



Platform Preparation MySQL

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: John Lewis
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Chromis System Preparation - MySQL

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John@chromis.co.uk

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Document Version History

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1.00	11/05/2021	John Lewis	Initial release

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Introduction

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Overview

The goal of any retail management software is to help you focus on your sales and your customers. It is this goal that is the driving force behind Chromis.

Chromis Pos is designed to be a feature rich Point of Sale (POS) system, which can run a large variety of hardware. The overall concept is that the core system can be configured by the user, allowing functions to be enabled if required.

Background

Since 2013 work has been done on the project, firstly with new features and significant changes to an open source POS. Most of these changes were born to assist a small shop implementing a solution that was fit for purpose, and responding to requests of other users.

It was the nature of these changes and the ability to control its own destiny that Chromis was started. The first release of Chromis was in 2015, since which it has undergone a significant metamorphosis. There is a strategic plan to continue the development of the product, and offer a richer platform for the user.

At the time of writing Chromis does not include any Credit\Debit card integration due to PCI regulations, it is intended to investigate these at a later date.

Hardware and software prerequisites

Hardware

There are 2 elements for Chromis and the hardware requirements

Chromis POS (Point of Sale) is designed to run on hardware which is capable of running Java\OpenJDK. The better the hardware the better the performance, it has been run on the later raspberry Pi's.

- Intel or equivalent processor
- 300 meg free disk space for JRE version, 200 meg pre-installed Java
- 1024 x 768 minimum resolution (Recommended for Point of Sale)
- Receipt printer (optional)
- Report printer (optional)
- Cash drawer (optional)
- Scanner (optional)
- Magnetic swipe reader (optional not for credit cards)
- RFID reader (optional if implementing the use of these)

Chromis Administration needs a high specification of hardware to run effectively.

- Intel or equivalent processor
- 1 gig free disk space, (more if database is on the same machine)

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- 1248 x 1024 minimum resolution (Whilst some element)
- Report printer (optional)
- Mouse & keyboard (A touch screen is not ideal for the admin client due the amount of input required)
- At least 4gig Ram, (more if database is on the same machine)

However, consideration should be given to the database server that will be used. If it is intended that the database will reside on the same hardware, ensure that your selection is able to meet its requirements.

Software

The following software is required to run Chromis. (all versions are correct at the time of writing)

- A supported operating system (Windows only currently)
- A database (local or remote, MySQL 8.0.23)
- Java 11, this is the latest version that offers LTS (long term support)

Chromis has been tested with the following OpenJDK platforms (all Java 11.0.11), with limited testing.

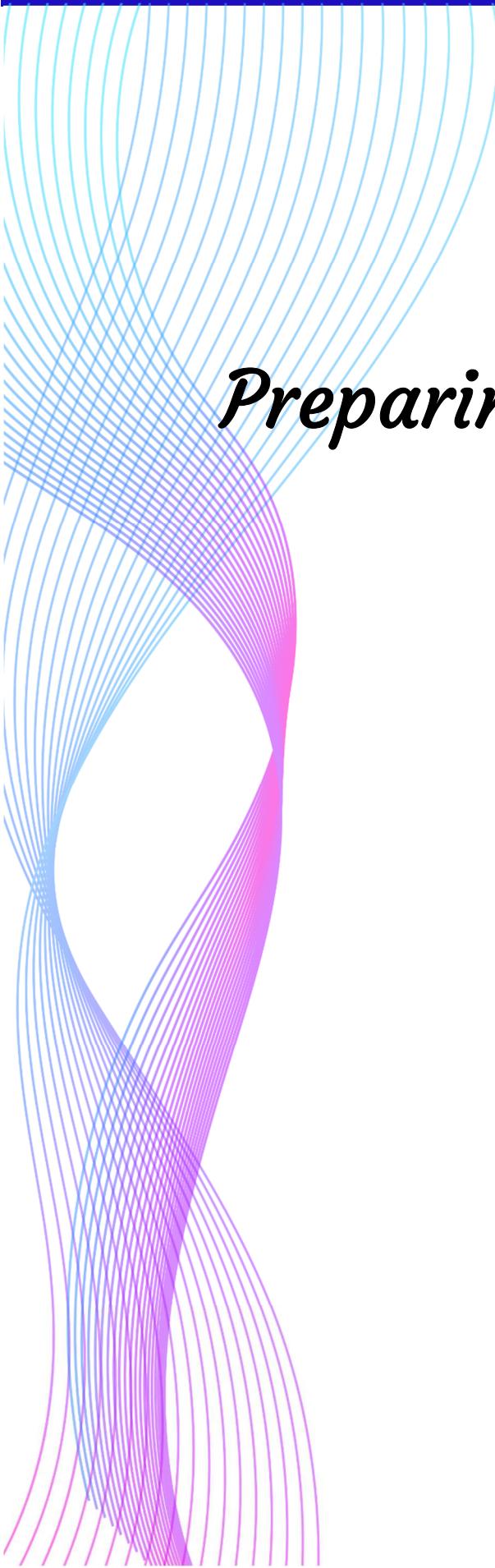
- BellSoft Liberica
- Microsoft JDK
- Amazon Corretto
- Zulu
- AdoptOpen JDK (hotspot)
- AdoptOpenJDK (Open9)

Oracle's Java has been excluded from the testing due to the licensing changes and any usage that is not development must be paid for.

Chromis is currently designed to run exclusively using MySQL or MariaDB database, this may change at a later date.

It is also important to note that upgrading to Version 1.0 and above from a lower version is not possible, this due to the large amount of database changes from the earlier versions.

There is a migration utility available which will export a limited set of data from an older version into the latest release.



Preparing the System
Installing MySQL

Chromis System Preparation - MySQL

To run Chromis the following prerequisites are needed.

- Windows 10 (64 bit)
- OpenJRE/JDK 11
- JavaFX-SDK 11.0.2
- MySQL 8.0.23 \ MariaDB 10.6

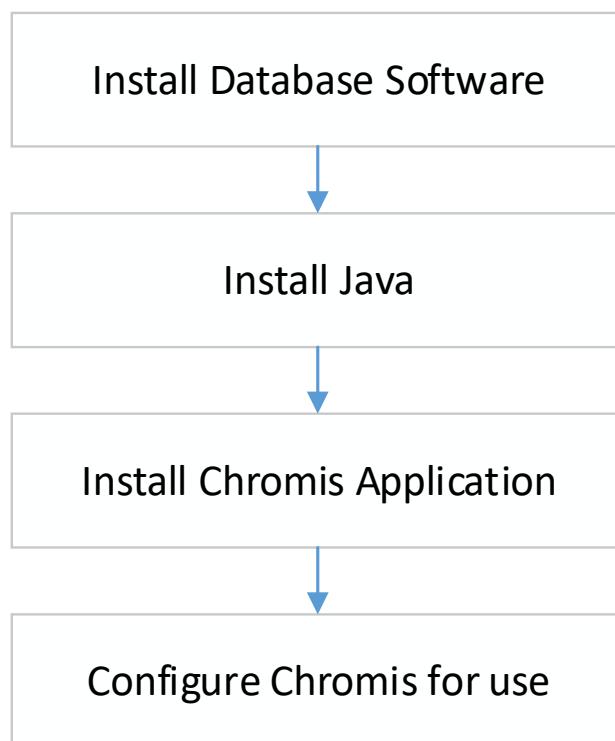
Chromis currently supports 2 database engines

- MySQL
- MariaDB

Our recommendations

- Bellsoft Liberica Java (full JRE), this negates the need to install the JavaFX package separately.

There are a number of steps and decisions to make, in preparing your system to run Chromis.



Database Server

As stated, Chromis currently only supports MariaDB or MySQL. Regardless of the database engine selected, you need to decide where the database installation will reside.

For the purpose of this documentation, it is assumed that all of the required software will reside on a single piece of hardware.

Chromis System Preparation - MySQL

You need to ensure that the hardware is capable of running a database server, administration client and Pos if that is your choice.

If you intend to run a multi till setup then the database must always be available to service all the tills.

In this section we will take a look how to install MySQL. It does not cover any configuration away from the basics to setup a running database server ready to run Chromis. These notes are based around using the Windows MSI installer.

You will need to download MySQL from Oracle's web site; it is assumed that you will using the community edition of the product.

