



Platform Preparation MariaDB

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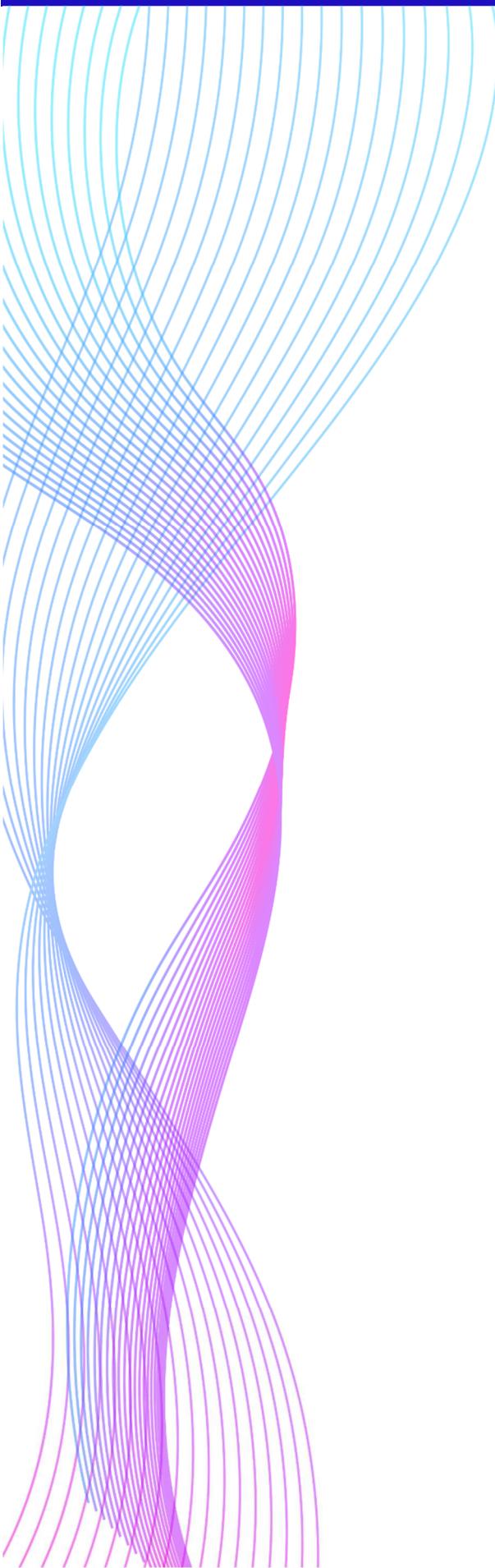
Chromis System Preparation - MariaDB

Document Version History

Version No.	Date	Author(s)	Comments
1.00	11/05/2021	John Lewis	Initial release

Table of Contents

Introduction.....	4
Preparing the System.....	7
Installing MariaDB	7
HeidiSQL	14
Installing Java.....	19



Introduction

Chromis System Preparation - MariaDB

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)

Chromis System Preparation - MariaDB

- 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, MariaDB 10.6)
- 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.

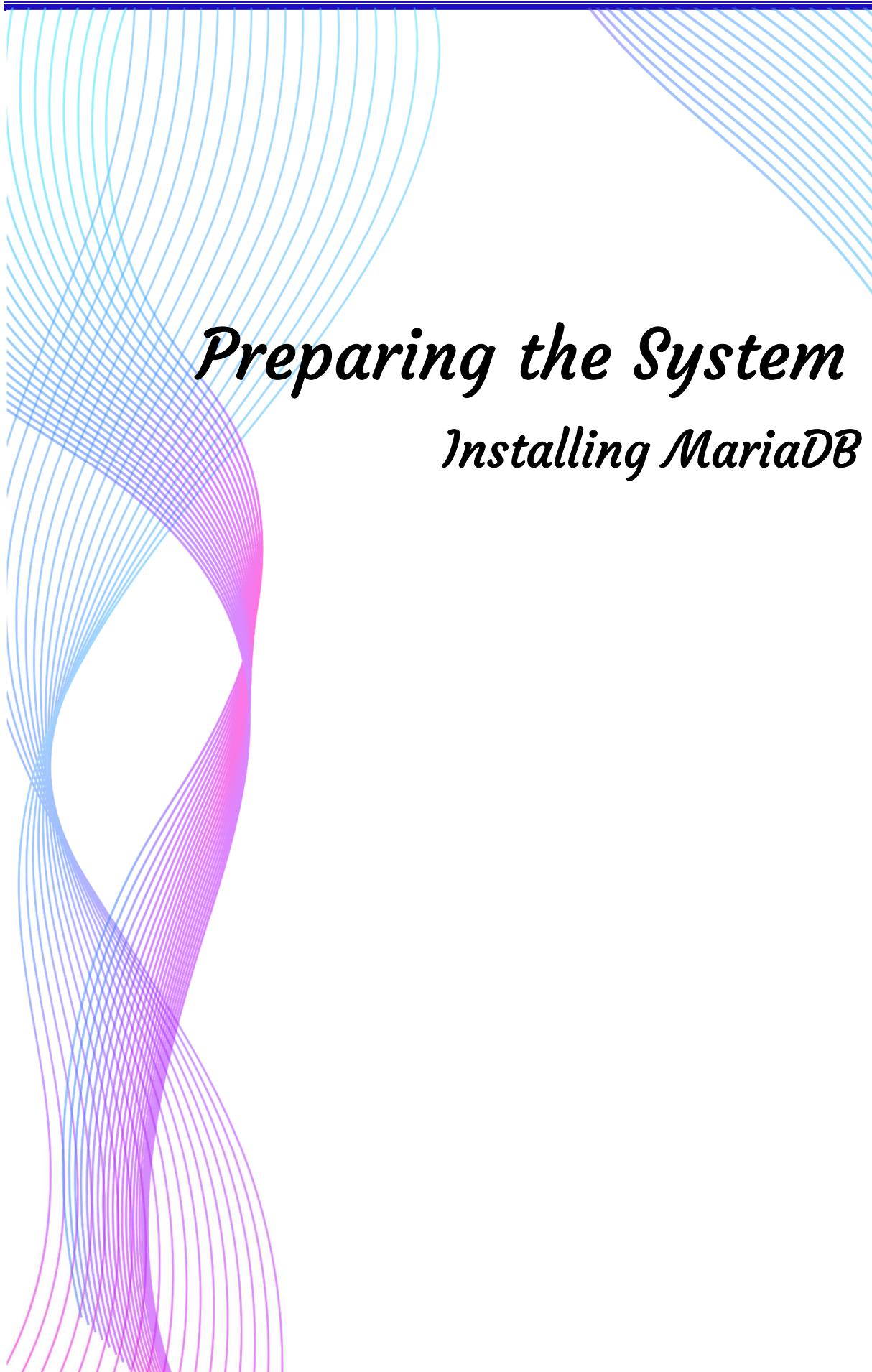
- BellSoft Liberica
- Microsoft JDK
- Amazon Corretto
- Zulu
- AdoptOpen JDK (hotspot)
- AdoptOpenJDK (Open9)

