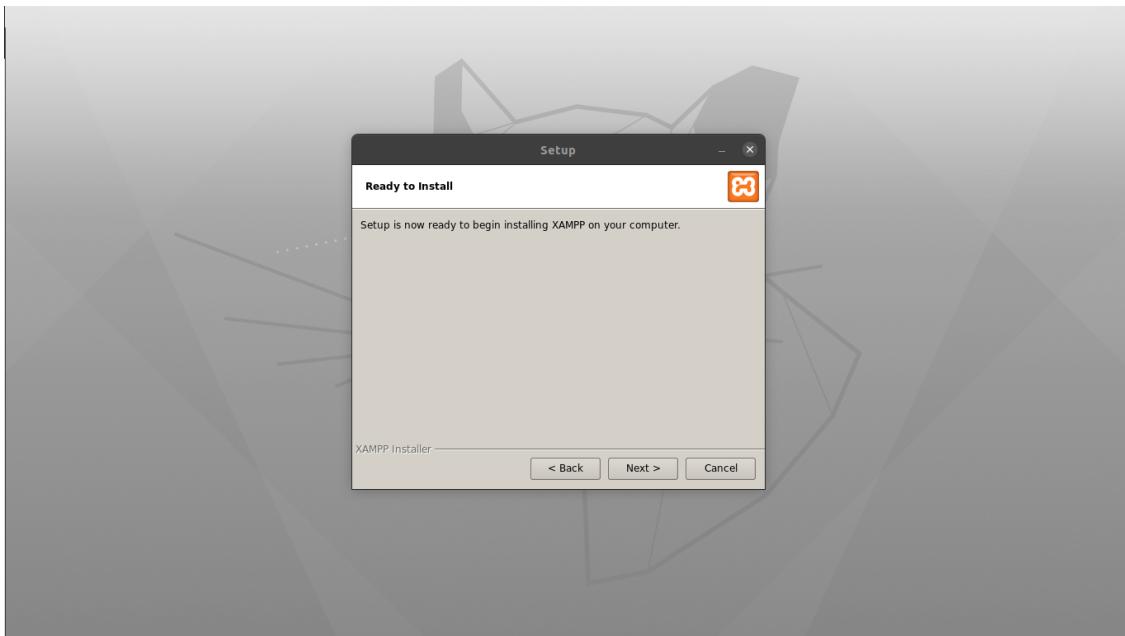
4. Leave all the setting as is, the installer can configure all the settings for you.



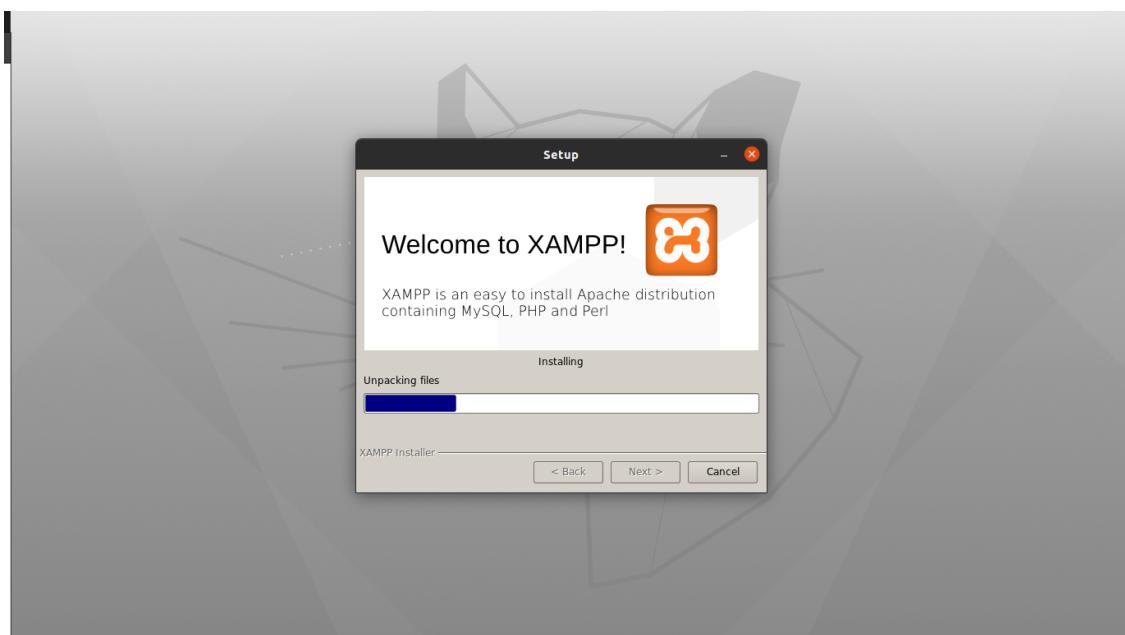
5. The software will list the path it is installing the software on your computer, no need to change it, just leave it as is. If you are using a Windows operating system, then most likely the path would be somewhere on your C Drive **Please DO NOT change the path as it will have problems later on!**.
6. Press "**Next >**" once more!



