

# VeSion™ RTU410 RFTS

## Installation Guide

April 2020 | D08-00-077 Rev. A00



# VeSion RTU410 Introduction

## Remote Fiber Optics Monitoring & Test System

- Remote Fiber Test System (RFTS)
  - Monitors optical fiber infrastructure in Core, Metro, Access and FTTx/PON networks, improves workflow and reduces Mean Time to Repair (MTTR).
  - Comprises of RTU-4000 mainframe with RTU-4100+ OTDR optical test module and OXA4000-series optical switches, controlled by VeSion RTU410 Probe Server.
  - VeSion RTU410 Probe Server is also in charge of data collection, scheduling and alarming.

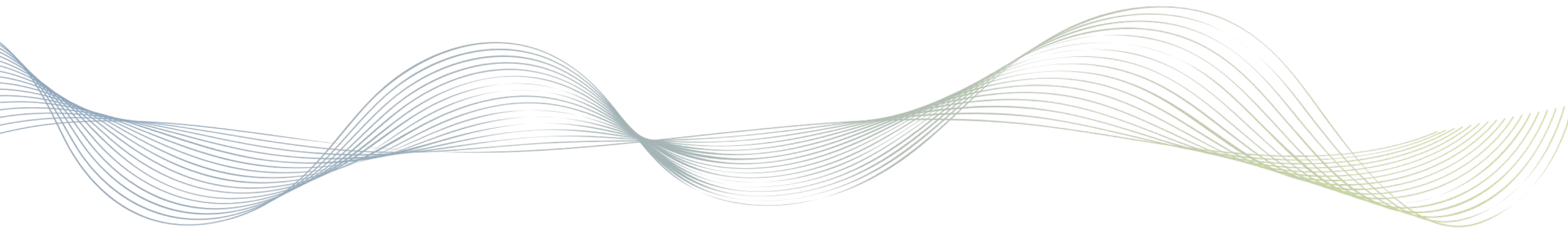


- The VeSion system software runs on Microsoft Windows operating system. The operating system can be:
  - Windows Server 2008 R2
  - Windows Server 2012
  - Windows Server 2016
- This quick guide provides detailed steps to install the applications needed for a VeSion RTU410 Server as part of a VeSion RFTS system. Below are the major software and server role that need to be installed on the server, in addition to the relevant tools to facilitate the installation.
  - MySQL database and workbench
  - VeSion RTU410 Server Application

- This guide is based on the use of Windows Server 2016
- Procedure highlights
  - Add operating system features and Install Microsoft applications
    - Turn on Remote Desktop Connection
    - Add .NET Framework 3.5 feature
    - Add Telnet Client feature
    - Install Microsoft Visual C++ Runtime Libraries 2015 Redistribution
  - Open TCP ports on firewall (assuming that the built-in firewall of the Windows Operating System is used)
  - Install database and configure VeEX applications
    - Install MySQL Installer version 8
    - Install MySQL Server
    - Install MySQL Workbench
    - Configure MySQL Database
    - Install and configure VeSion RTU410 Sever application
  - Add application shortcuts to Startup

- MySQL Installer for Windows version 8.0.17.0. Consult VeEX Customer Care for compatibility for other versions.
  - <https://dev.mysql.com/downloads/mysql/>
- MySQL configuration tool <MySQLConfigurationHelper(3.0.0)190218>
  - Provided by VeEX
- VeSion RTU410 Server
  - Provided by VeEX

- To allow an easy reference to the software installation history and access to the software for future use, it is recommended to put the installation software on the server.
- If Drive C: has good amount of disk space, use the default Documents folder.
- Create a Software\_Archive folder under Documents.
- Under the Software\_Archive folder, create the following folders
  - MySQL, which contains the MySQL installation software, MySQL Configuration Helper
  - VeSion\_Package, which contains the VeSion RTU410 Server software