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 MariaDB

Chromis System Preparation - MariaDB

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

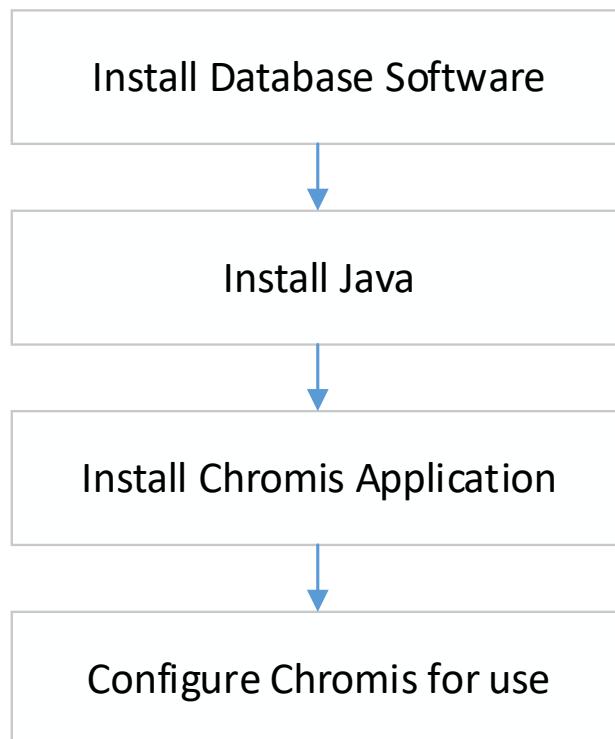
Chromis currently supports 2 database engines

- MySQL
- MariaDB

Our recommendations

- MariaDB, as its footprint is considerably small than the MySQL installation.
- 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.

Chromis System Preparation - MariaDB

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

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.

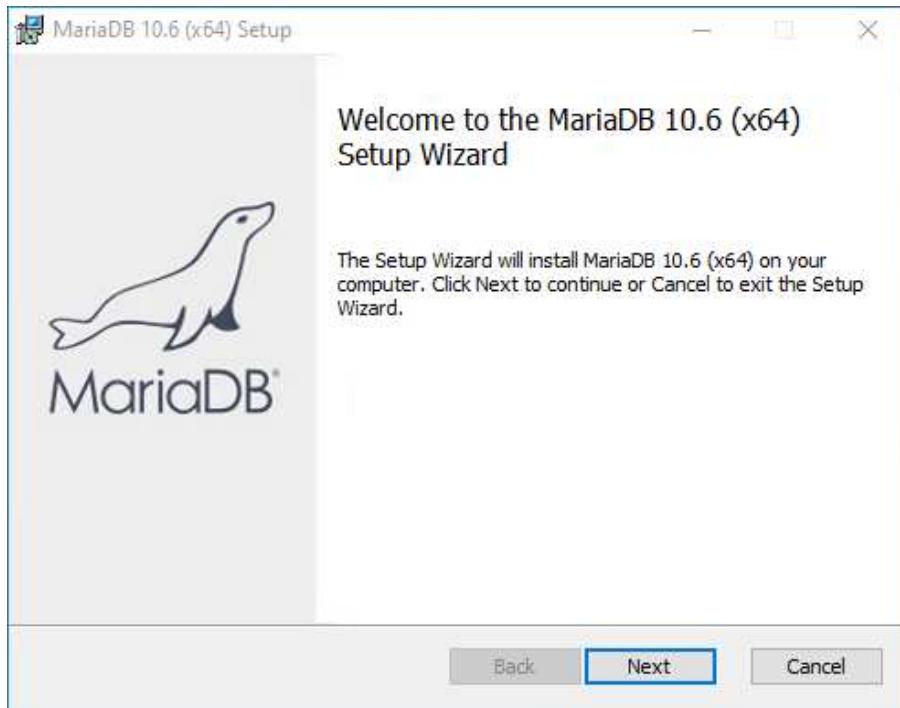
In this section we will take a look how to install MariaDB. It does not cover any configuration away from the basics to setup a running database server ready to run Chromis. These notes are based around using the Windows MSI installer.

You will need to download MariaDB from their web site;;

Go to the MariaDB downloads page and download the latest version 10.6.5 release at the time of writing.

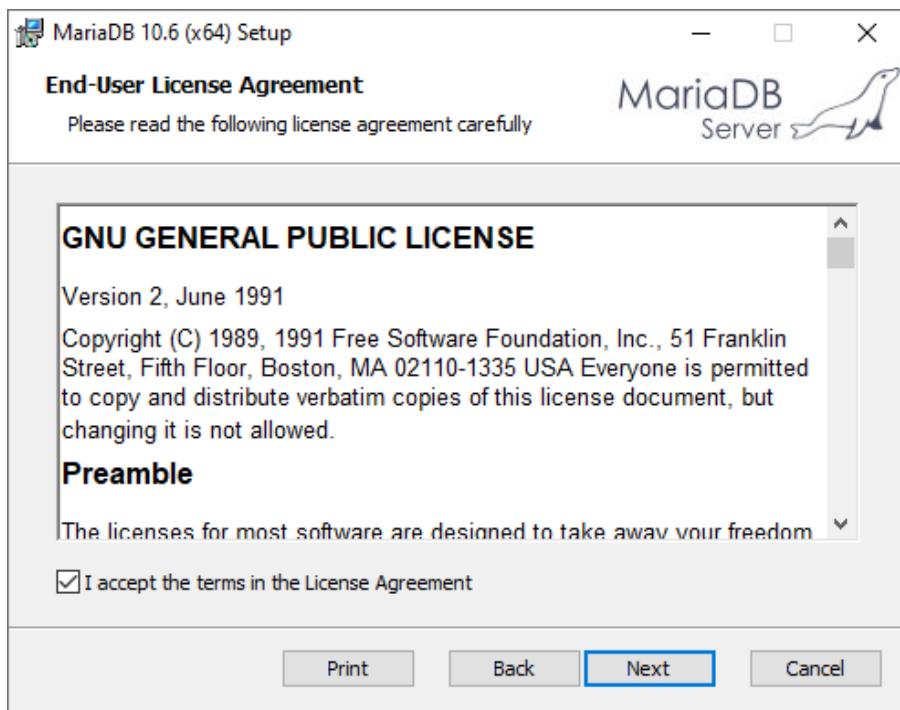
https://mariadb.org/download/?t=mariadb&p=mariadb&r=10.6.5&os=windows&cpu=x86_64&pkg=msi&m=serverion

Run the msi package you downloaded 'mariadb-10.6.5-winx64.msi'