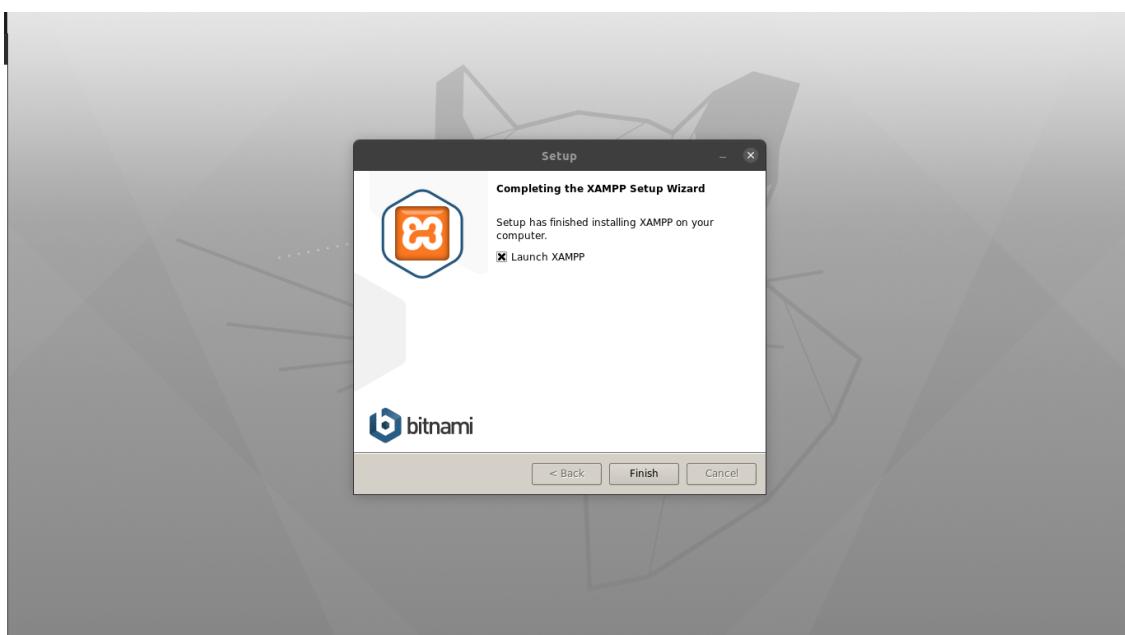
7. Once more it seems!



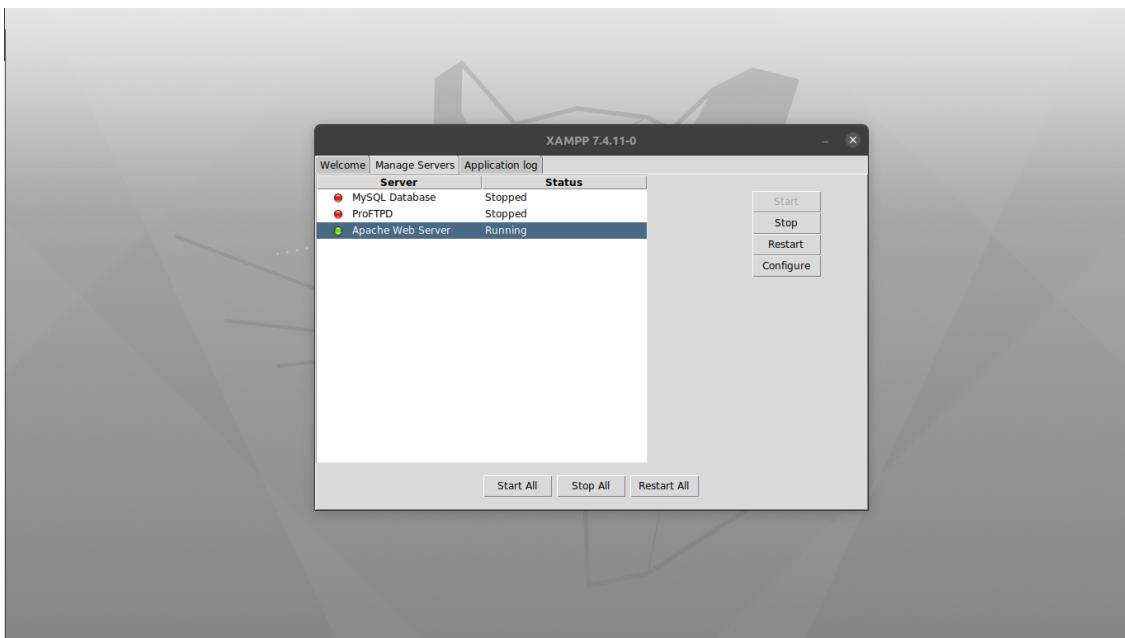
8. The software is not installing! It might take some time depending upon the configuration and/or state of your computer, please be patient and let it finish!



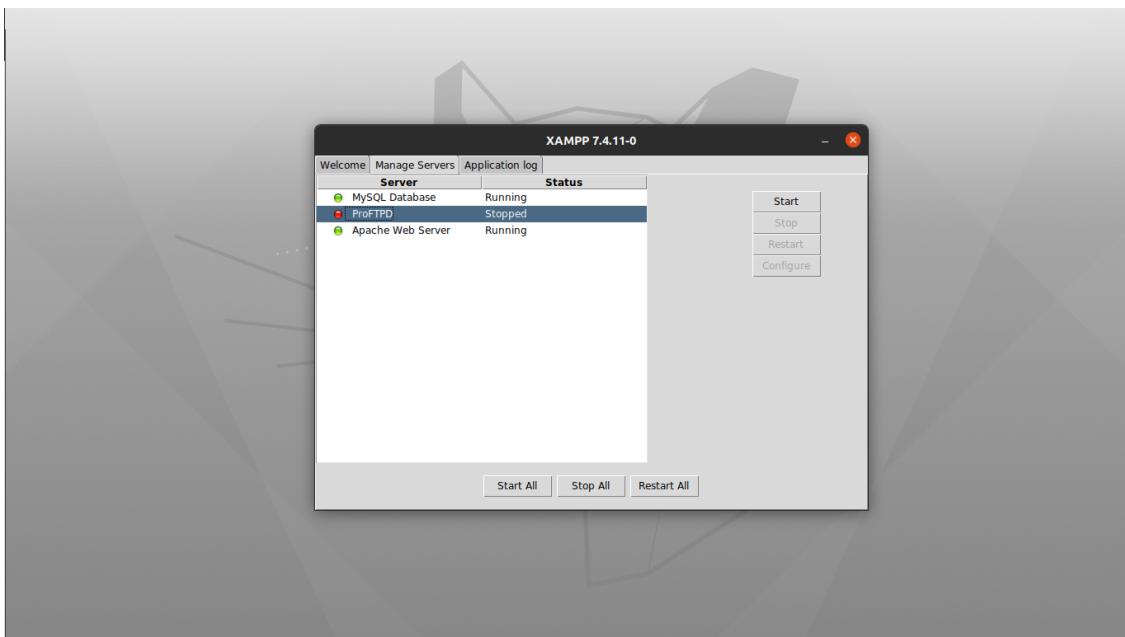
9. The software is now installed! Click on "**Finish**".