# Server Roles and Features

## Step 1

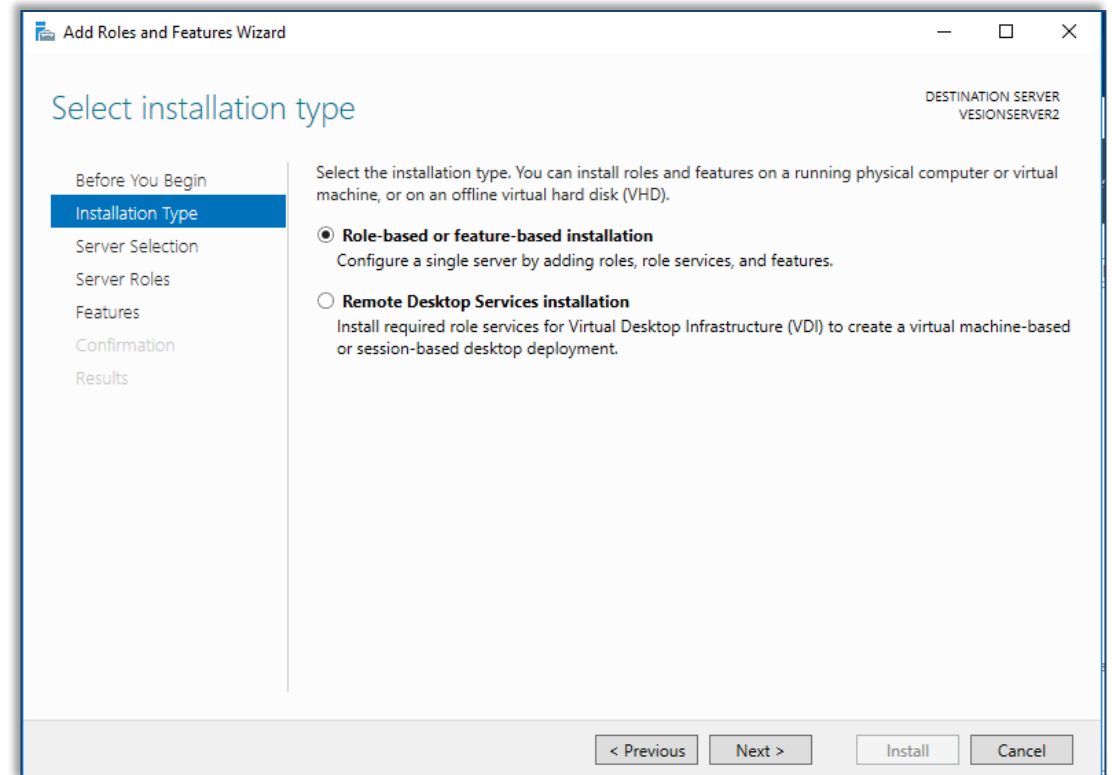
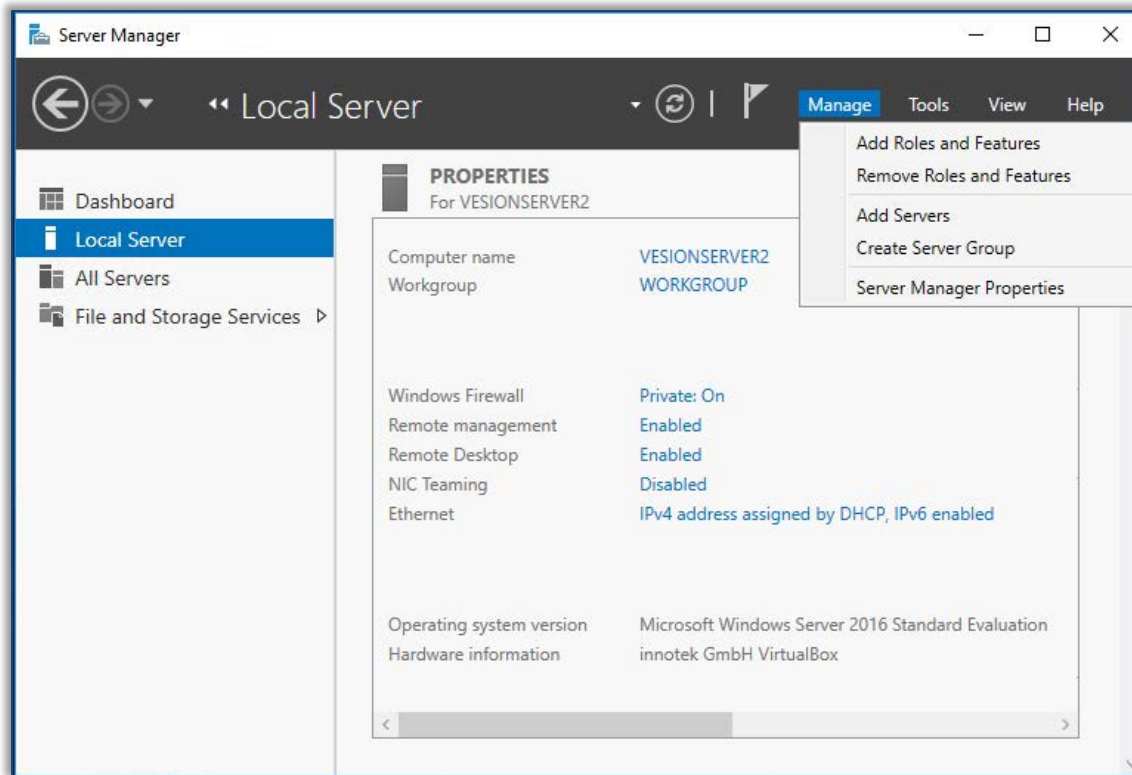




# Server Manager

## Add Roles and Features

- The first step of the installation is to use the Add Roles and Features of the Server Manager to add the below roles and features
  - .NET Framework 3.5 Features
  - Telnet Client





# Server Manager

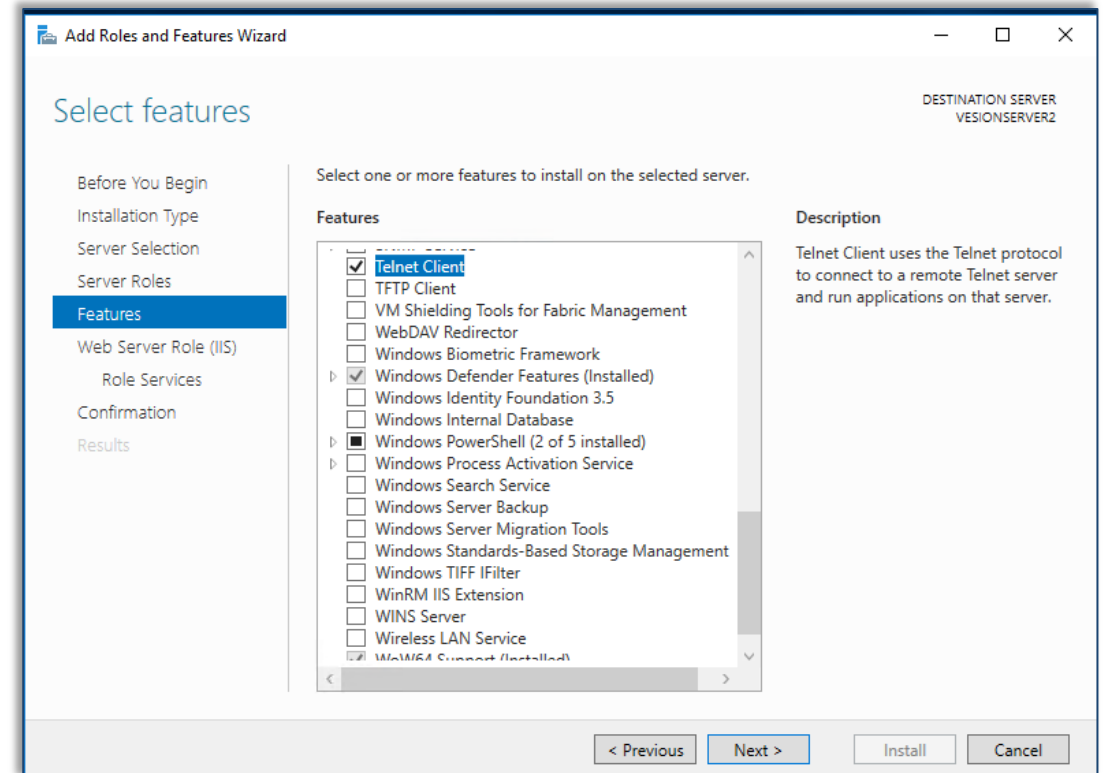
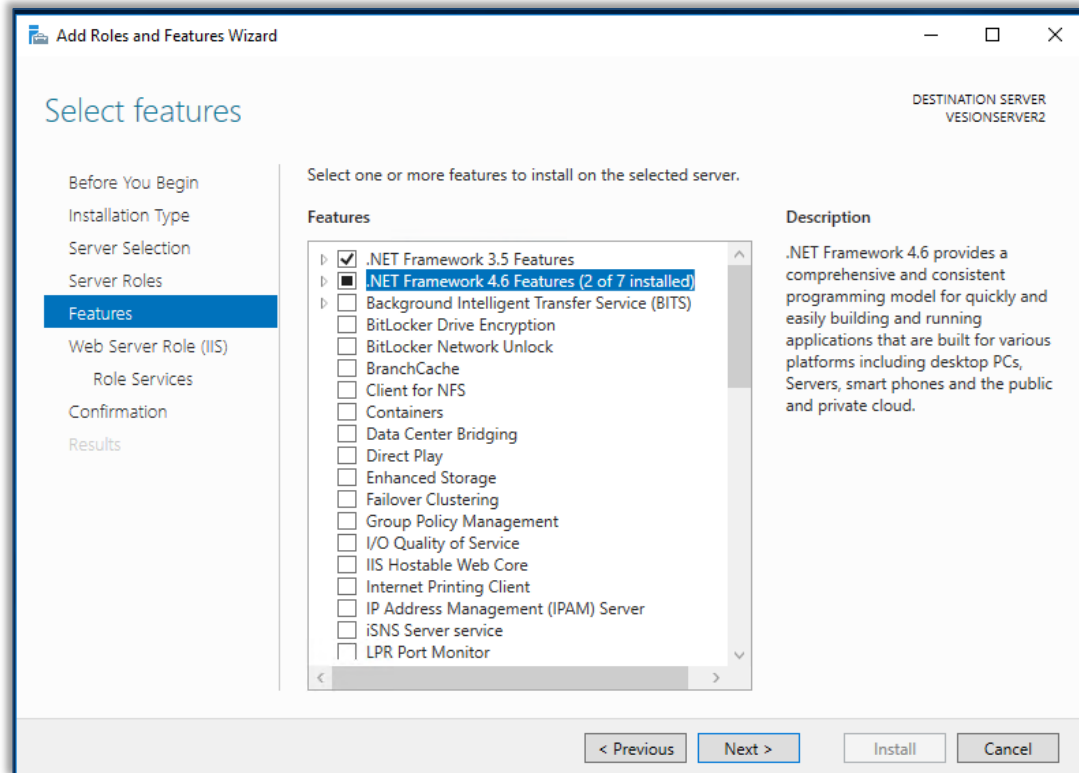
## Add .NET Framework and Telnet Features