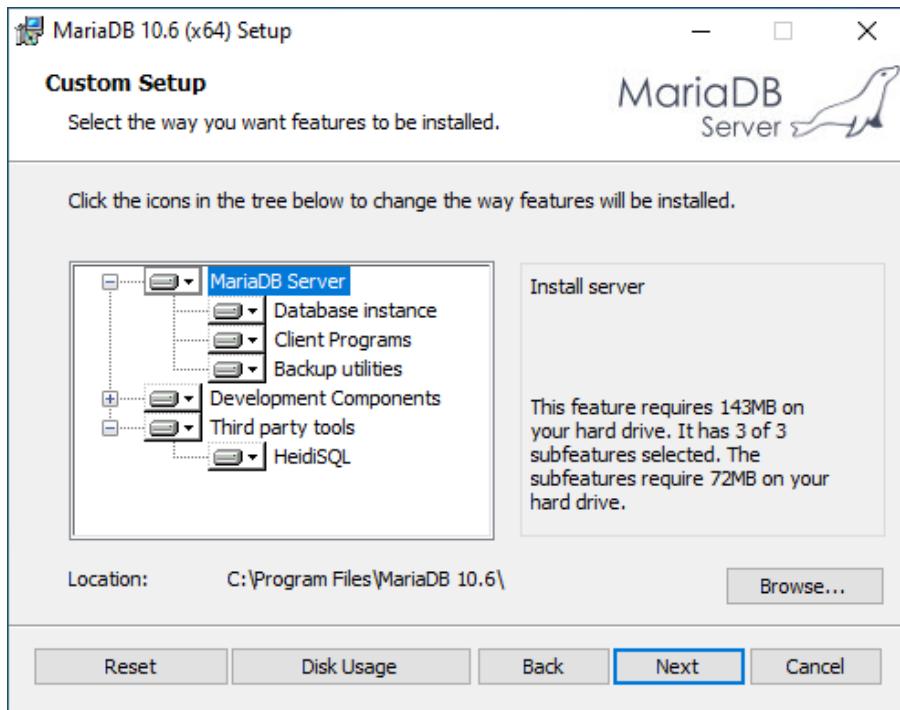


Click 'Next'

Chromis System Preparation - MariaDB

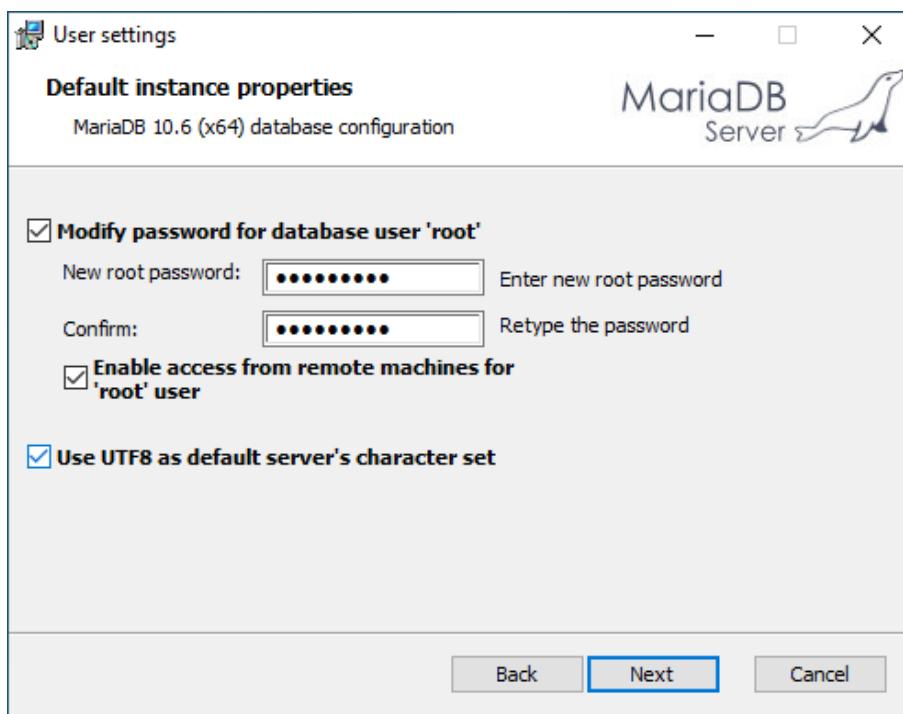


Accept the 'License Agreement' and click 'Next'.



Leave all the settings as the defaults (change the location if required) and click 'Next'

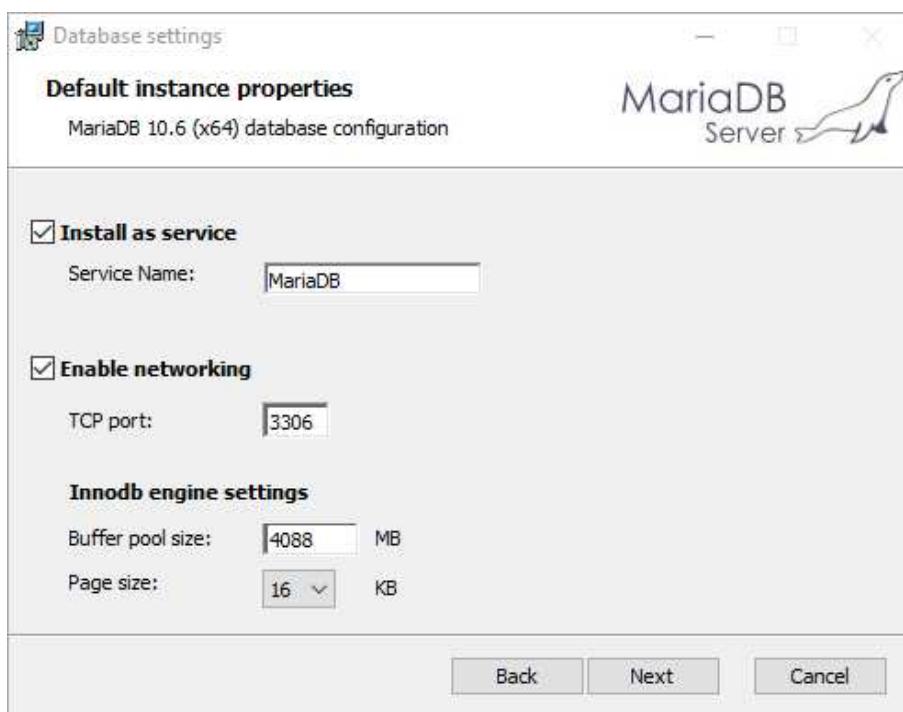
Chromis System Preparation - MariaDB



Assign a password for the 'root' user, keep this in a secure location, as it will also be required later. If you wish to allow the server to be accessed from another machine by the 'root' user enable this option.