10. You'll see a command center for the services we need like this, (it looks a little different on a Windows computer, but it works basically the same!)



11. To Start/Stop a service, just click on the service and press "**Start**". We just need the "**MySQL Database**" service and the "**Apache Web Server**" service. Make sure both of them are running like this.



---

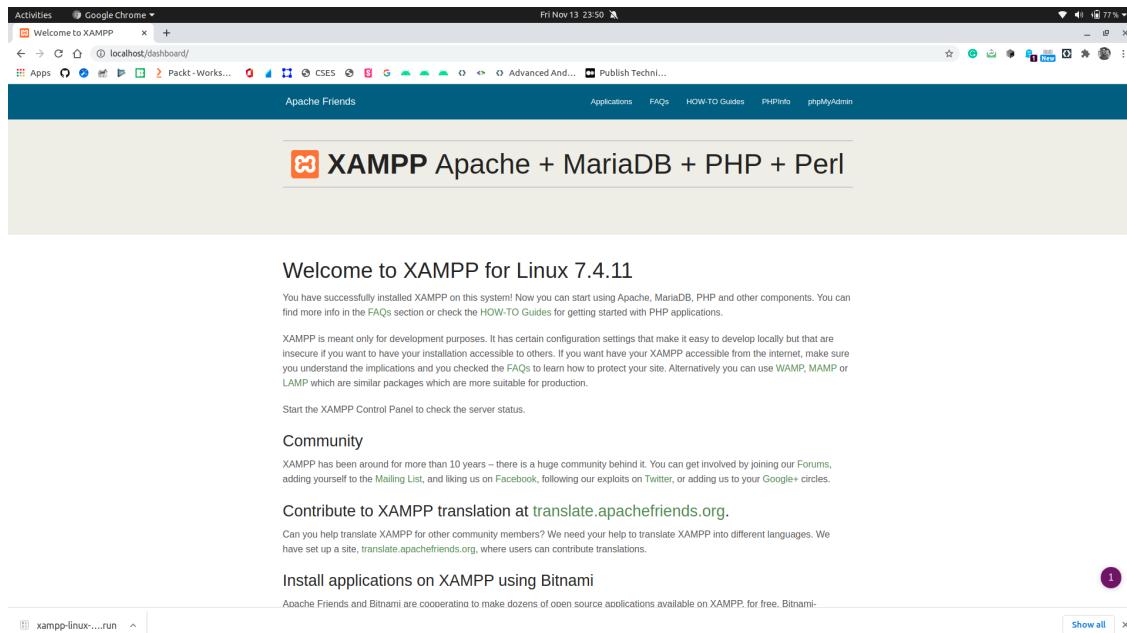
## CAUTION!

1. Sometimes, on a windows computer, when you install a new software, you would need to restart the whole computer before your computer's operating system can be fully aware of the new software and/or it can fully interact with it as required.
2. When you open the XAMPP software on your computer, the services will have a little checkbox on the side of the names. If there is a red-colored "X" mark in the check box, it means that you need to install the service, just click on the checkbox itself and follow procedure, it will install the service for you.
3. If, for some reason, you are following all the steps but are still unable to launch the services, it may happen because of the following reasons:

1. You have another software on your computer that is blocking the default port for these services, like MySQL or PHP or WAMP or something else. If you don't need those software, please uninstall them.
2. You missed a step or two (believe me, it happens a lot more than you'd think). No worries, just uninstall the XAMPP, go back to step 1 and start again, this time, carefully.

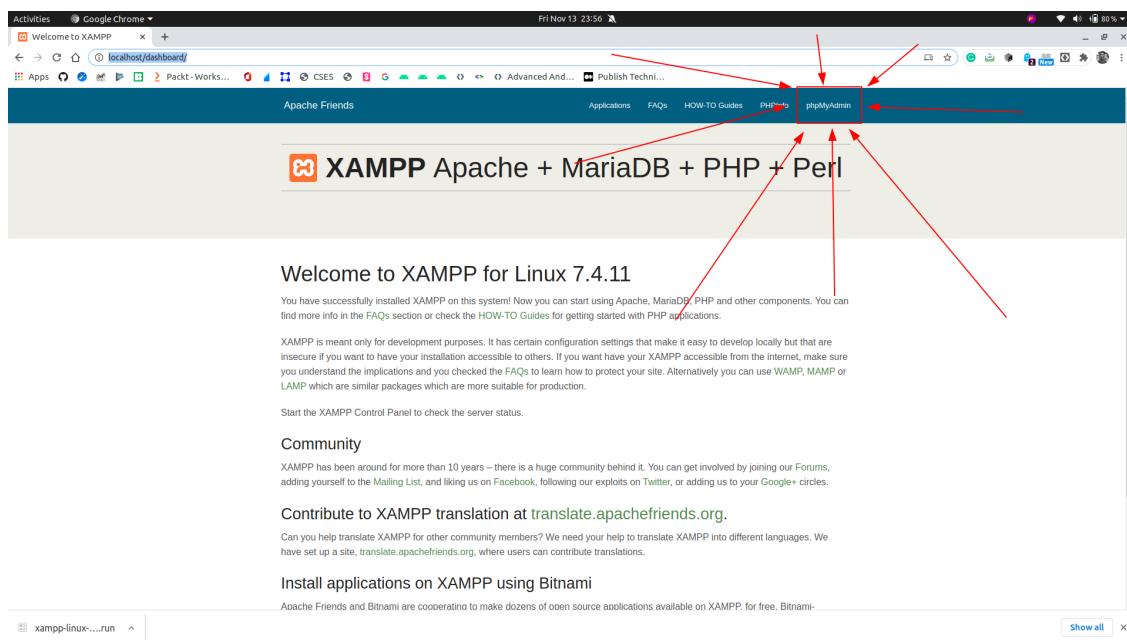
Now that we have the XAMPP services running on the computer let's check them!