Prerequisites

To run MySQL on Windows you will need to have installed Microsoft Visual C++ 2013 runtime libraries. These can be downloaded from (at the time of writing)

<https://www.microsoft.com/en-gb/download/details.aspx?id=40784>

If you are planning to use Windows server 2008 or Windows 7 then you must have service pack 1 installed.

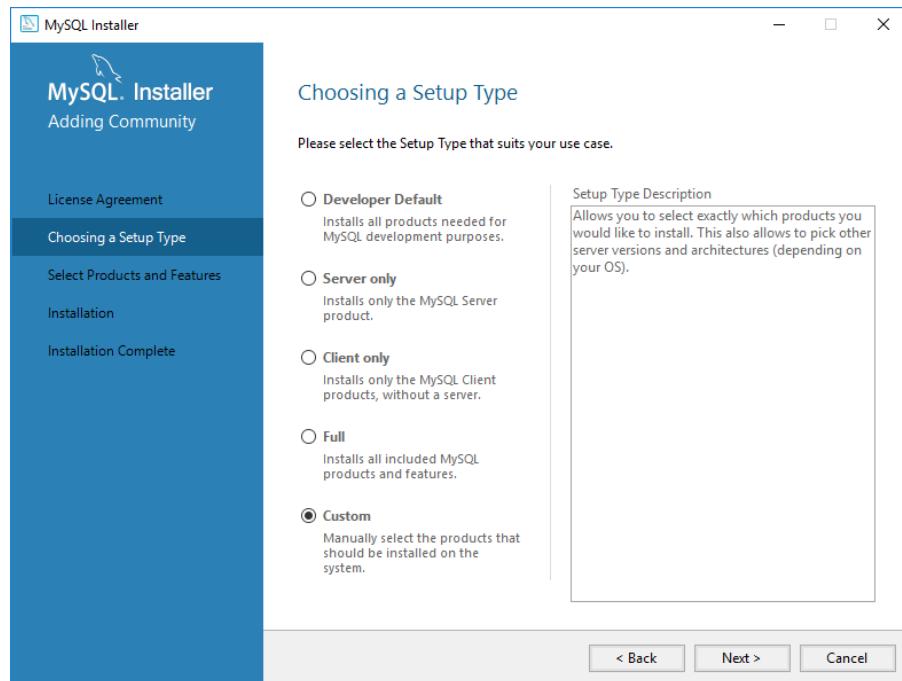
Next go to the MySQL downloads page and download the latest version 8 release (at the time of writing 8.0.23).

<https://dev.mysql.com/downloads/windows/installer/8.0.html>

Run the msi package you downloaded 'mysql-installer-community-8.0.23.msi'

You will need to 'accept the license terms' to continue with the install, once you have done that click 'Next'

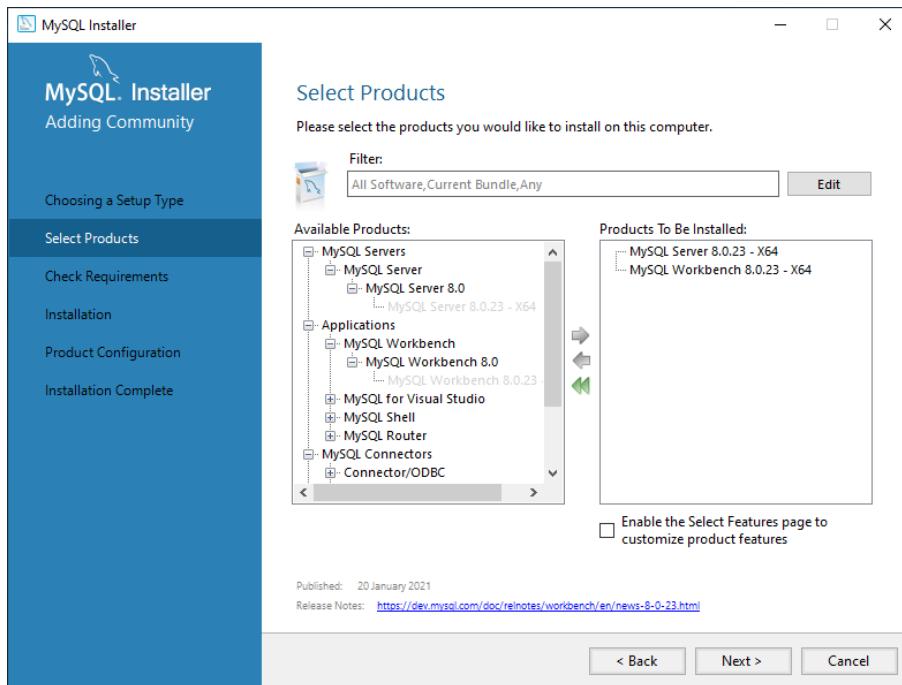
Chromis System Preparation - MySQL



At this point you will need to decide ‘what type of install you require’, this will depend upon where you are installing, for example is the it dedicated server or will the database software sit on the same hardware as Chromis. It is assumed that in you have sufficient memory installed to run the software.

For the case of this documentation select ‘Custom’, we will configure it to run on the same hardware as Chromis.

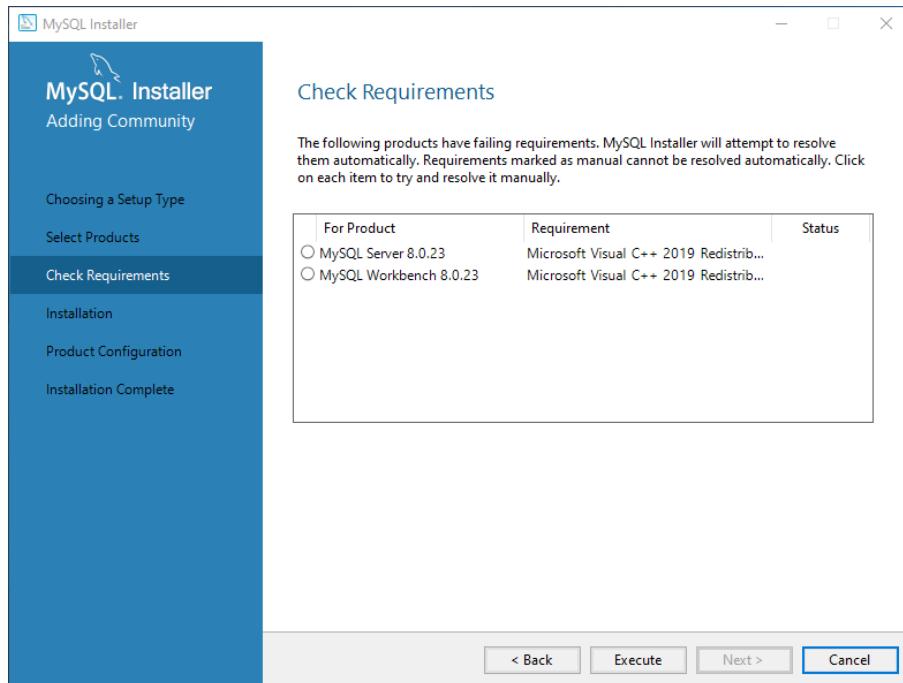
Click ‘Next’



Chromis System Preparation - MySQL

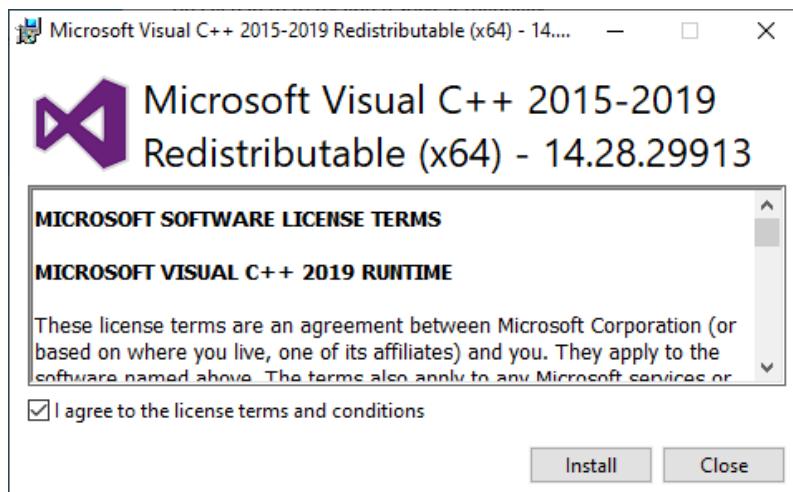
Select the required products to be installed, in this instance we required ‘MySQL Server 8.0.23 X64’ version and MySQL Workbench 8.0.23- x64.