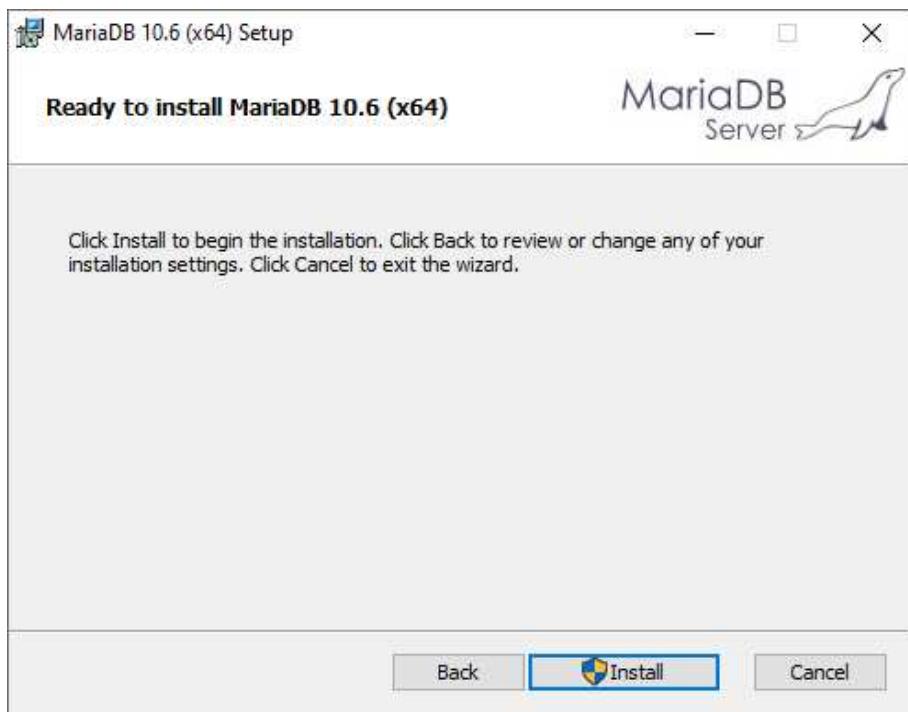
Select 'Use UTF8 as default'

Then click 'Next'

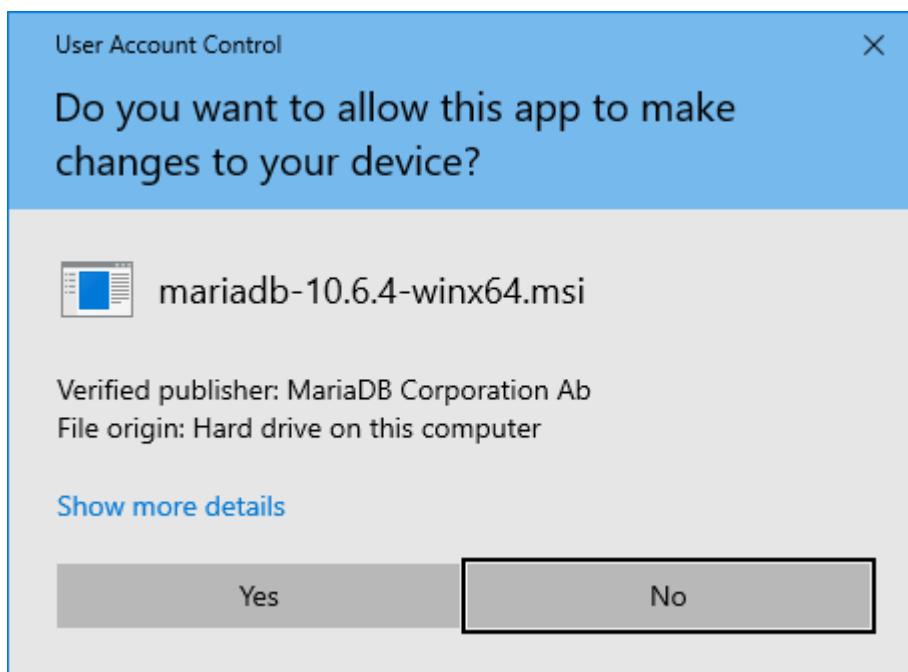


Leave the 'Default instance properties' as its default. Then click 'Next'.

Chromis System Preparation - MariaDB

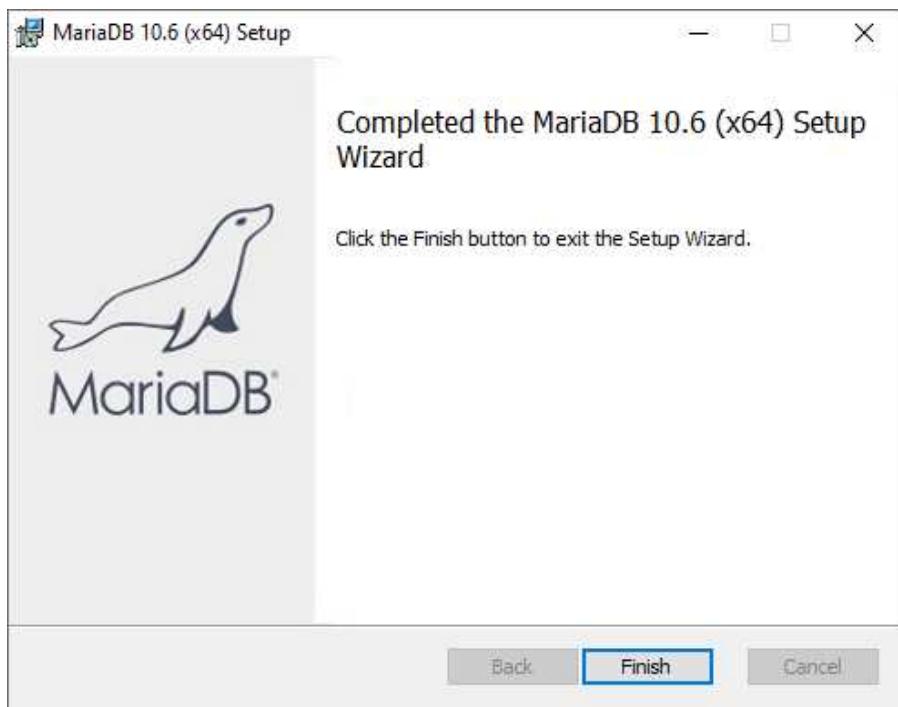


Click 'Install'



If the 'User Account Control' screen appears click 'Yes'.

Chromis System Preparation - MariaDB



The software will now install, once completed click 'Finish'.