1. Let us check if the XAMPP itself is working or not, just open your Google Chrome browser and type in `http://localhost/dashboard/` in the address bar and press enter! You should be able to see a web page like this.



If you can see this, congratulations! You are ready to go to the next step.

2. We will check if the database service is running correctly on the server, the name of the service is "**PHPMyAdmin**". On the web page, on the top-right hand side corner you should be able to see a link for the same, just click it.



3. The "**PHPMyAdmin**" web page looks like this! This is a database that is hosted on the Apache web-server provided by XAMPP. We will create our own database using this service.

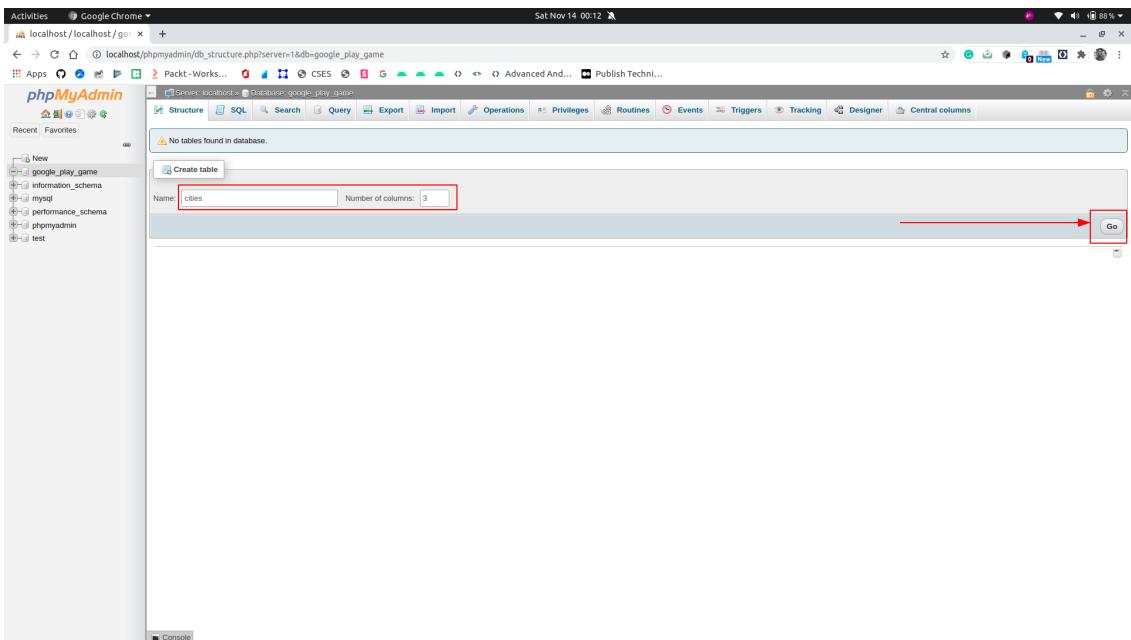
4. Click on the "New" button to create a new database.

The screenshot shows the phpMyAdmin General settings page. On the left sidebar, there is a 'Recent' section with a 'New' button highlighted by a red arrow. The main area contains sections for 'General settings' (server connection collation set to utf8mb4\_unicode\_ci), 'Appearance settings' (language set to English), and 'Database server' (server type: MariaDB, version: 10.4.14-MariaDB). A message at the bottom indicates a newer version is available.

5. Write the name of the database in the textbox for the name and press "Create". I will name the database as "**google\_play\_game**".

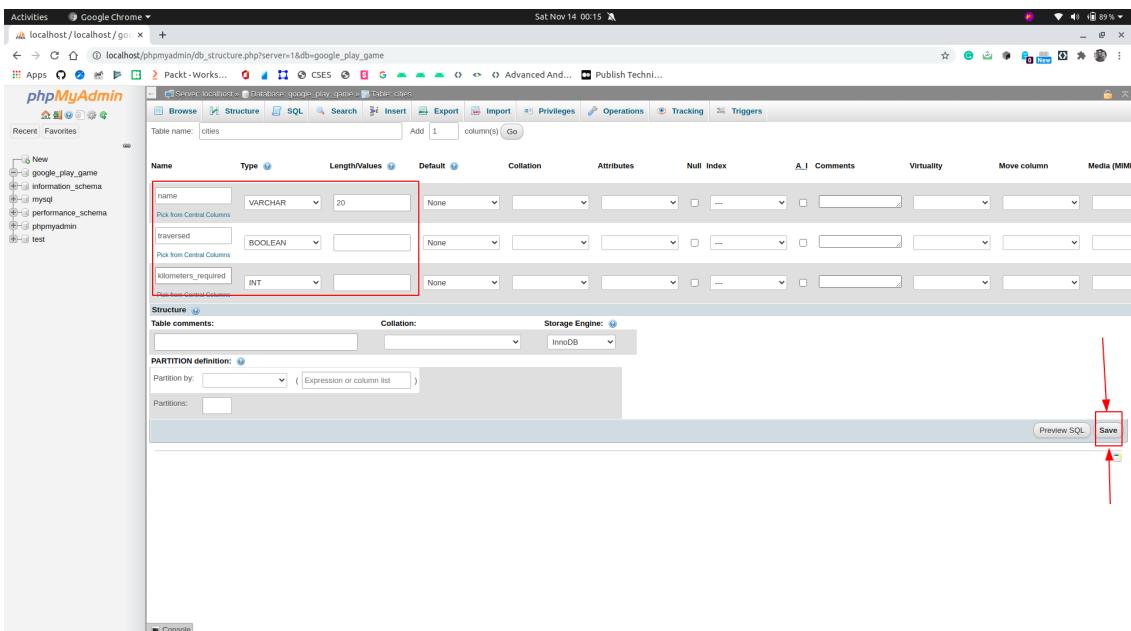
The screenshot shows the phpMyAdmin Databases page. In the 'Recent' sidebar, the 'New' button is highlighted. The main table lists databases, including 'information\_schema', 'mysql', 'performance\_schema', 'phpmyadmin', and 'test'. A new database named 'google\_play\_game' is being created, with its name entered into the 'Create' input field. The 'Create' button is also highlighted by a red arrow. A note at the bottom of the table says: 'Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.' There is a checkbox for 'Enable statistics'.