- .NET Framework 3.5 Features

- The .NET Framework 3.5 features are needed to run the MySQL Configuration Tool when setting up the database

- Telnet client

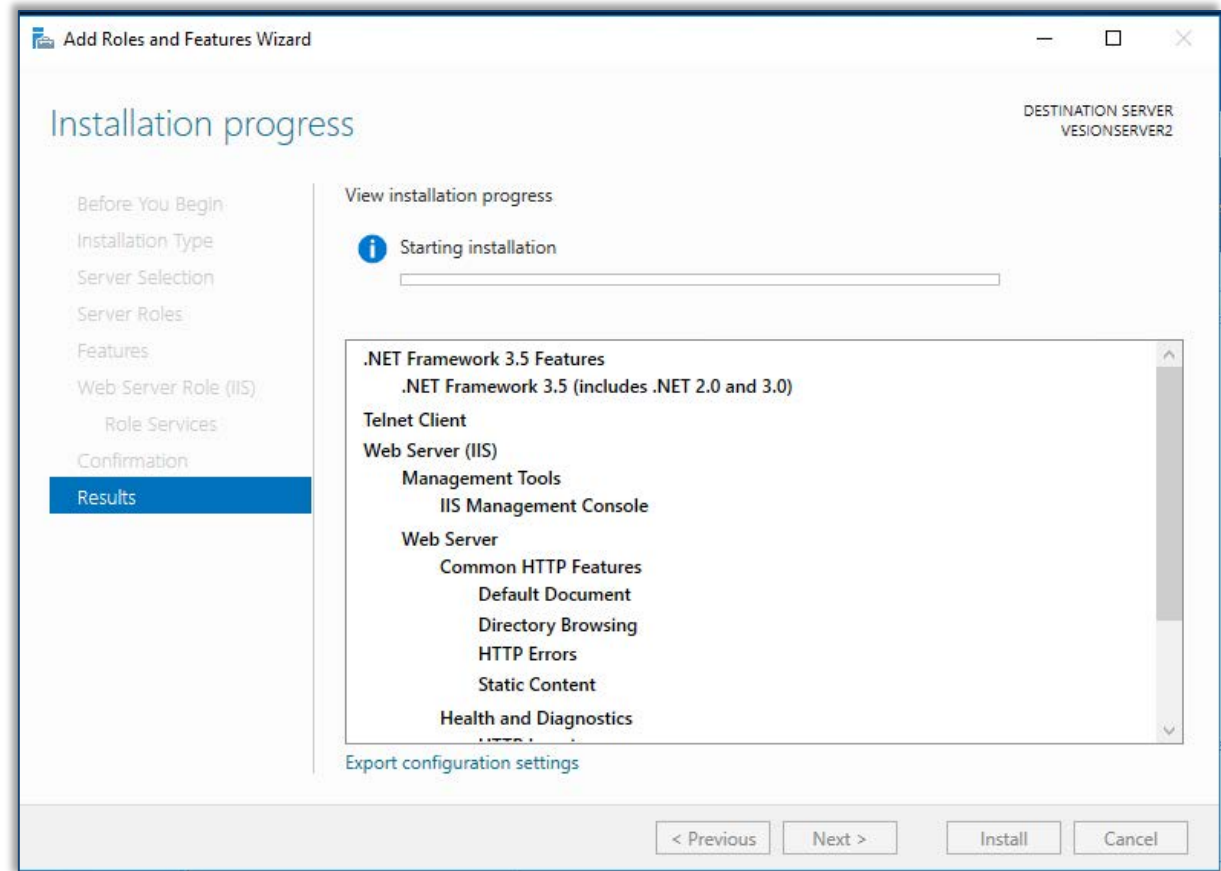
- The telnet client is needed for probe troubleshooting, if needed.



# Server Manager

## Add Roles and Features

- Click Install in the Confirmation to proceed add the .NET Framework and Telnet Client features. Let it finish the installation.