Once selected click ‘Next’



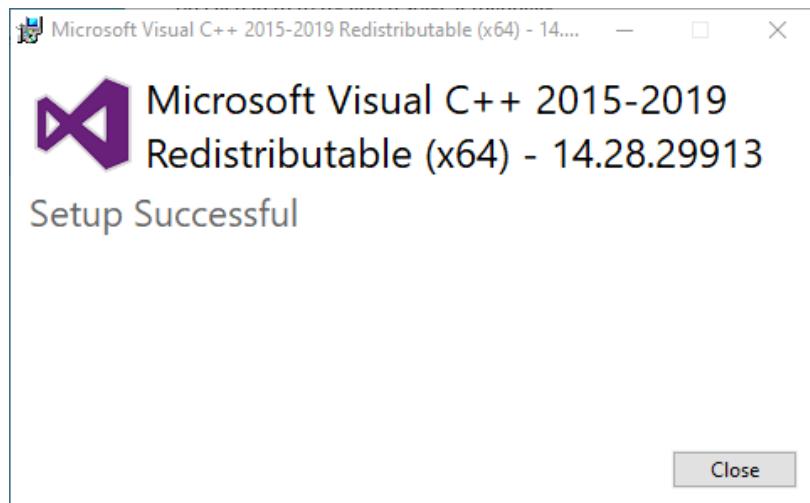
At this point the installer checks for the presence of C++ 2013 and C++ 2019, if they are not installed you will get a warning.

Click ‘Execute’, the installer will attempt to download the package(s) for you.



Agree to the term and click ‘Install’

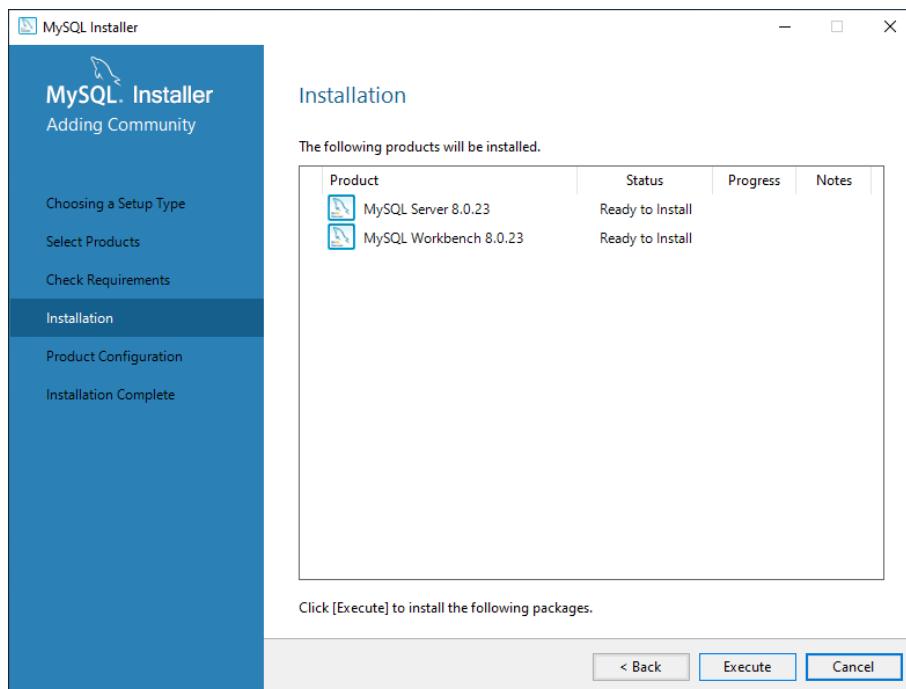
Chromis System Preparation - MySQL



Click 'Close'.

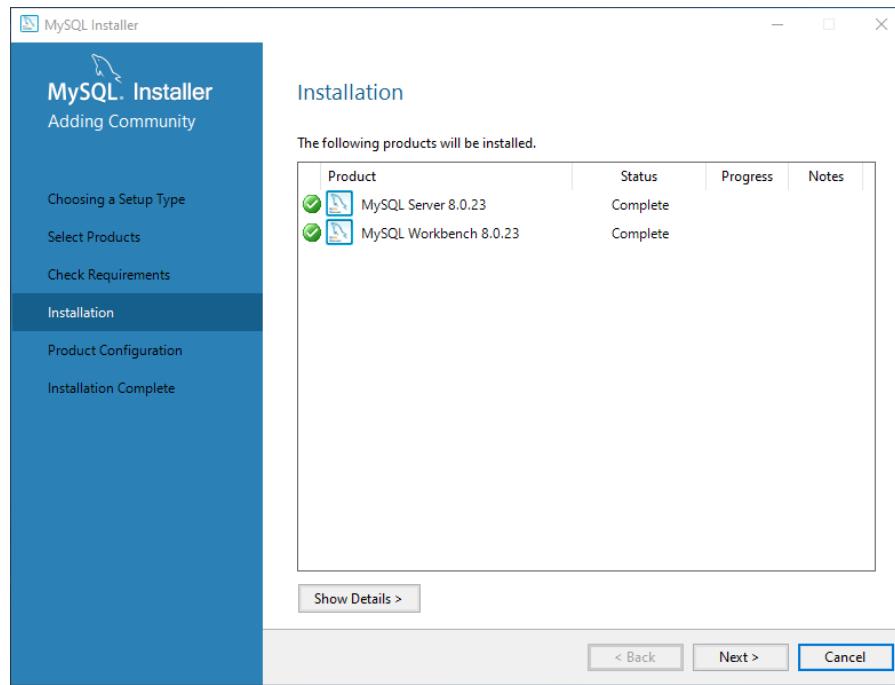
You may be asked to also install C++ 2019, if this is not already installed.

If the installer fails to download you will need to install VC++ manually.

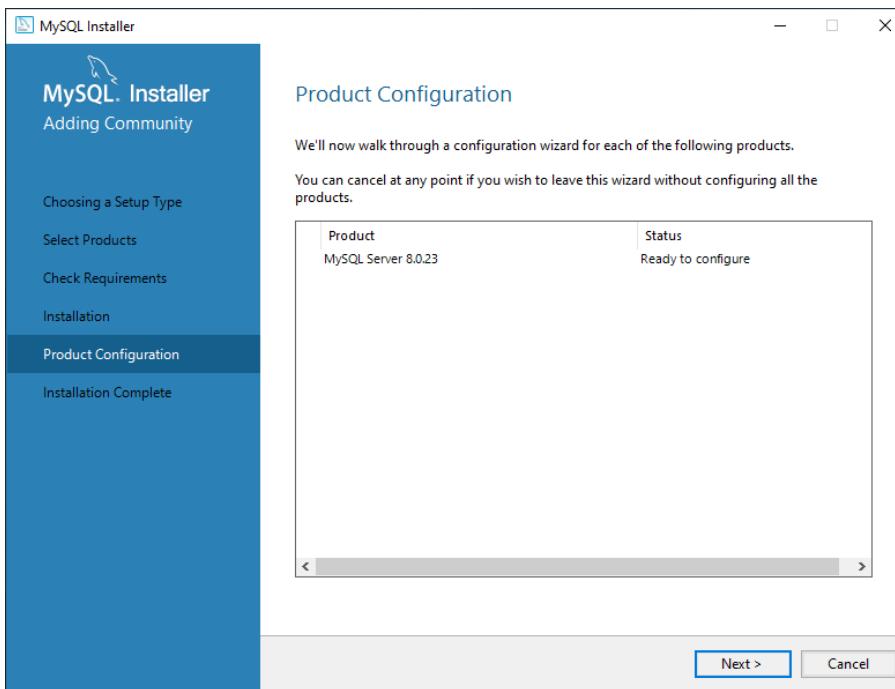


You are now ready to move on with the install, click 'Execute'