6. Now, we need to create a table in the database, just remember, each unique entity in a database is represented by a table; and the attributes of the entity are represented by the columns of the table. I will name the first table as "**cities**"; and the number of columns as "**3**". Just press "Go" after that.



7. To create the table, we need to add the 3 attributes of a "city", those will be

1. city name as "name" (String). Select name as varchar 20 on the webpage.
2. whether the user travelled to the city as "traversed" (Boolean)
3. number of kilometers required to travel to this city from current city as "kilometers\_required" (Integer)



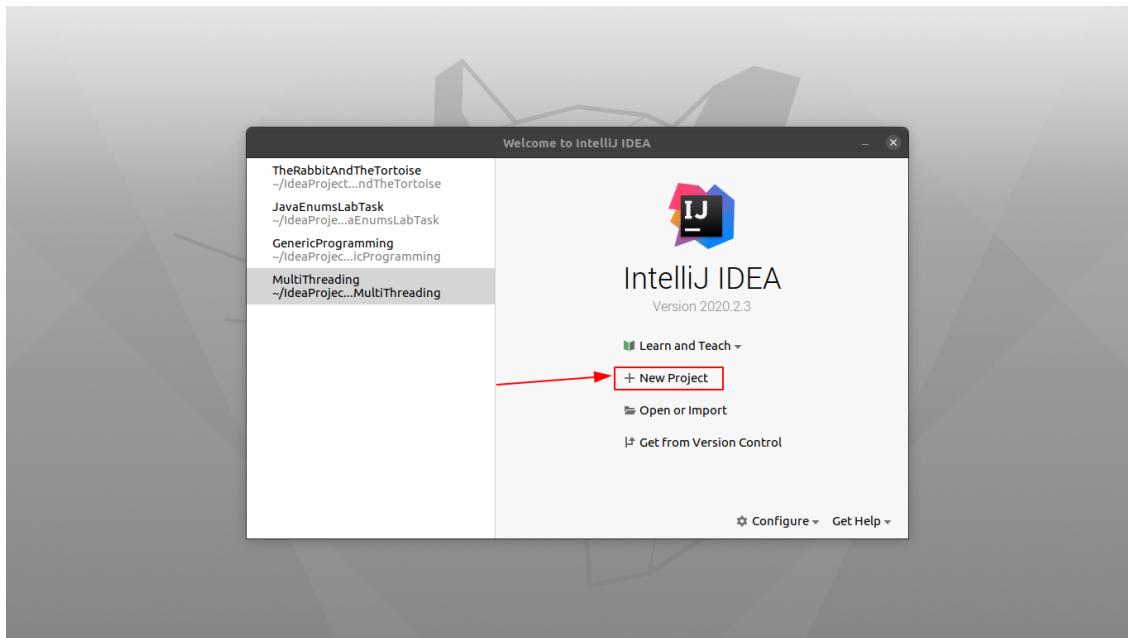
8. Congratulations, your table is now created!

The screenshot shows the 'Table structure' view for the 'cities' table in the 'google\_play\_game' database. The table has three columns:

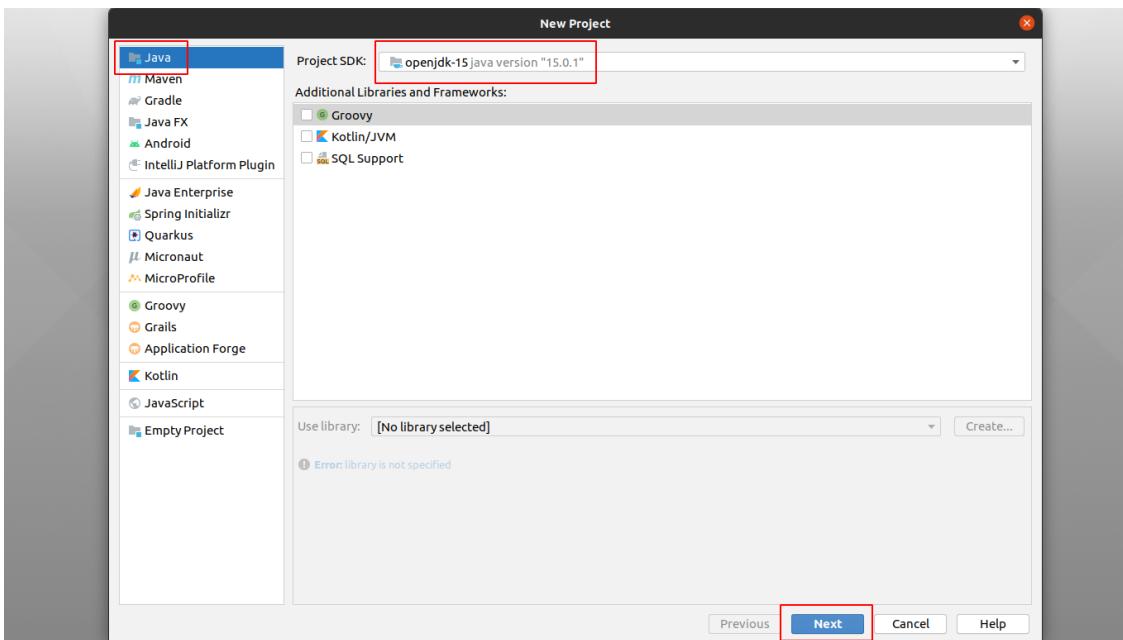
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>name</b>	varchar(20)	utf8mb4_general_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
2	<b>traversed</b>	tinyint(1)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
3	<b>kilometers_required</b>	int(11)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>