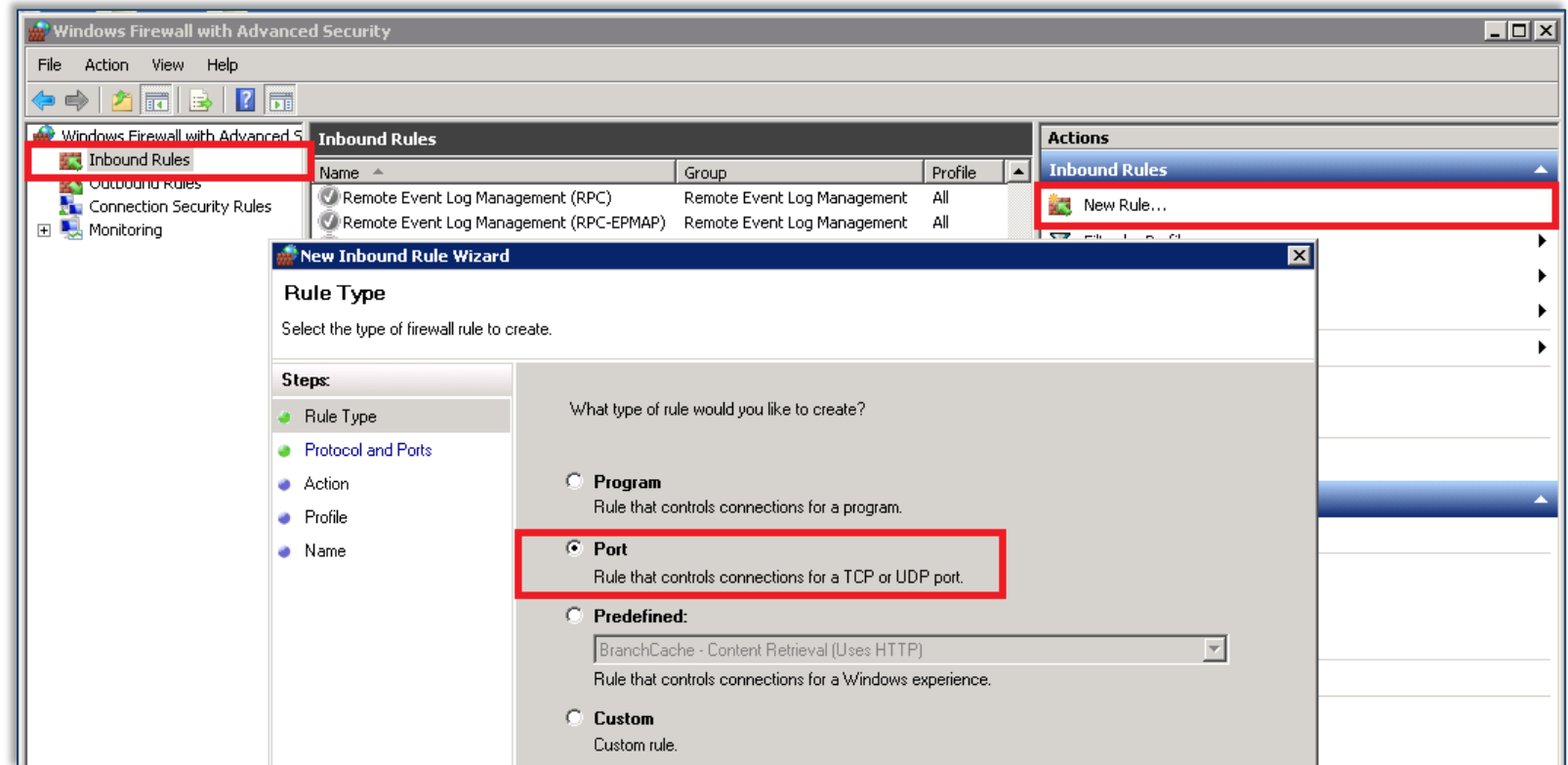
# Open Ports on Windows® Firewall

## Step 2



# Open Required Ports on Windows Firewall

- The inbound TCP port 12300 needs to be opened, so an RTU-4000/RTU-4100 probe can connect to the VeSion RTU410 Server.
- Launch Windows Firewall with Advanced Security
  - Click Inbound Rules at the left pane, then click New Rule... at the right under Actions > Inbound Rules to bring up the Rule setting pop-up.



# Open Required Ports on Windows Firewall

## Inbound Rules

- Click Inbound Rules at the left pane, then click New Rule... at the right under Actions > Inbound Rules to bring up the Rule setting pop-up.
- Select Port, click Next > to continue then pick Specific local ports and enter the tcp port 12300. Click Next > to continue. Select Allow the connection and apply the rule to Domain, Private and Public networks

Does this rule apply to TCP or UDP?

TCP  
 UDP

Does this rule apply to all local ports or specific local ports?

All local ports  
 Specific local ports:   
Example: 80, 443, 5000-5010

When does this rule apply?

**Domain**  
Applies when a computer is connected to its corporate domain.

**Private**  
Applies when a computer is connected to a private network location.

**Public**  
Applies when a computer is connected to a public network location.

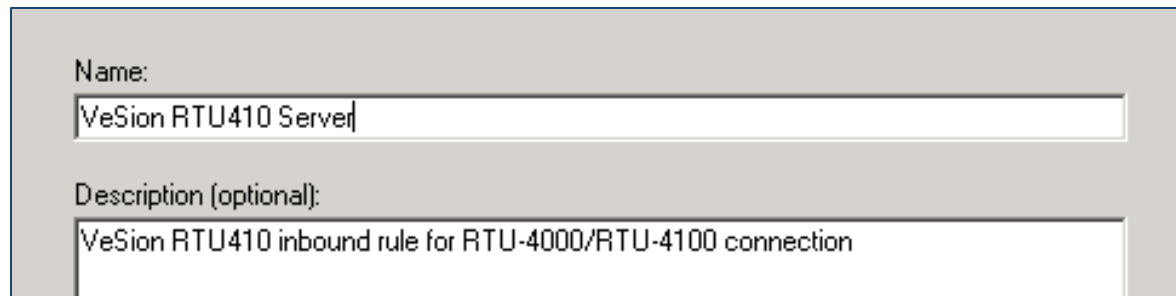
What action should be taken when a connection matches the specified conditions?