HeidiSQL

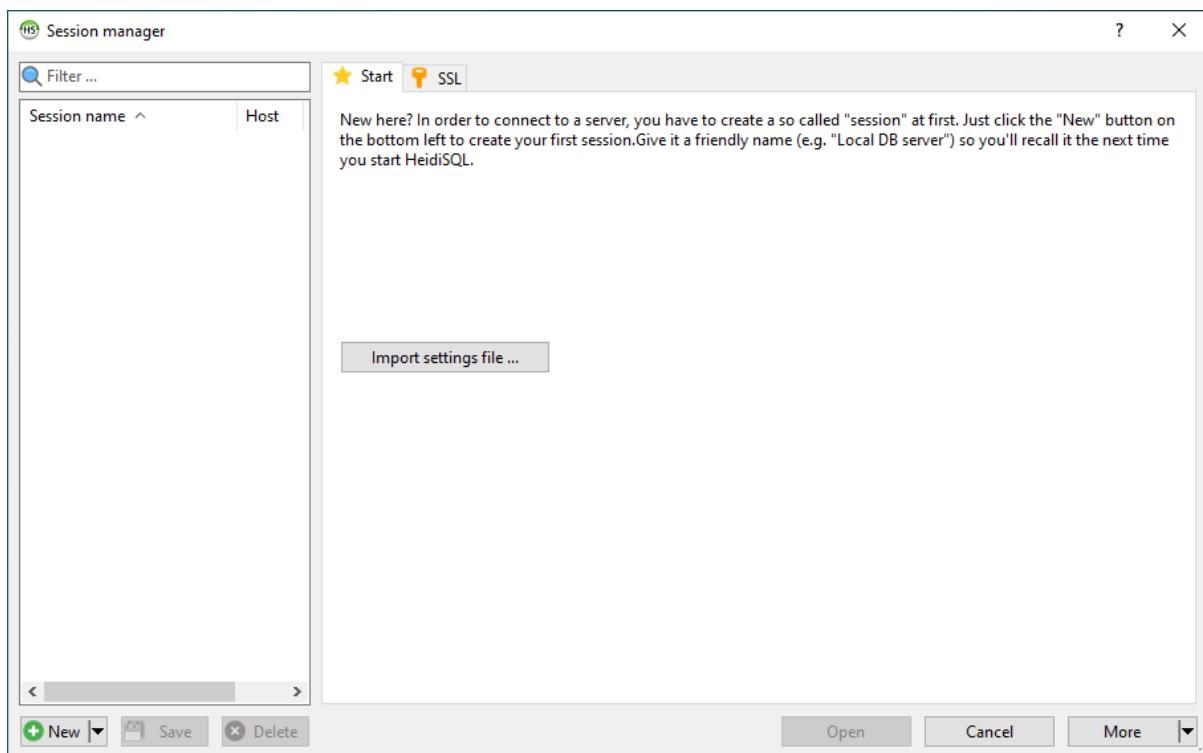
Chromis System Preparation - MariaDB

As part of the Windows installation of MariaDB, HeidiSQL will be installed, this a free database administration GUI tool.



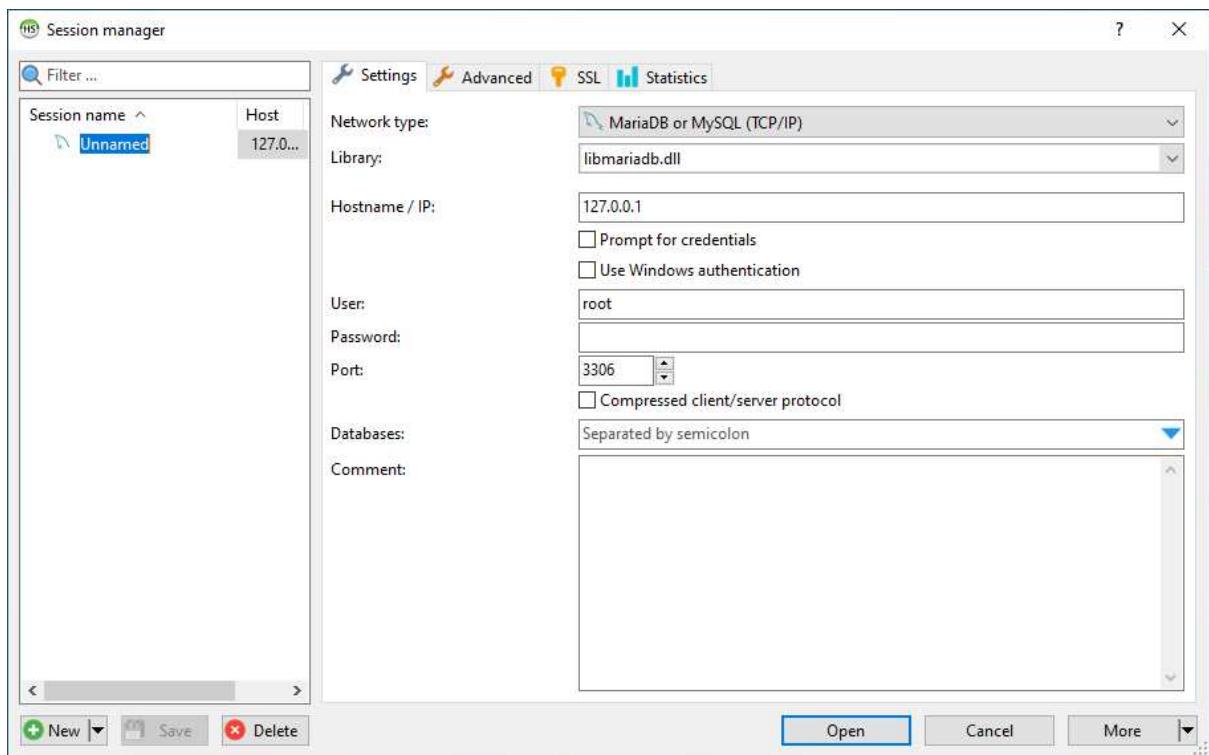
This tool will now be used to configure MariaDB ready for use.

Open HeidiSQL.



Once open a session needs to be created. Click 'New' to create a new session.

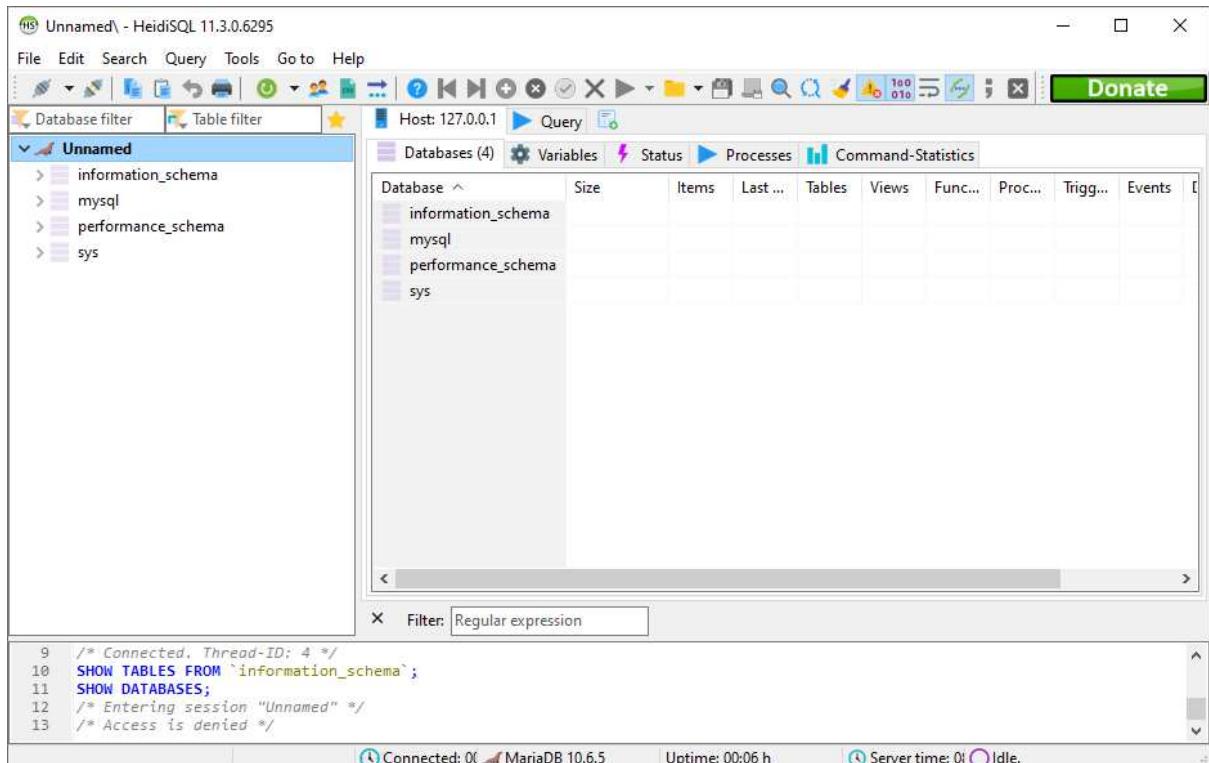
Chromis System Preparation - MariaDB



The first time that a connection is required the only details we have are the 'root' user, these will be used at this stage. Enter the password created earlier into the password field.