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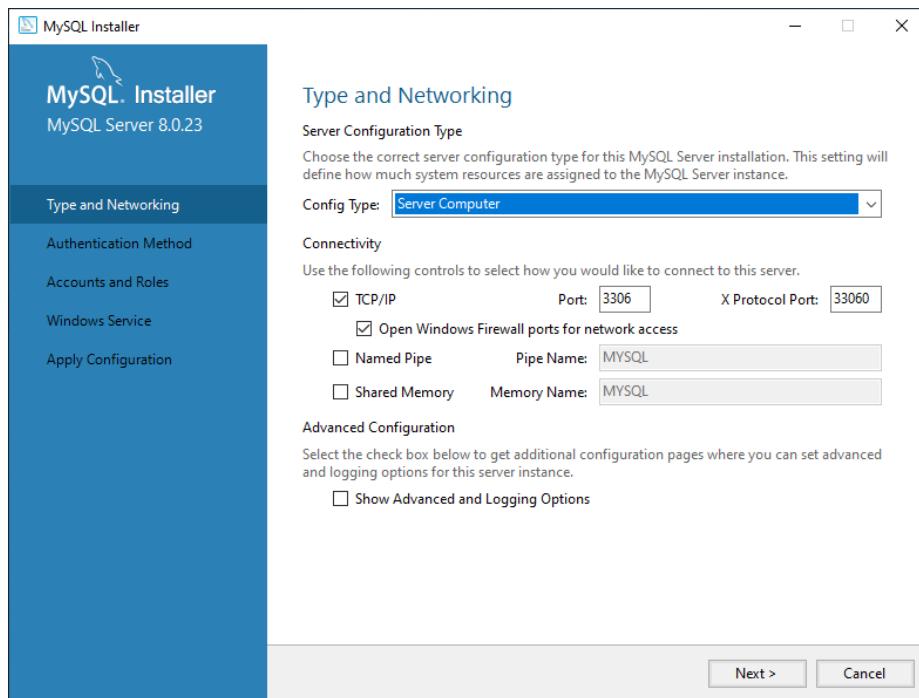
Once the installation is complete, click 'Next'



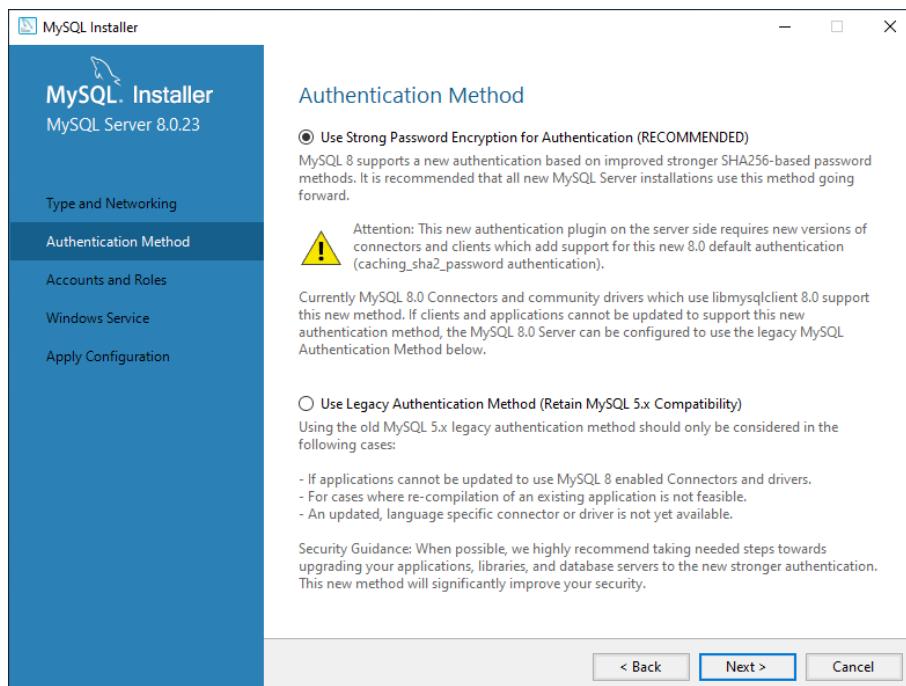
The selected products have now been installed. The next stage is to configure the server for use.

Click 'Next'

Chromis System Preparation - MySQL



Change the settings to ‘Server Computer’ or the settings to match your needs, if you are happy with the default ports, then click ‘Next’. Otherwise change these to meet your needs and the click ‘Next’.



All testing was done using ‘Use Strong Password Encryption’

Click ‘Next’

Chromis System Preparation - MySQL

You now need to supply a root user password

Accounts and Roles

Root Account Password
Enter the password for the root account. Please remember to store this password in a secure place.

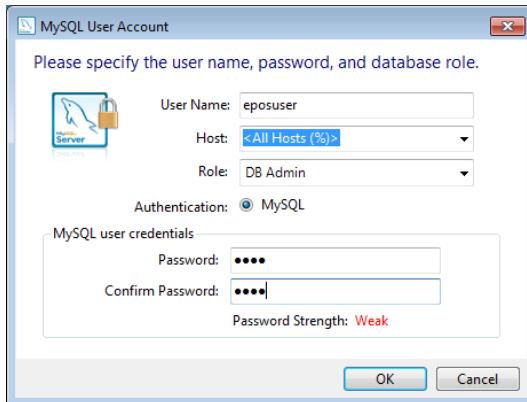
MySQL Root Password: ··········

Repeat Password: ··········

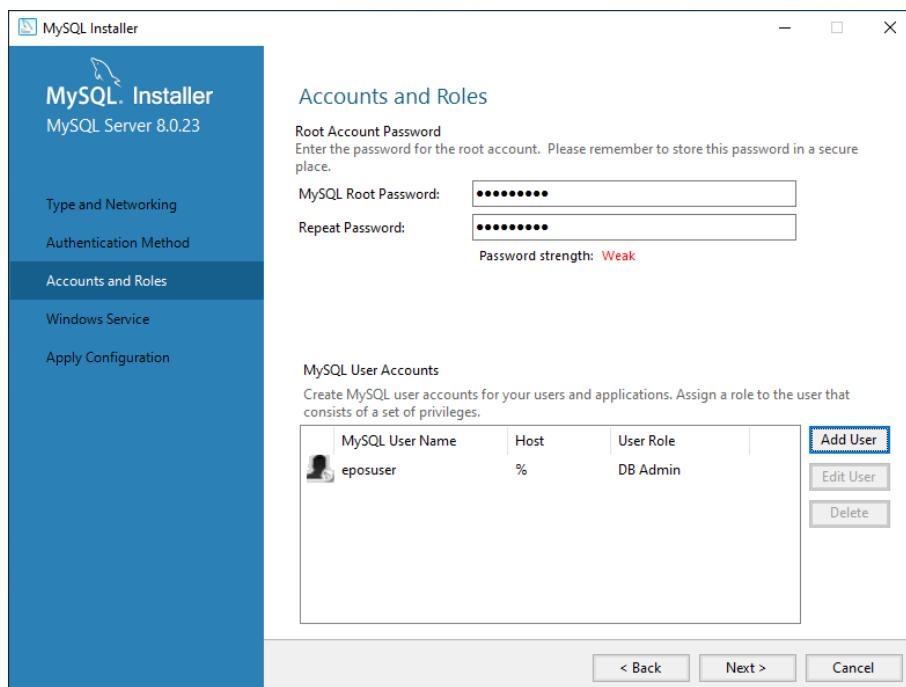
Password strength: Medium

Enter a password for the server. Store this in a secure place for any future use.