**Allow the connection**  
This includes connections that are protected with IPsec as well as those are not.

# Open Required Ports on Windows Firewall

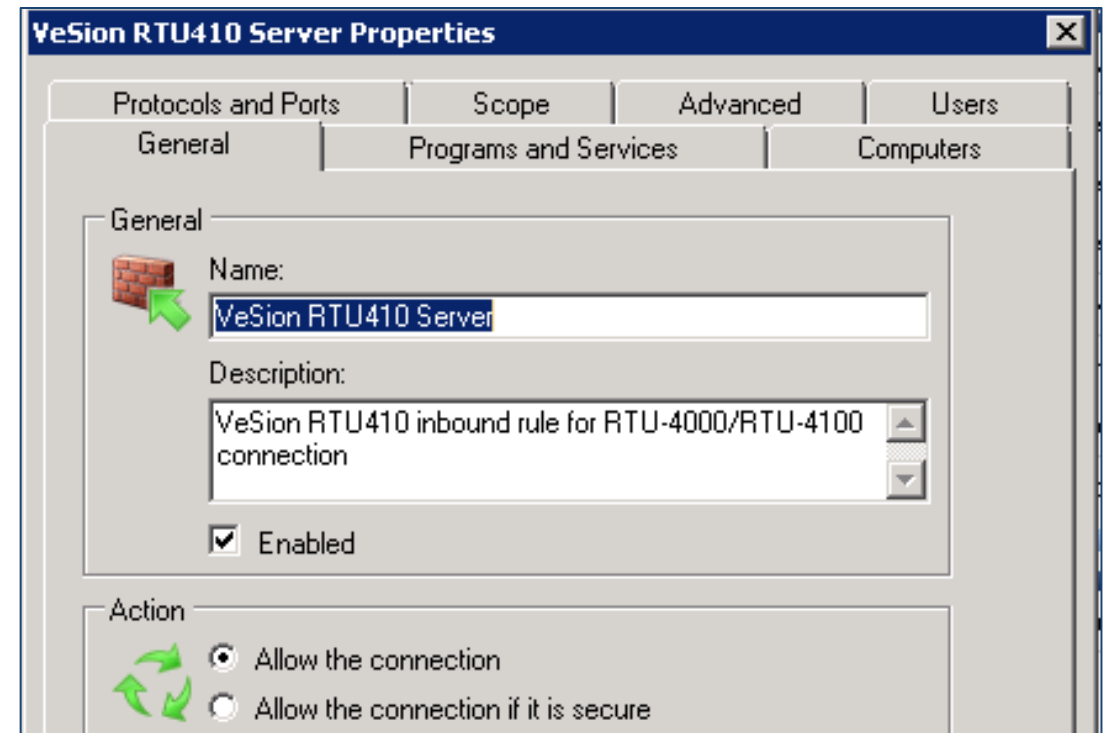
## Inbound Rules

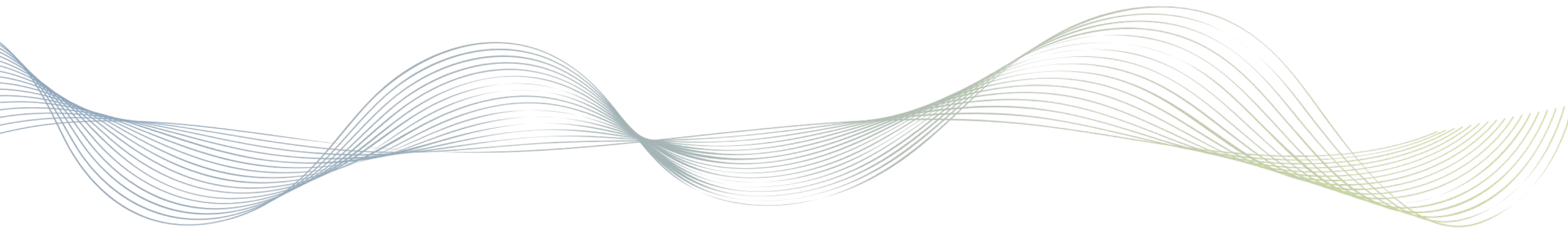
- In the next screen enter VeSion RTU410 Server for the Name and a short statement, e.g. VeSion RTU410 Server inbound firewall rule for RTU-4000/RTU-4100 connection for the Description.
- Make sure that the rule is enabled, then click Apply.



Name:  
VeSion RTU410 Server

Description (optional):  
VeSion RTU410 inbound rule for RTU-4000/RTU-4100 connection