If required the session name can be changed,

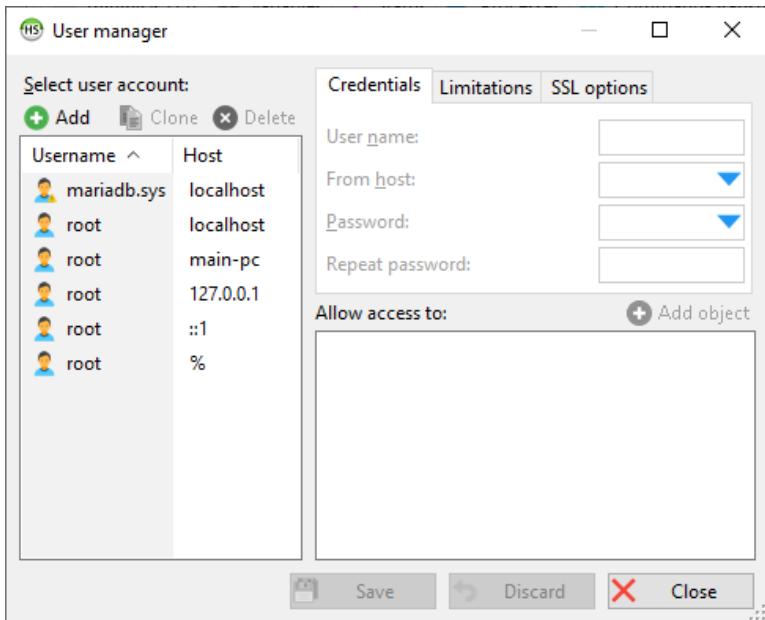
Click 'Open' to connect to a database session.



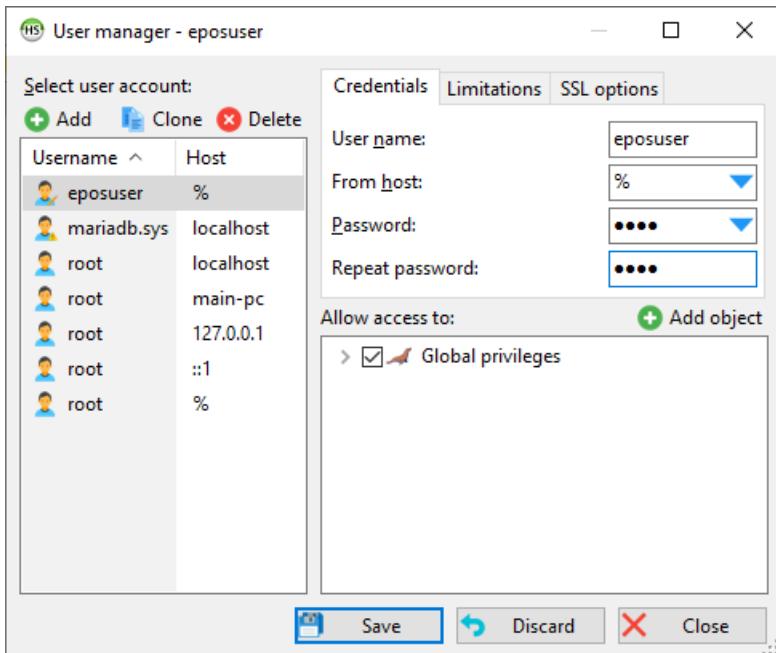
Chromis System Preparation - MariaDB

Now the user which will be used by the Chromis application stack needs to be created.

To create a new user select 'Tools – User Manager' or click 



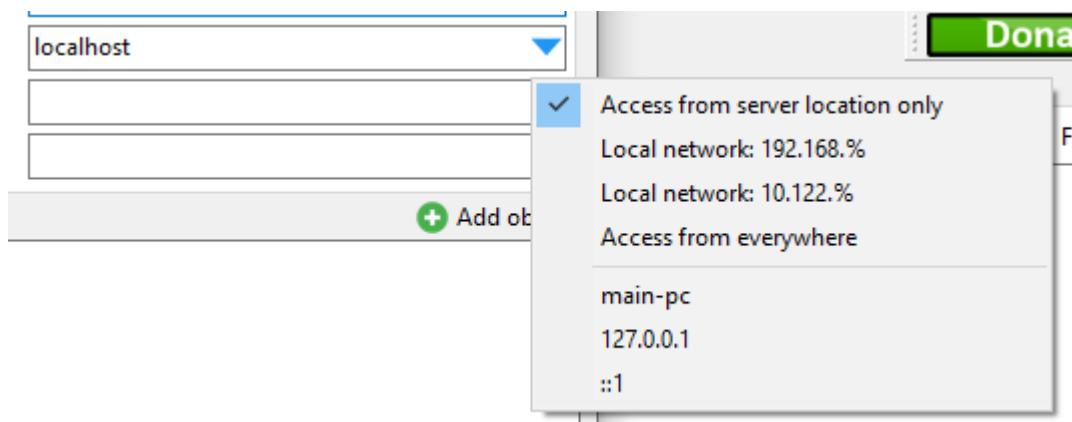
Click 'Add'



Enter the details for the account that will be used for Chromis.

Set 'From host' to the required access type.

Chromis System Preparation - MariaDB



Select 'Global Privileges' this will grant all permissions to user you have created.

Once complete 'Save' the user.

Test the account by closing HeidiSQL and re-opening only this time pass in the details of the new rather than 'root'.