We will now add the account that Chromis will use for its connection. Click 'Add User'



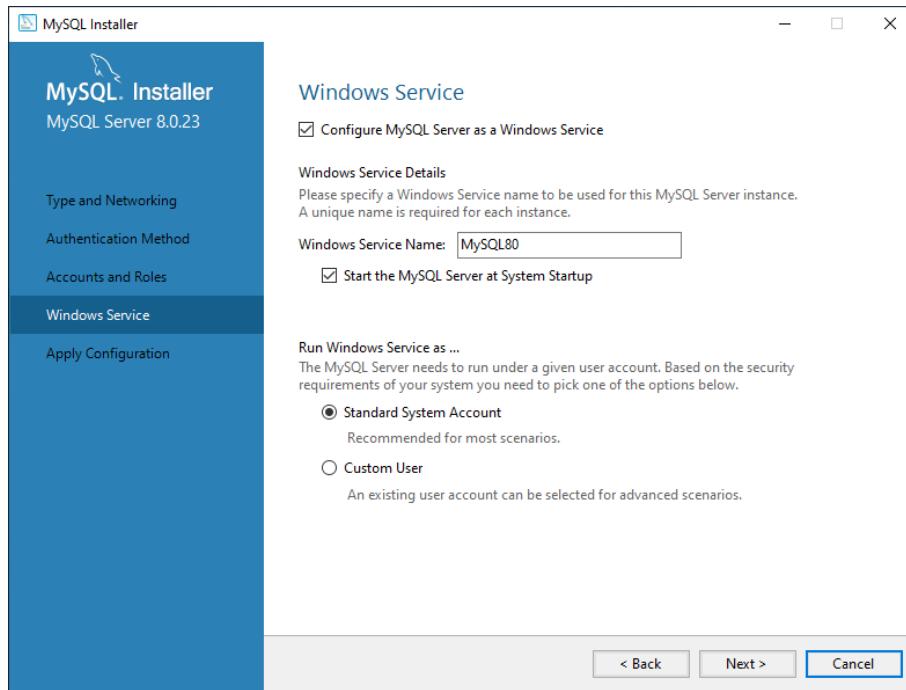
Enter the username and password you wish to use, leave all others sections as default, click 'OK'



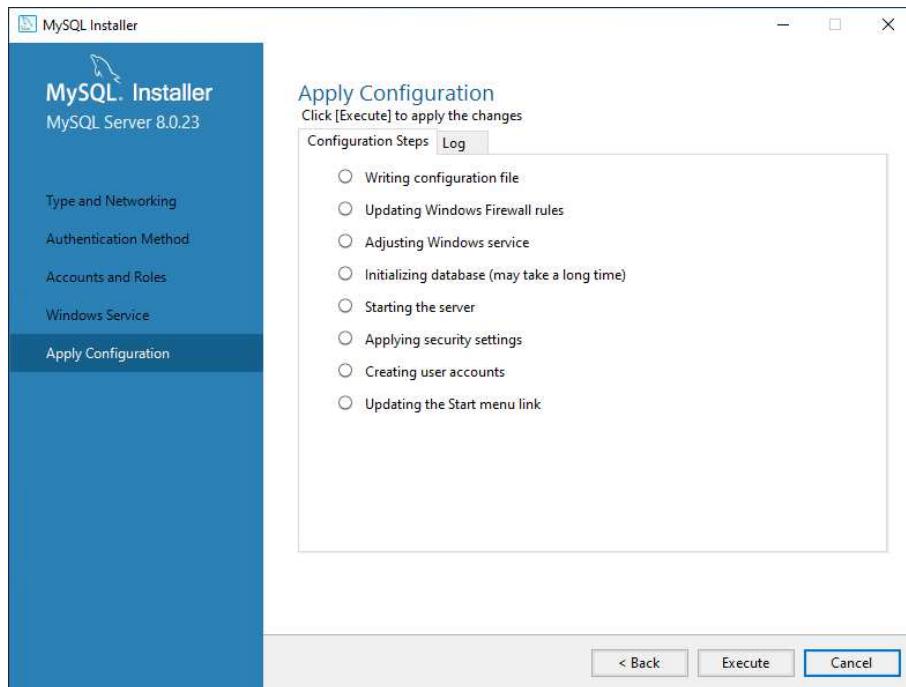
Click 'Next'

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The next stage is the creation of the service for MySQL to start under.

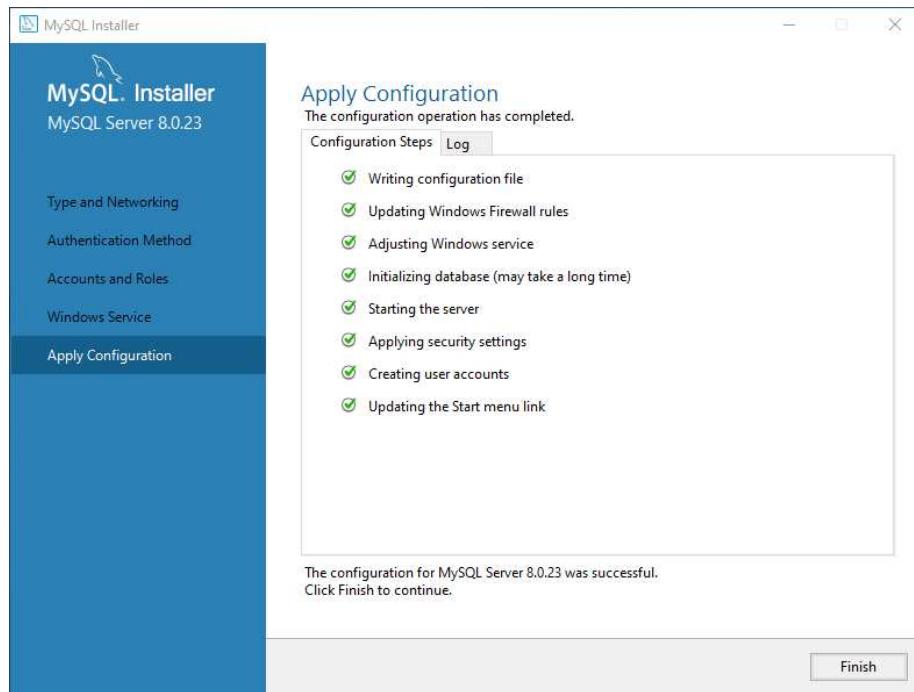


It is suggested to leave defaults and click 'Next'

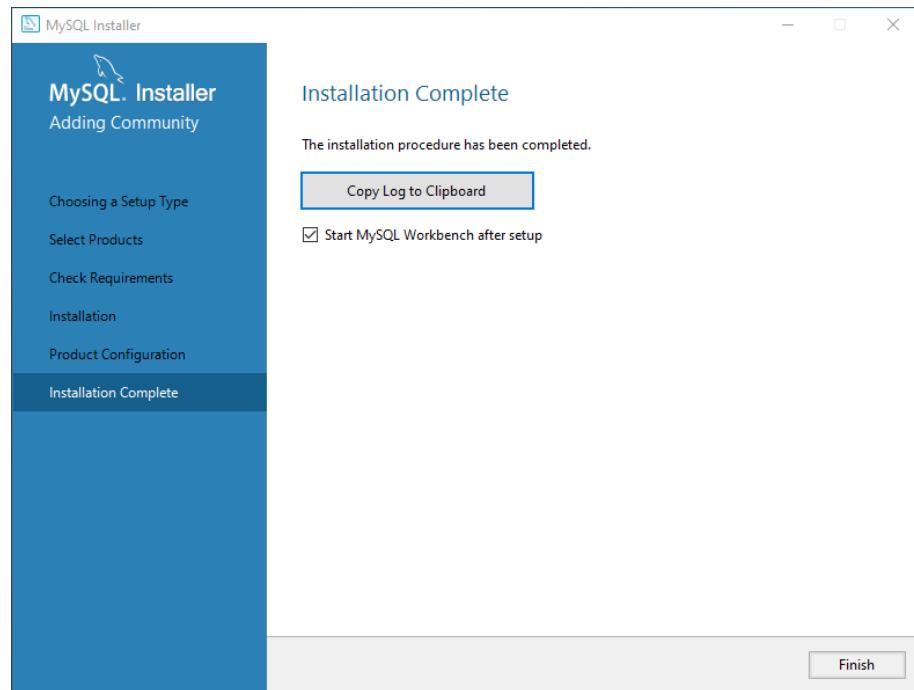


The configuration details that have been supplied will now be applied to the system, click 'Execute'.