# Installing MySQL

## Step 3

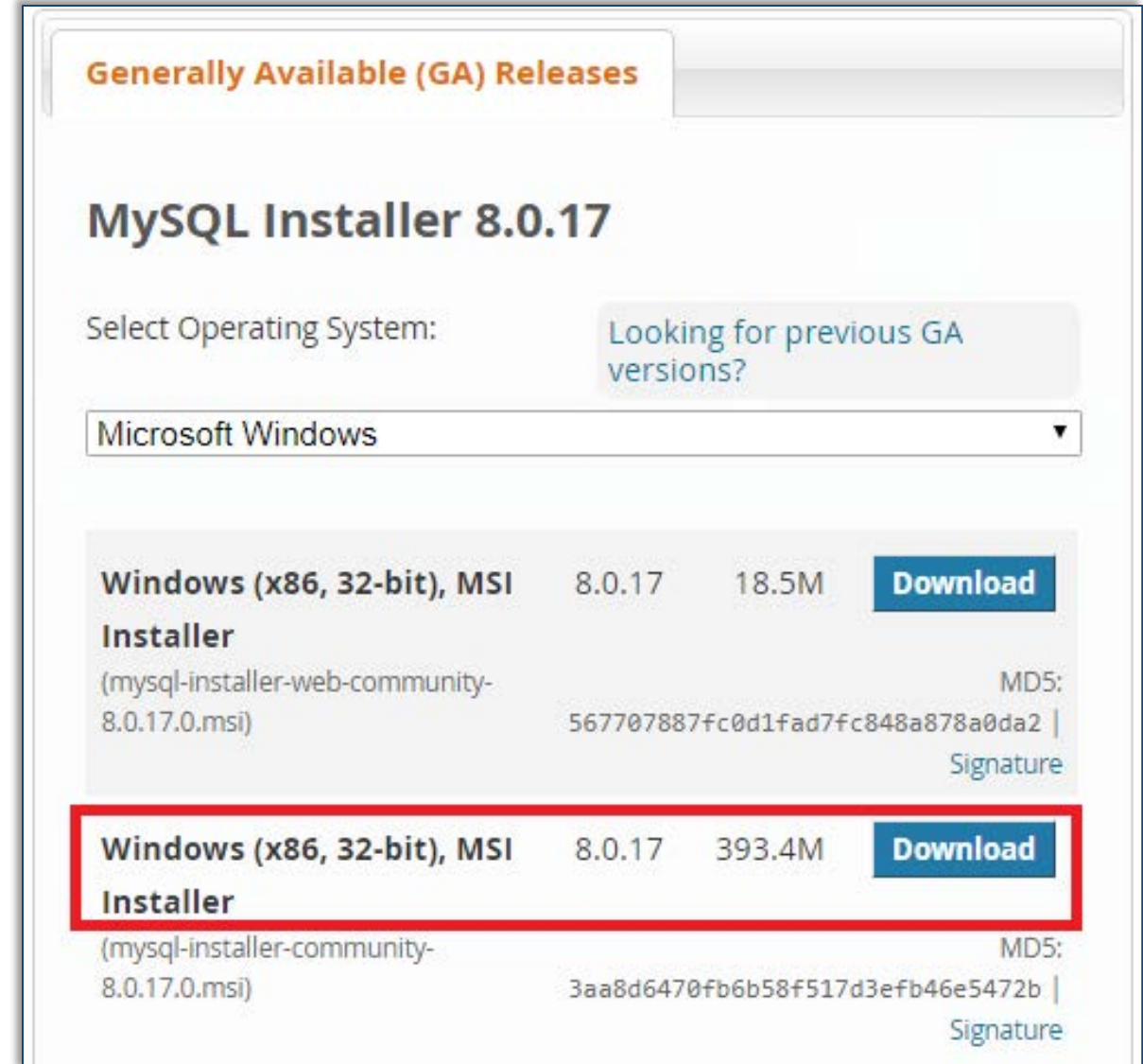




# MySQL Installer

## Download

- Download MySQL Installer for Windows for MySQL Community Server from
  - <https://dev.mysql.com/downloads/mysql/>
  - Download the mysql-installer-community version, which has a large file size and keep a copy on the server. this way if there is a need to reinstall/reconfigure MySQL Server or Workbench the software is readily available.



**Generally Available (GA) Releases**

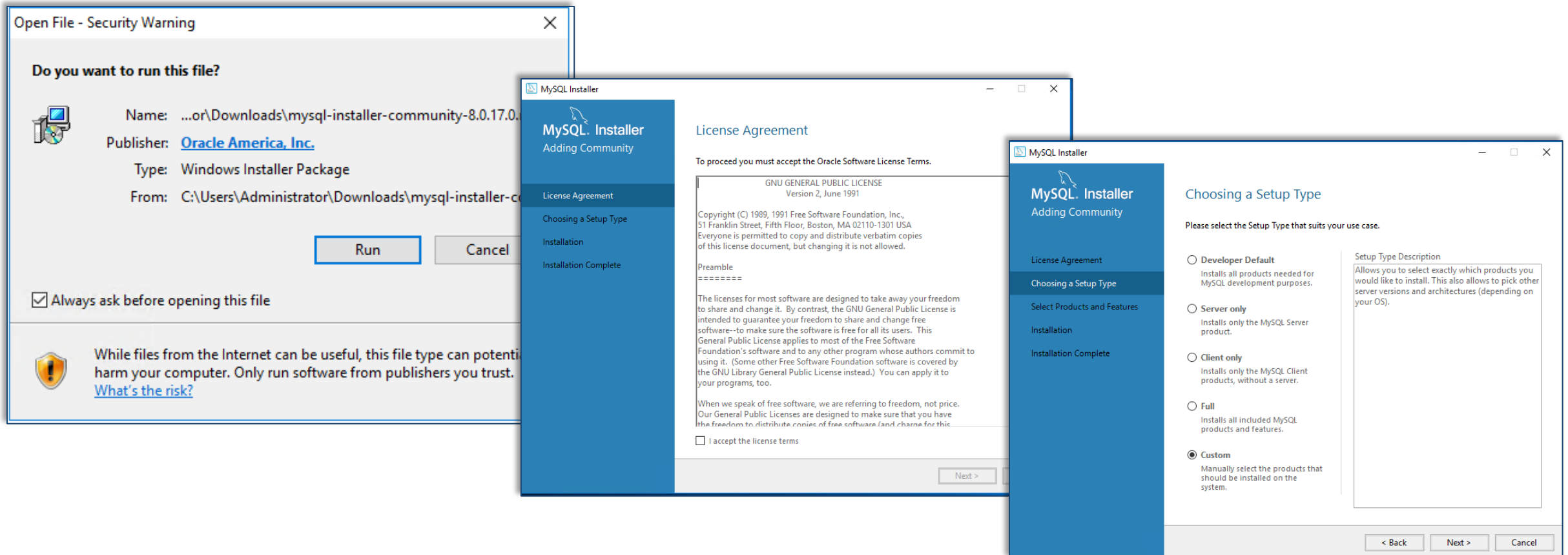
### MySQL Installer 8.0.17

Select Operating System: [Looking for previous GA versions?](#)