Installing Java

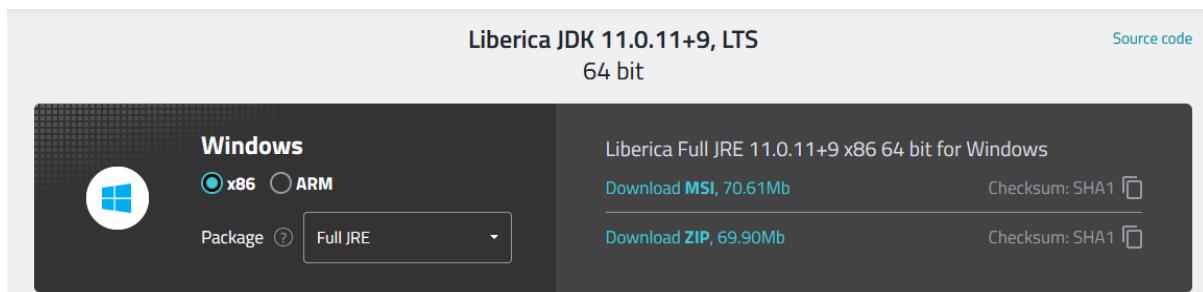
Chromis System Preparation - MariaDB

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>

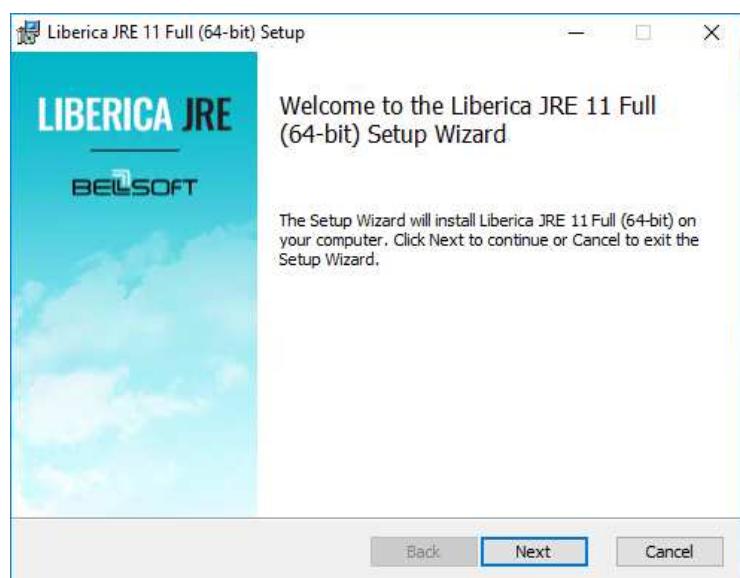


It is recommended that the full version is downloaded as this comes with the JavaFX files required to run the application and the JavaFX install can be skipped.

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

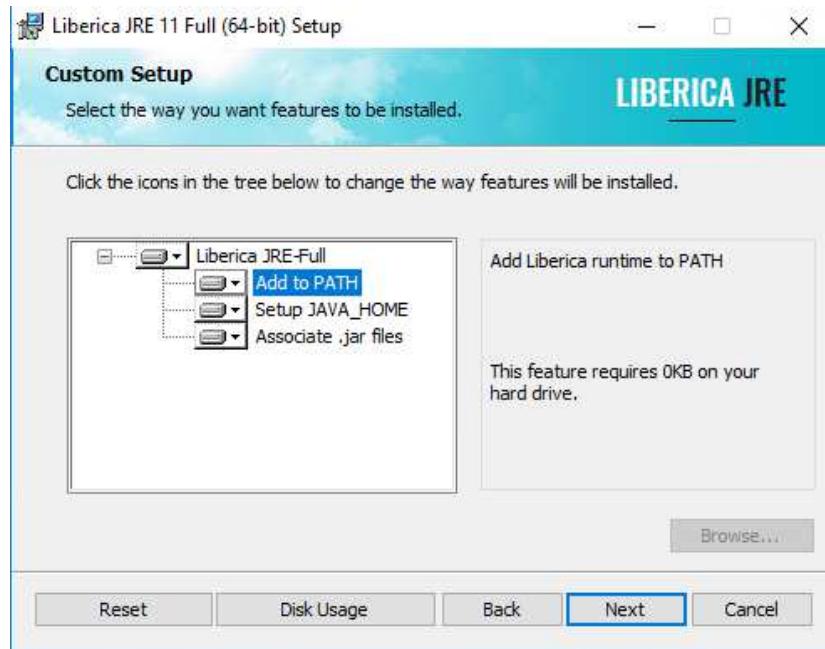
Product	Public version	LTS version	Platform	Download
JavaFX Windows SDK	11.0.2	11.0.11 More info	Windows	Download [SHA256]

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



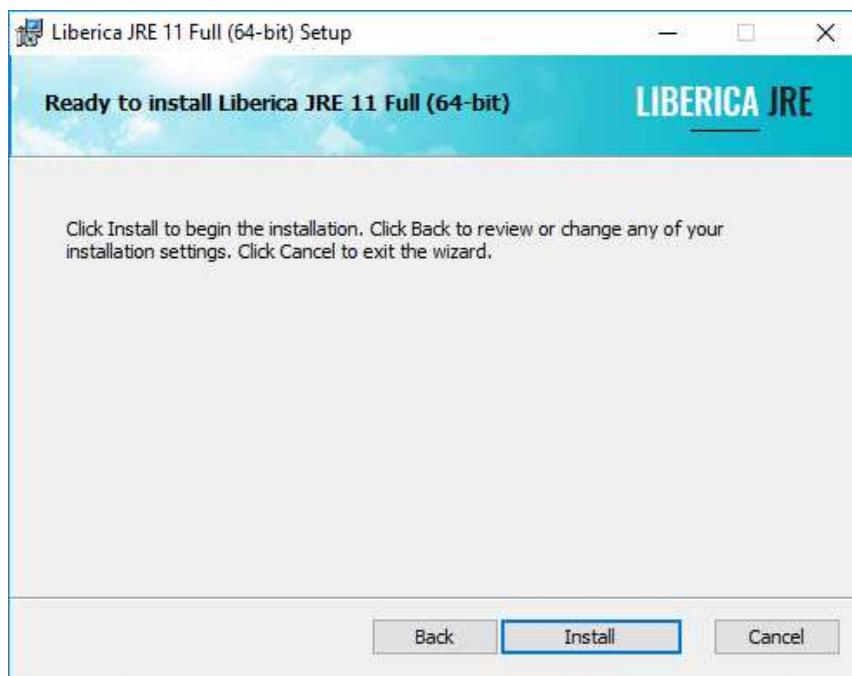
Click 'Next'