Chromis System Preparation - MySQL



MySQL is now installed and ready for use, click 'Finish'



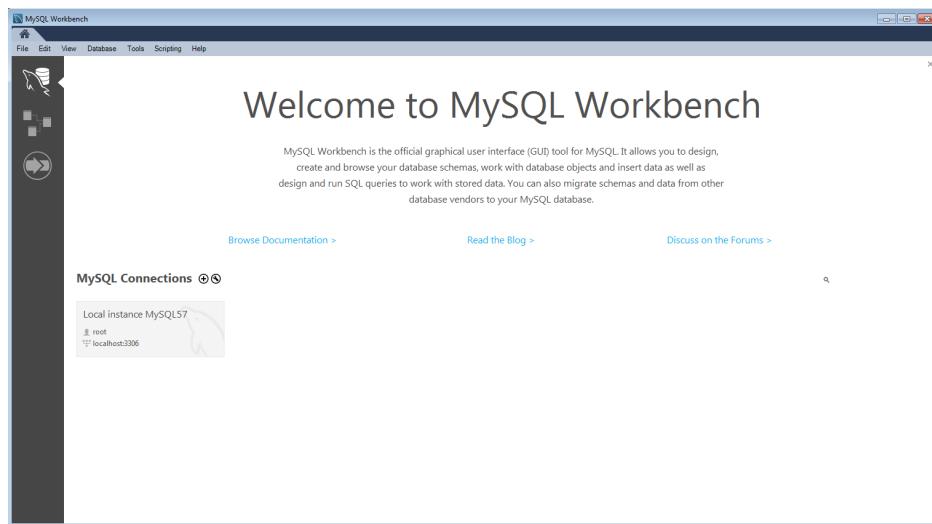
Click 'Finish' and MySQL workbench will start.

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MySQL Workbench

MySQL workbench is the administration GUI for your server.

Depending upon your Operating System, you may get a warning. You can if you wish uninstall the MySQL workbench version and install an earlier version.

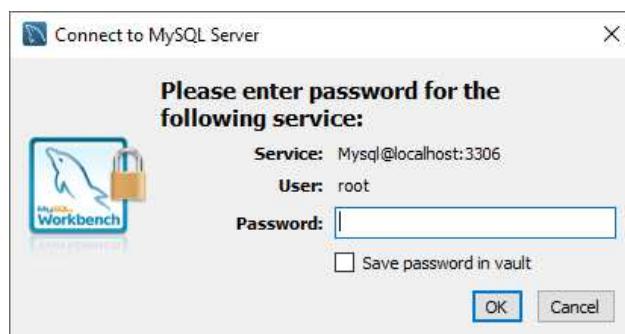


Click on the connection

MySQL Connections

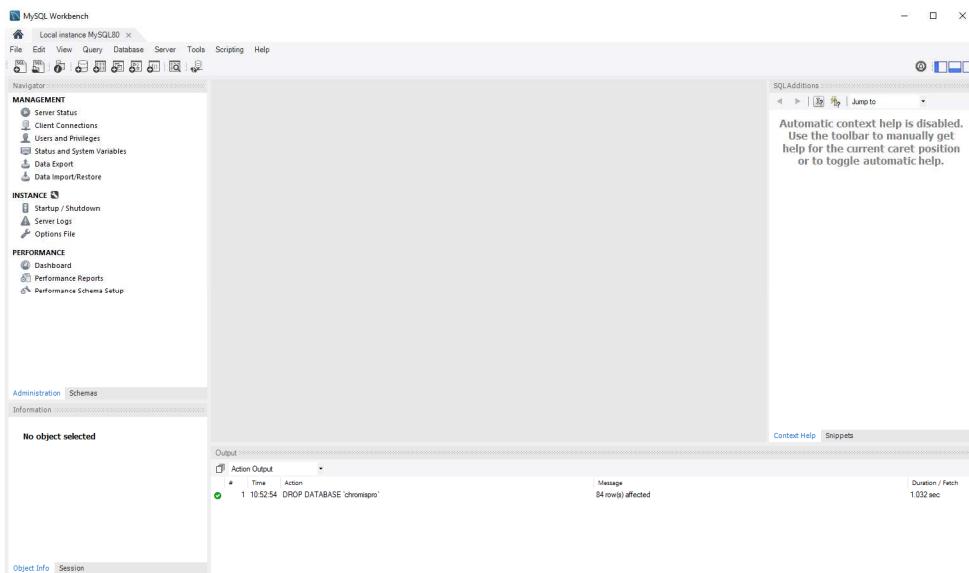


You will then be prompted for the password you set up earlier.

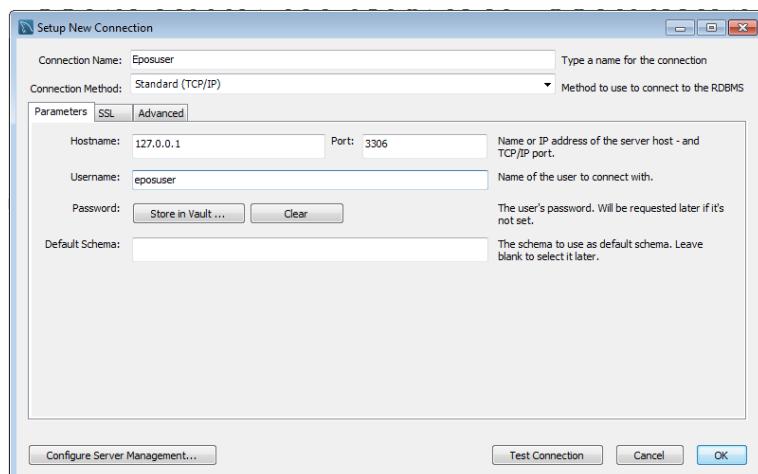


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If all is well, you will be logged into MySQL Workbench. Close your connection clicking the 'X' on the tab.



You will now check that you can access the server using the account you just created for Chromis to use. Click '+' next to MySQL connections.



Give the connection any name you wish, and enter the username you add into the 'Username' field.

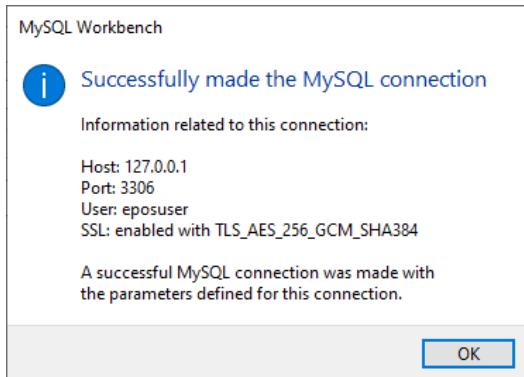
Click 'Test Connection'



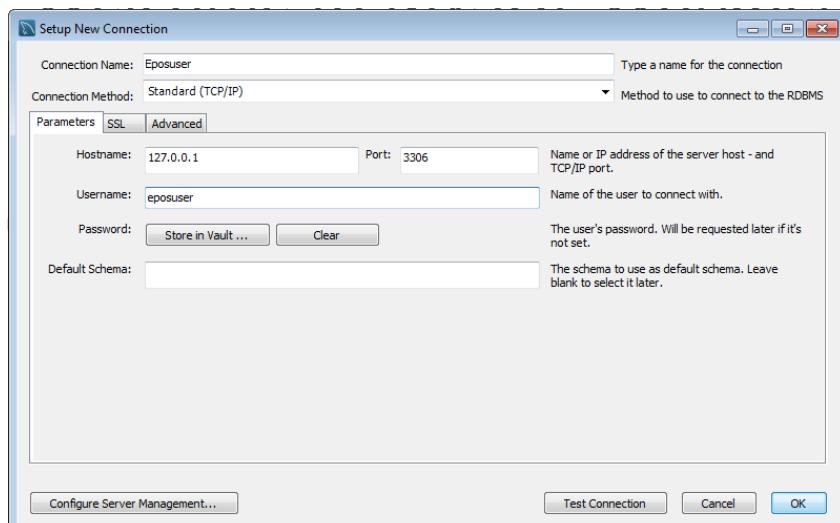
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Enter the password for this user. If you wish to save the details and not have to be prompted for the password each time check ‘Save password in vault’; caution if you do this any person who has access to the machine can get in to MySQL workbench.

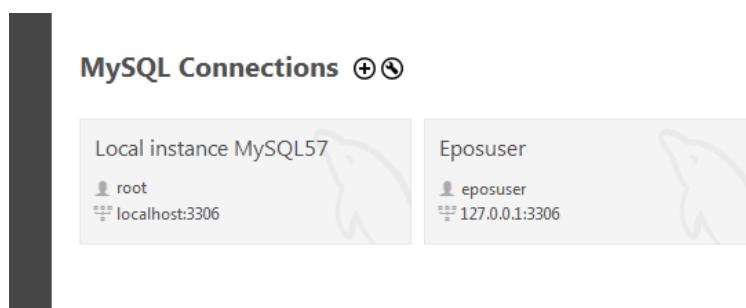
Click ‘OK’



If everything was good, you will see the Success dialog. Click ‘OK’



Click ‘OK’.