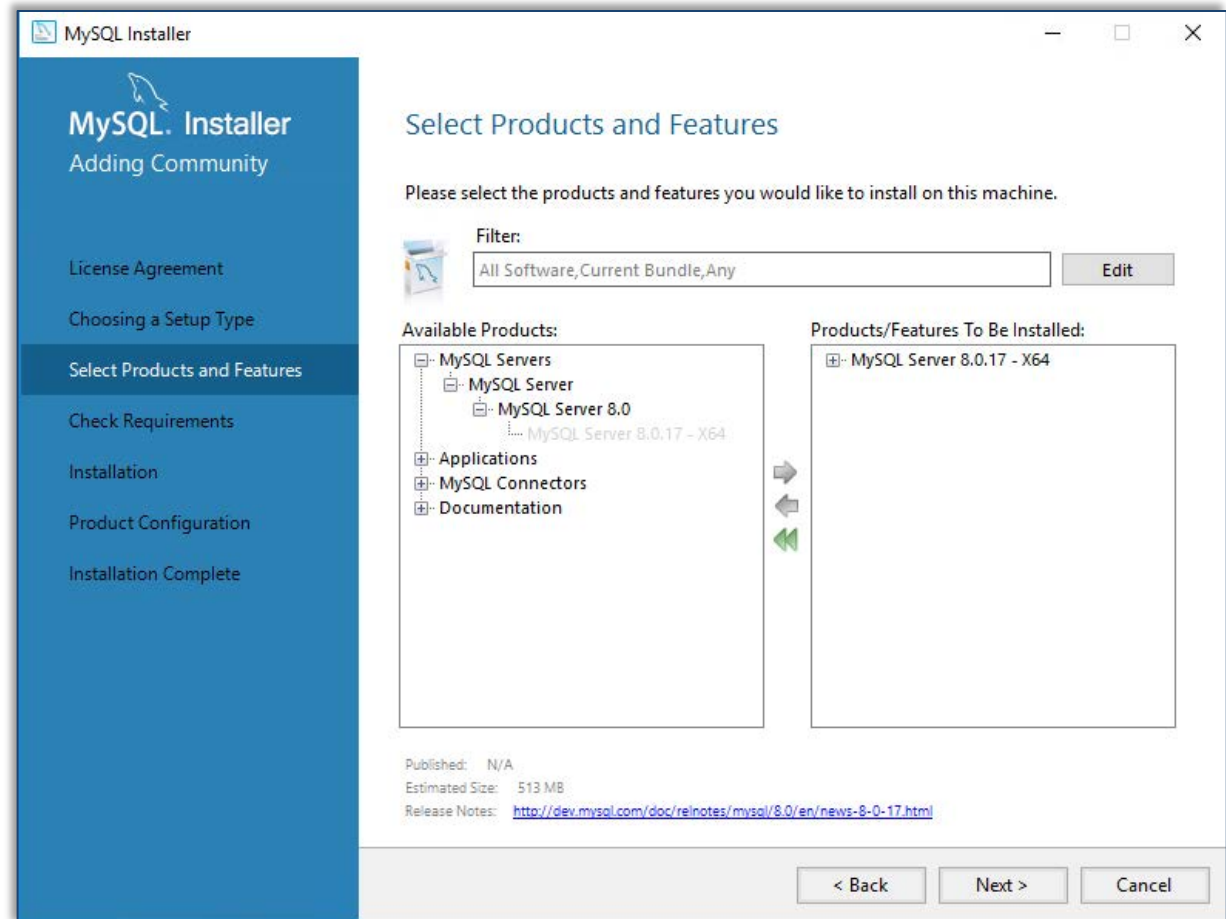
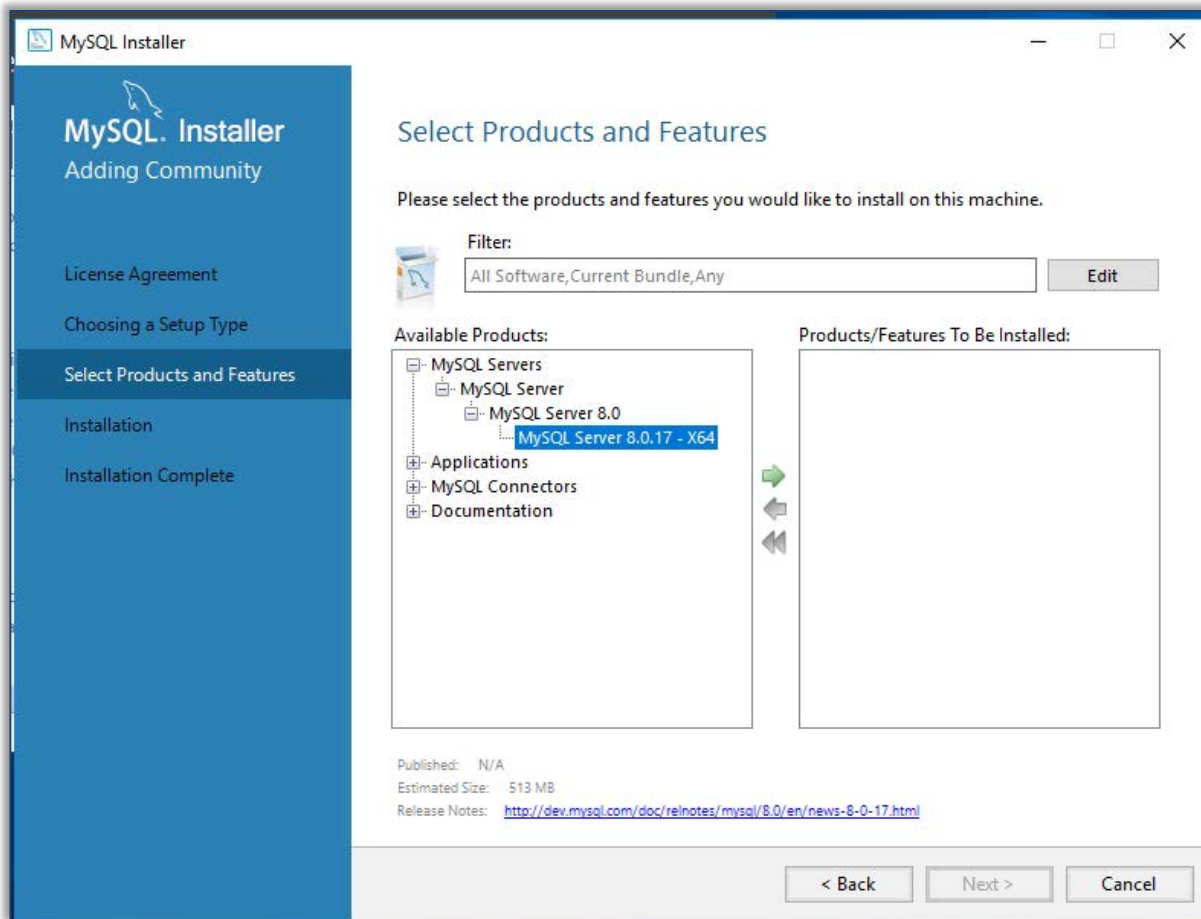
Microsoft Windows

|   |        |        |                          |   |
|---|--------|--------|--------------------------|---|
| <b>Windows (x86, 32-bit), MSI Installer</b><br>(mysql-installer-web-community-8.0.17.0.msi) | 8.0.17 | 18.5M  | <a href="#">Download</a> | MD5:<br>567707887fc0d1fad7fc848a878a0da2  <br>Signature |
| <b>Windows (x86, 32-bit), MSI Installer</b><br>(mysql-installer-community-8.0.17.0.msi)     | 8.0.17 | 393.4M | <a href="#">Download</a> | MD5:<br>3aa8d6470fb6b58f517d3efb46e5472b  <br>Signature |