## Configuring IntelliJ IDEA Ultimate Edition

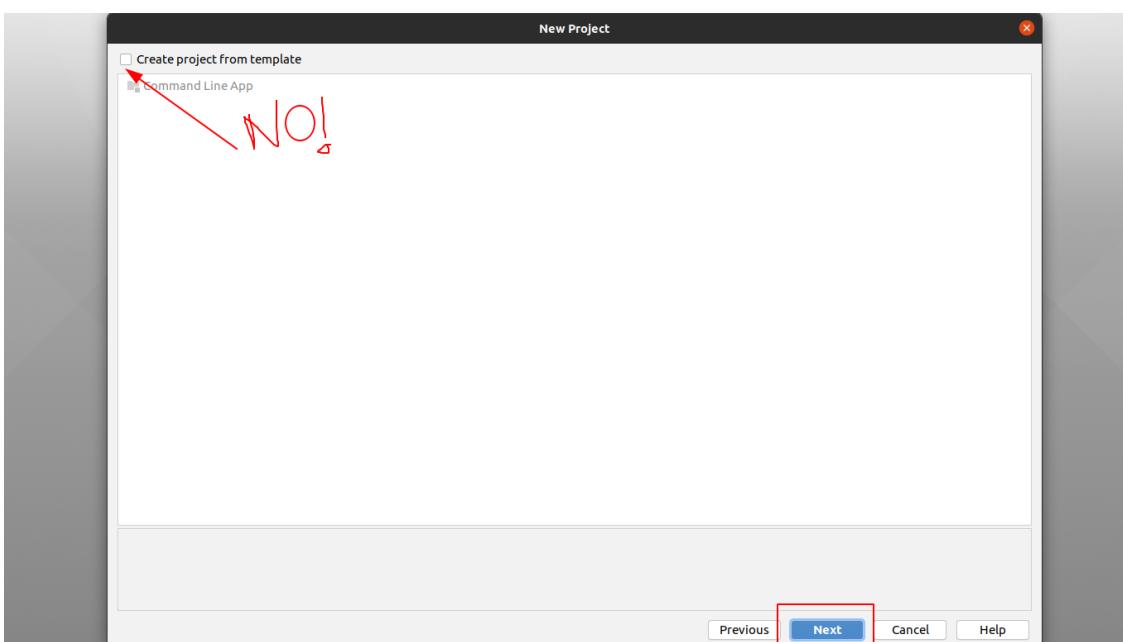
1. For better understanding, we will create a new project in IntelliJ IDEA.



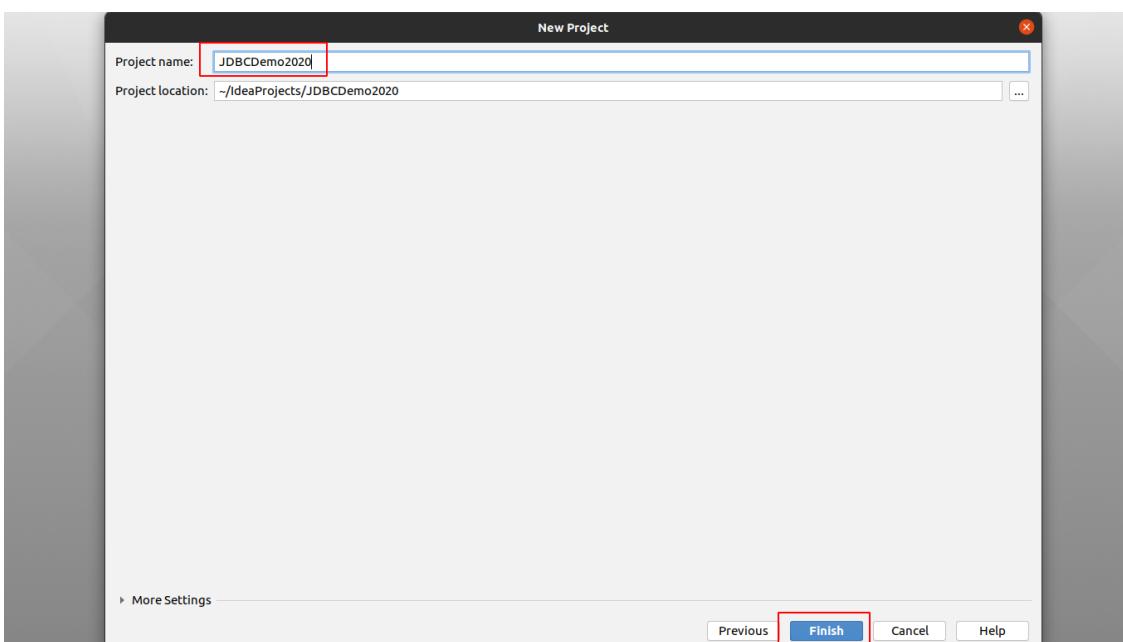
2. Just make sure you are using the right settings like shown in the red boxes.