Clicking the connection will now take you into MySQL workbench.



Installing Java

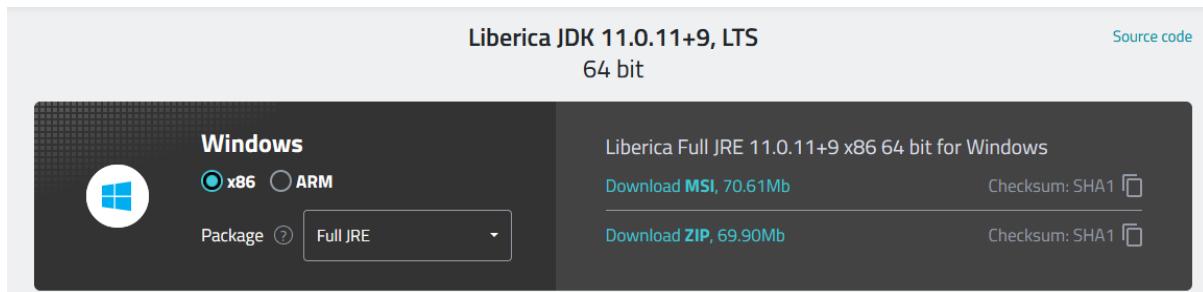
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The next stage is to ensure that Java & JavaFX are installed. Since Version 8 of Java, JavaFX no longer comes as part of the install process. There are some releases that do include the JavaFX runtimes.

OpenJDK is also no longer available as a 32bit installation.

This installation covers the use of Liberica JRE 11 (BellSoft), (as this does come with the JavaFX runtimes needed and development is completed against this supplier's release), but a couple of other versions have been tested.

This can be downloaded from <https://bell-sw.com/pages/downloads/#/java-11-lts>

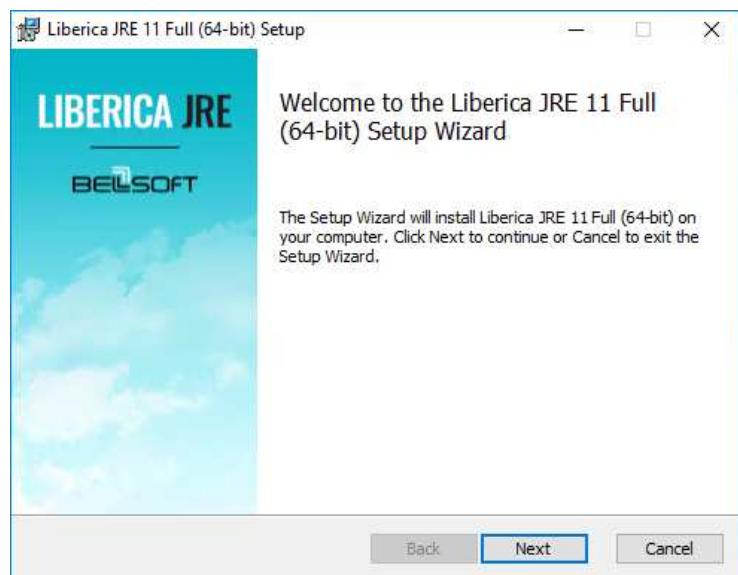


It is recommended that the full version is downloaded as this comes with the JavaFX files required to run the application and the JavaFX install can be skipped.

The JavaFX-SDK also needs to be downloaded from <https://gluonhq.com/products/javafx/>

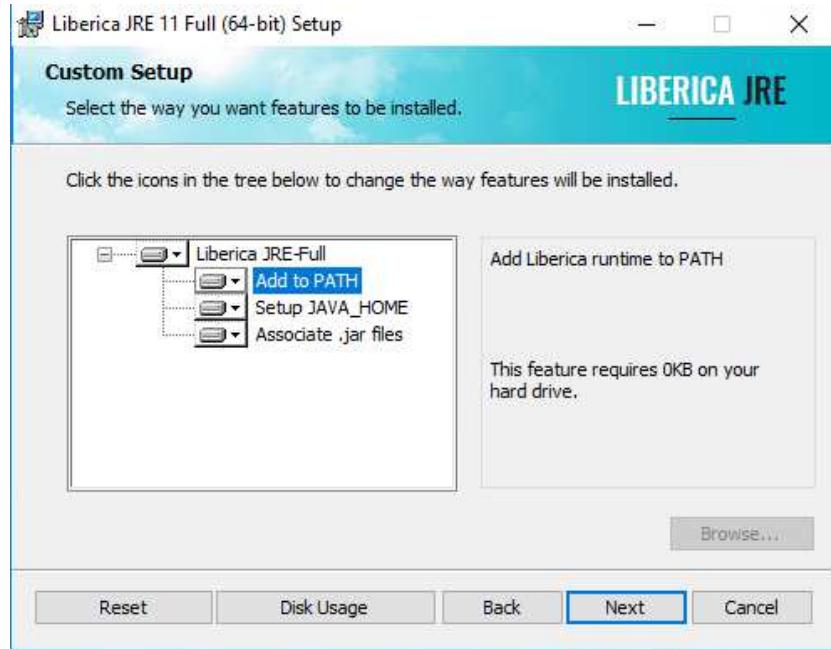
Product	Public version	LTS version	Platform	Download
JavaFX Windows SDK	11.0.2	11.0.11 More info	Windows	Download [SHA256]

Once downloaded run the installer bellsoft-jre11.0.10+9-windows-amd64-full.msi



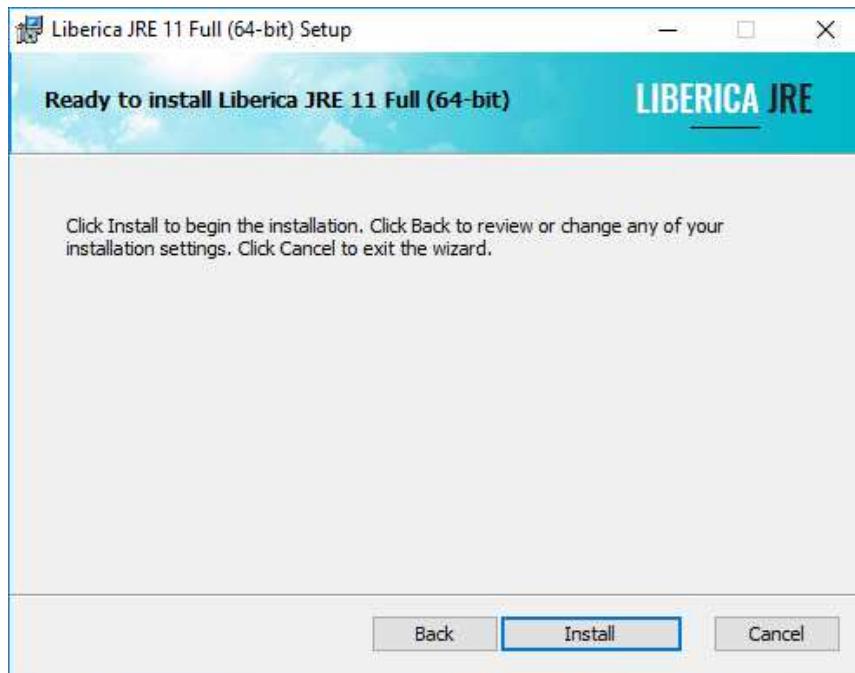
Click 'Next'