Chromis System Preparation - MariaDB



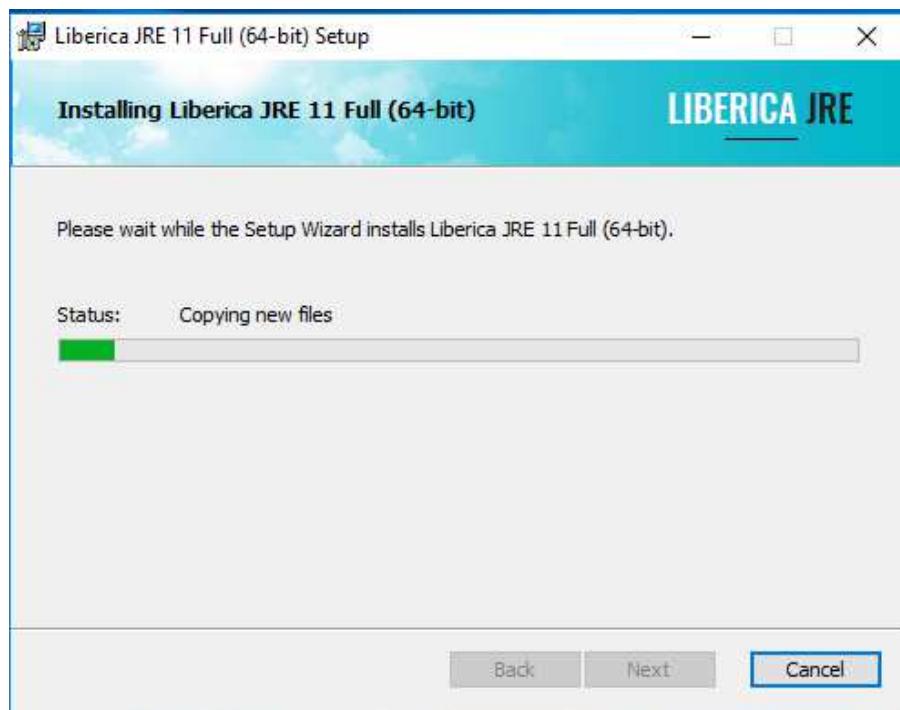
Ensure that 'Add to PATH' and 'Setup JAVA_HOME' are enabled.

Click 'Next'



Click 'Install'

Chromis System Preparation - MariaDB



Allow the installation to complete.

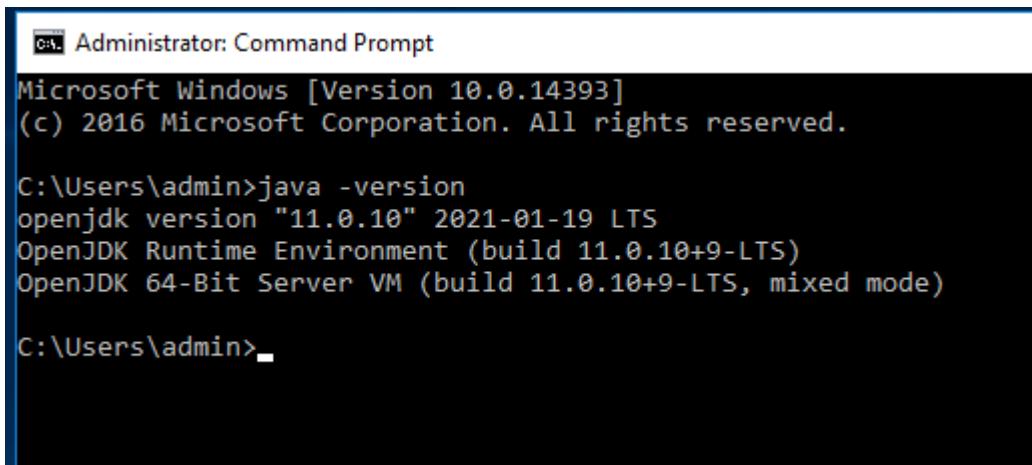


Click 'Finish'

Now test that java is installed, Open a command window

Run 'Java -version'

Chromis System Preparation - MariaDB



```
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

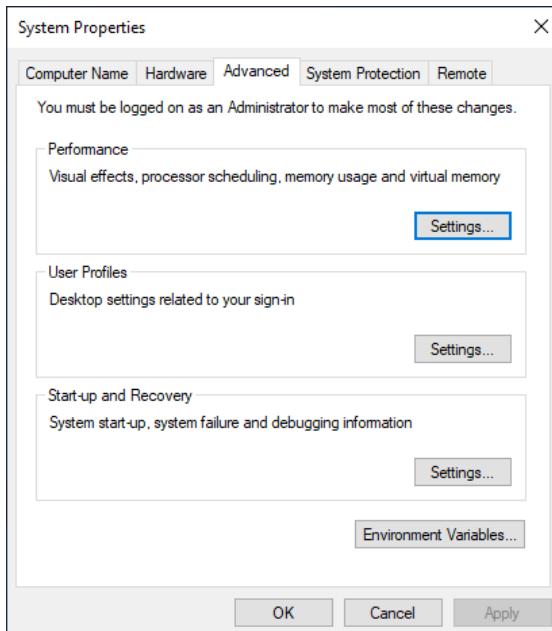
Now we need to install JavaFX-SDK. This is required if the java version installed does not include the JavaFX runtime files).

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.

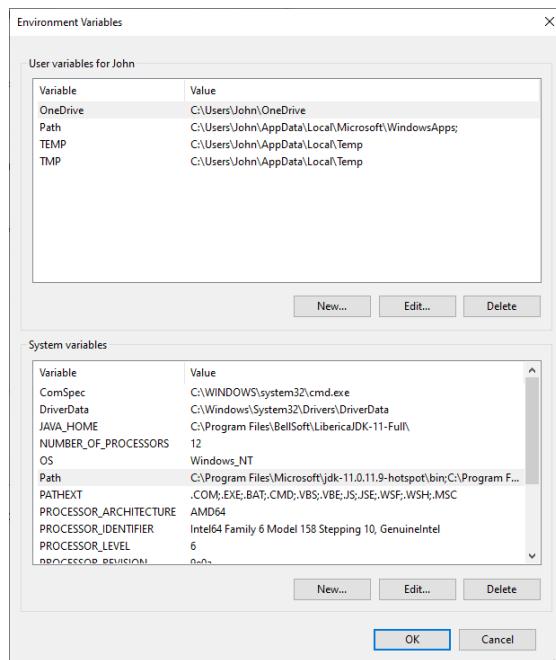
Now the path variable needs to be updated.

From the windows search box open 'Advanced System Settings'

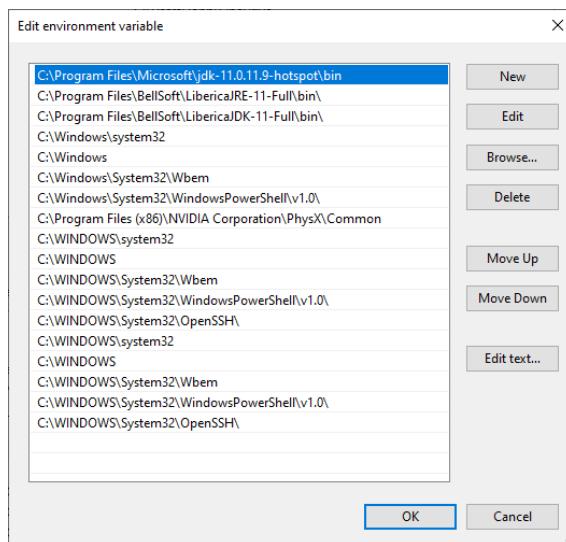


Click 'Environment Variables'

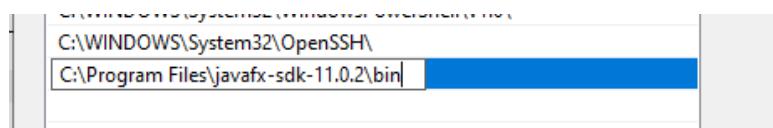
Chromis System Preparation - MariaDB



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.