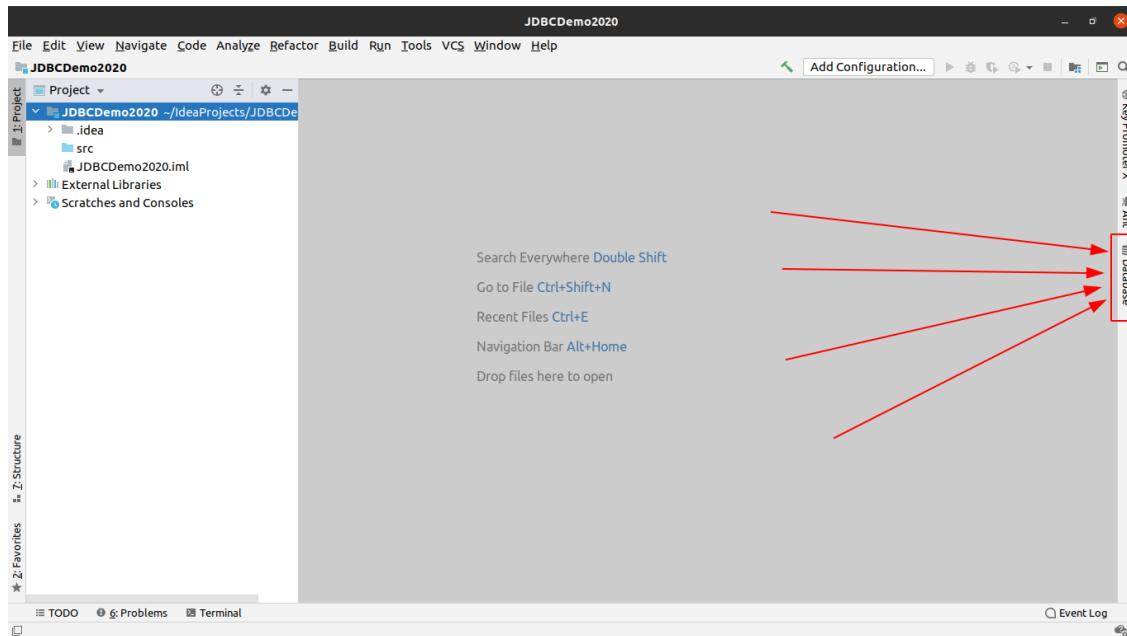
3. Please **DO NOT** select the "**Create Project from template**" option; just press next.



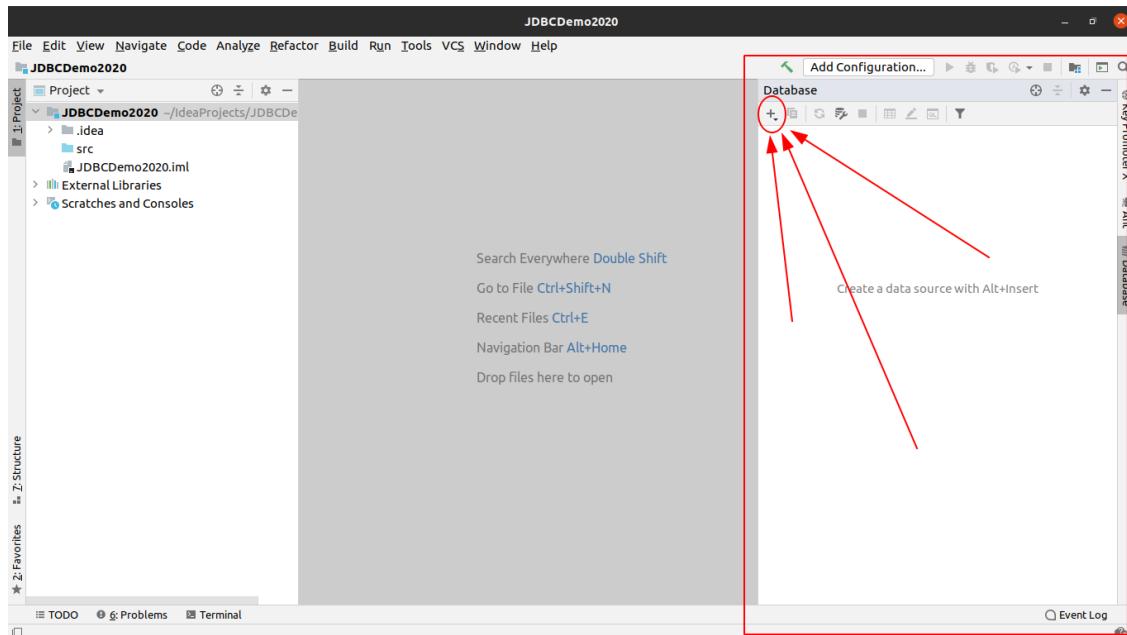
4. Just write the name of the project and press "Finish".