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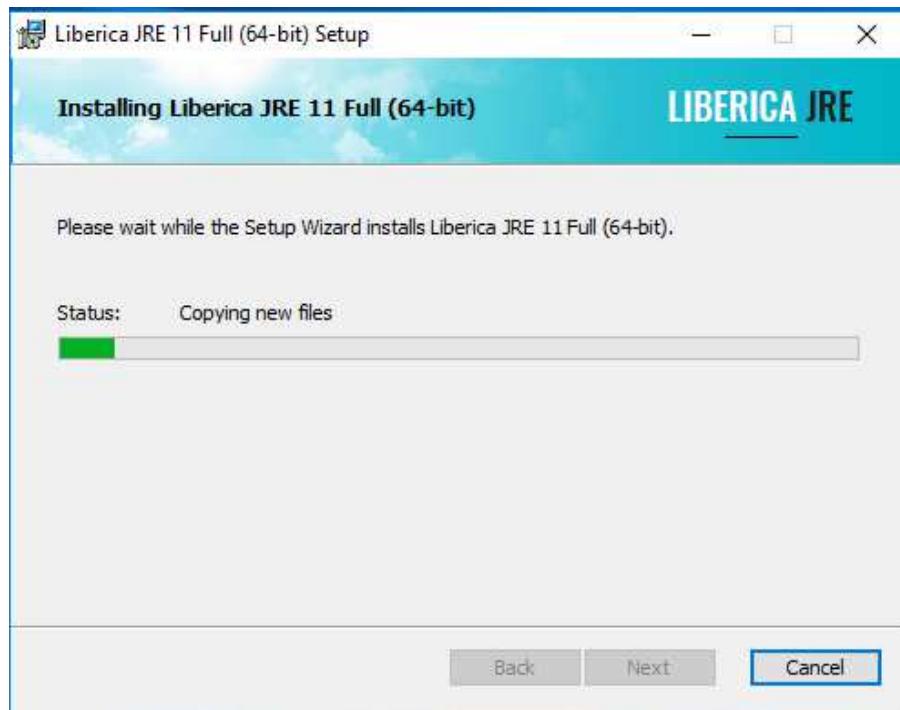
Ensure that 'Add to PATH' and 'Setup JAVA_HOME' are enabled.

Click 'Next'



Click 'Install'

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Allow the installation to complete.

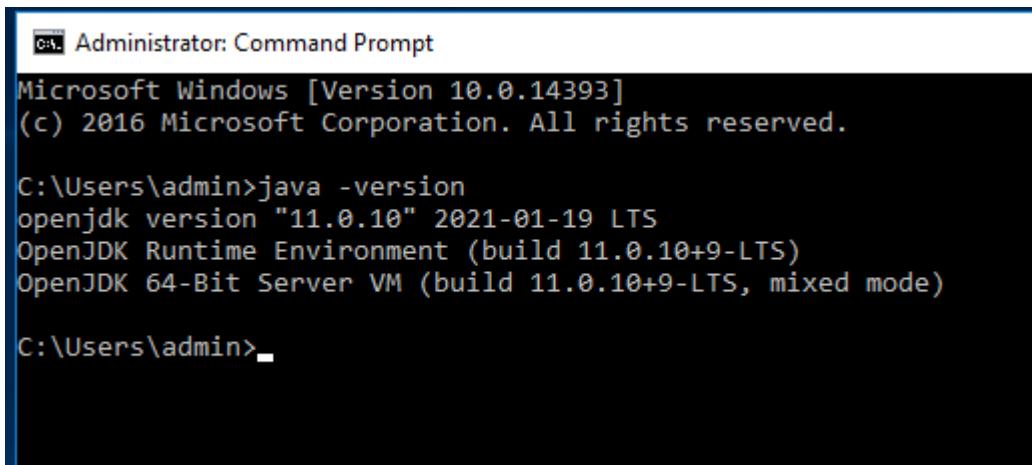


Click 'Finish'

Now test that java is installed, Open a command window

Run 'Java -version'

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```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\admin>java -version
openjdk version "11.0.10" 2021-01-19 LTS
OpenJDK Runtime Environment (build 11.0.10+9-LTS)
OpenJDK 64-Bit Server VM (build 11.0.10+9-LTS, mixed mode)

C:\Users\admin>
```

If all is good so far, there should be a screen similar to the above.

JavaFX-SDK

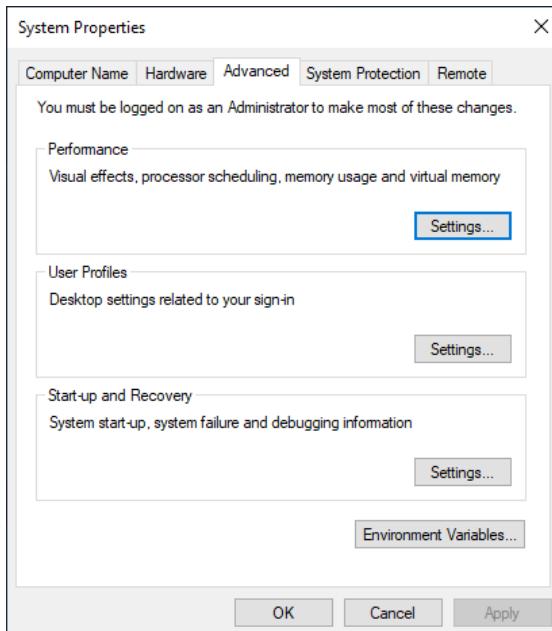
Now we need to install JavaFX-SDK. This is required if the java version installed does not include the JavaFX runtime files).

This can be downloaded from <https://gluonhq.com/products/javafx/>

The package does not come with an installer therefore must be done manually. The zip contains a folder (javafx-sdk-11.0.2), with all the files required, extract this to your 'Program Files' directory.

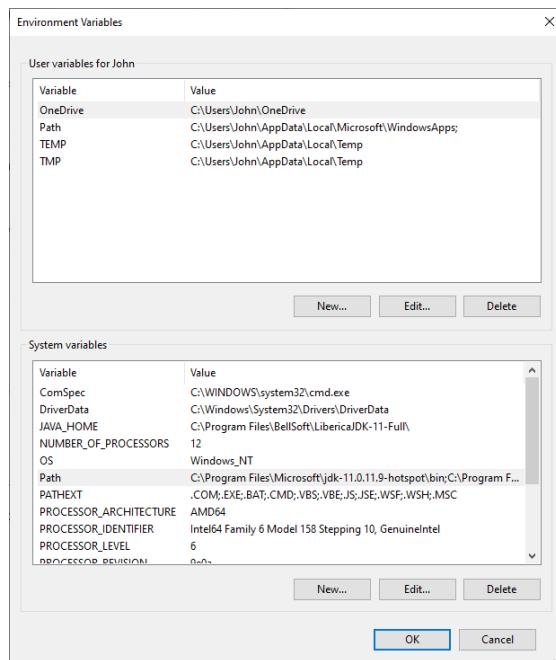
Now the path variable needs to be updated.

From the windows search box open 'Advanced System Settings'

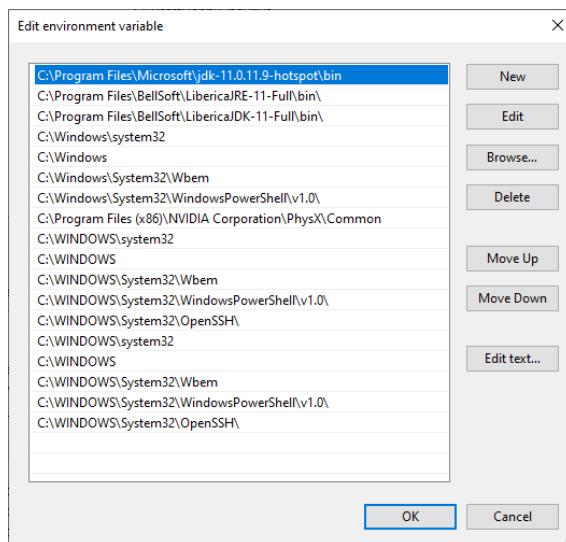


Click 'Environment Variables'

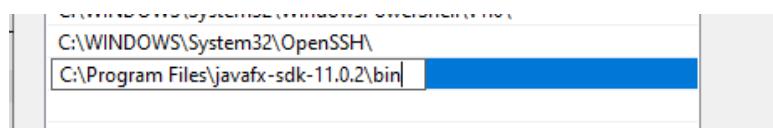
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The JavaFX directory must now be added to the PATH variable. Select 'Path' from the lower panel and 'Edit'



Select 'New' and enter the folder path to the SDK



Providing you used the default the entry is as above. Click 'OK' to save the entry and exit out the 'Advance System Setting' by click on 'OK' all the way.

You are now ready to move the next stage, setting up Chromis.