5. Project is created, select the "**Database**" option on the right hand side tab bar.

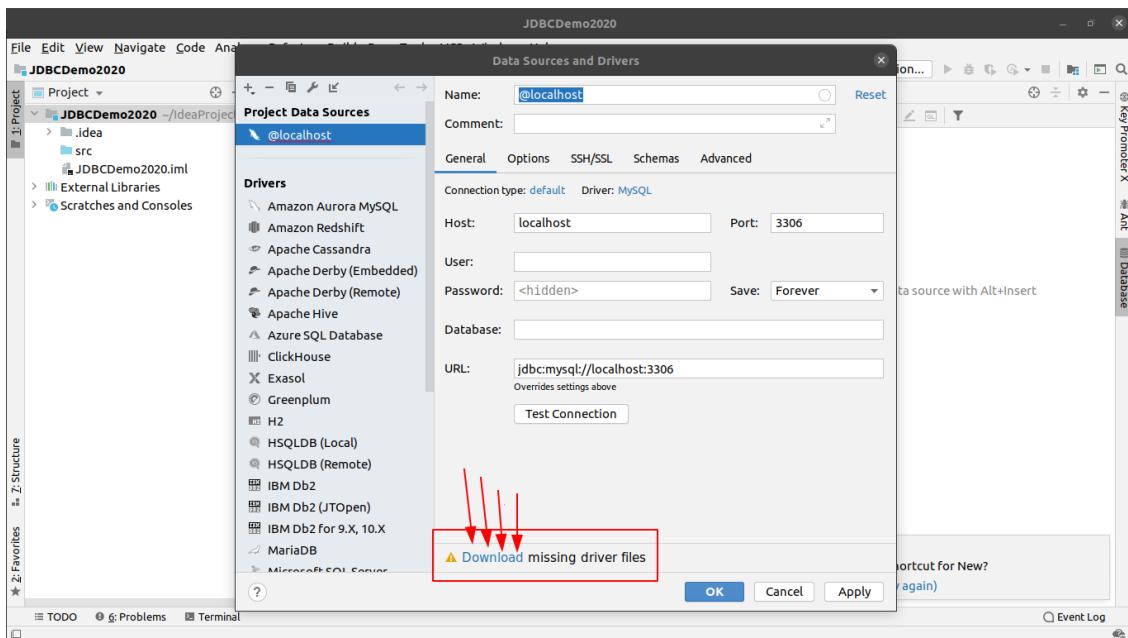


6. A new database pane will open, click the "+" icon to create a new connection to a database.

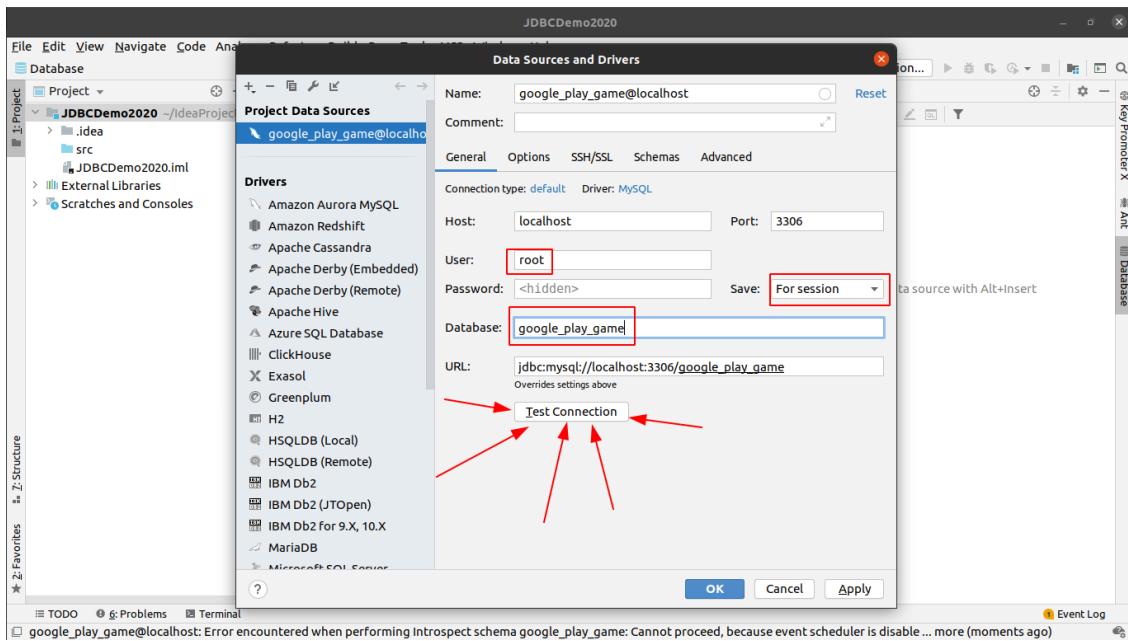


7. When you click on the "+" icon, you will see an option for "**Data Source**", click on it. After that, click on "**MySQL**".

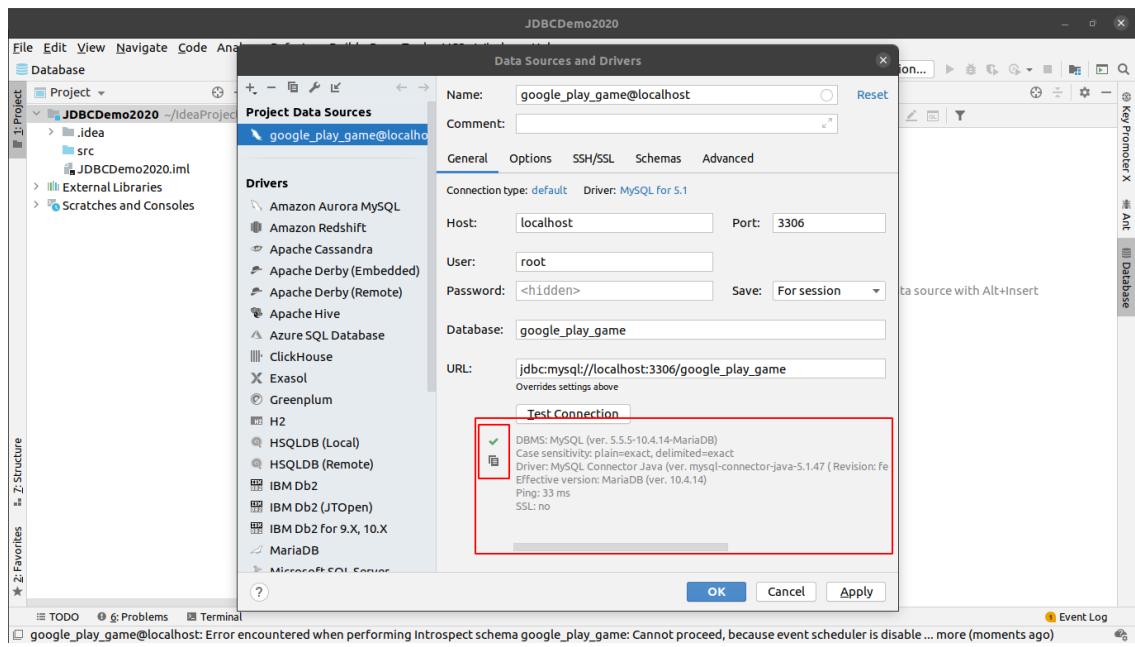
8. Click on the link to download necessary driver files for the database. Click on MySQL link right next to the "**Driver:**" field and select "MySQL for 5.1".



9. In the "User" field type `root`, and leave the password field as it is. Select the "Save" field and choose "For Session". Enter the name of the database that you created in the "PHPMyAdmin" web page of XAMPP. To check that everything is ok, click on "**Test Connection**". If it asks for username and password again, just click "OK".



10. If everything is ok, you should see a message with a green check mark like in the following image.



11. This means we can now go ahead! Just click "Apply" and then click "OK".
12. As you can now see, we are able to access the database inside IntelliJ now. That is all you need to do to set-up and configure everything.