- Run the installer and choose Customs as the Setup Type



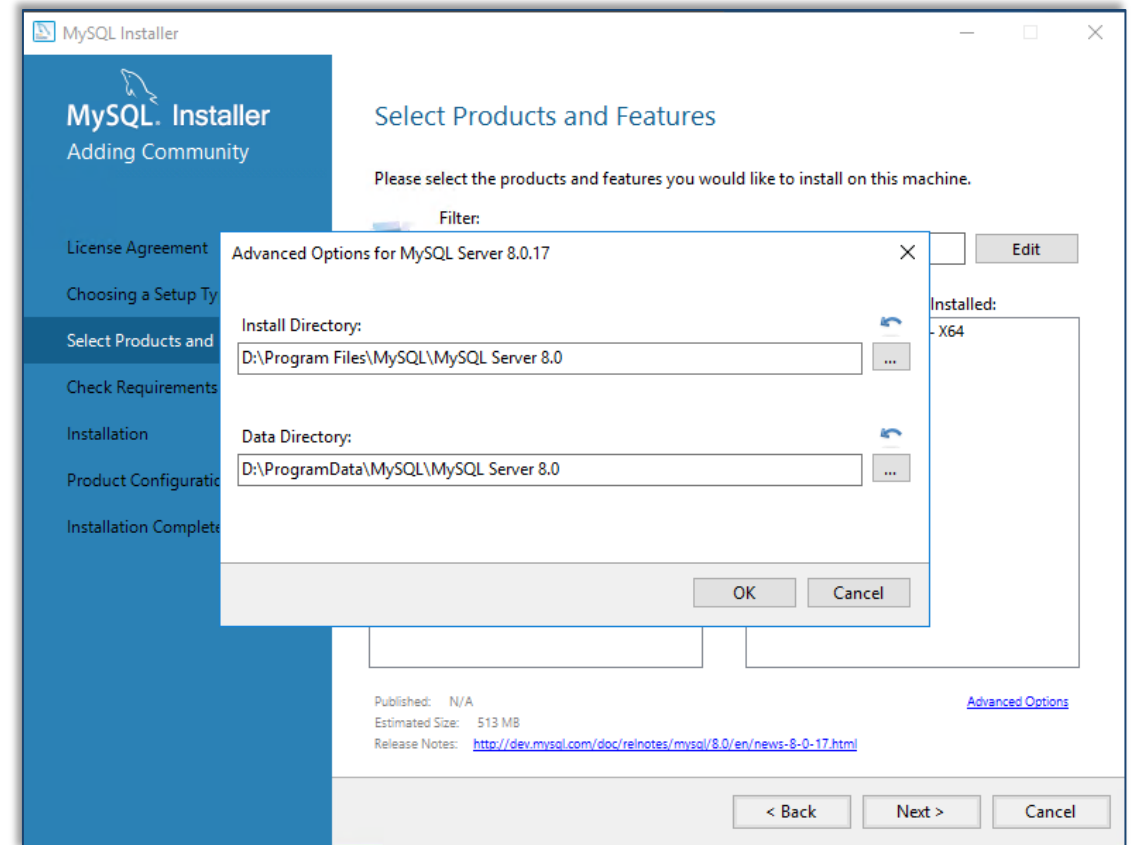
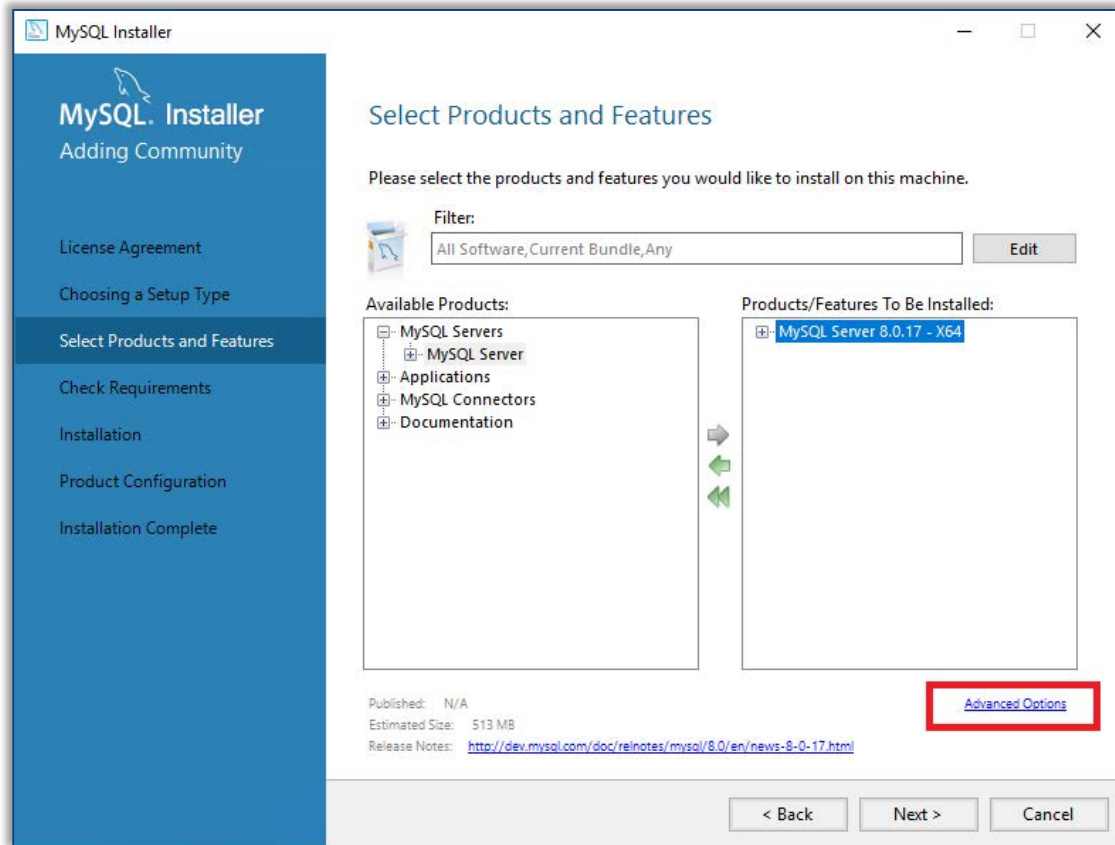
- Expand the MySQL Servers tree and select the MySQL Server version available to install.



# MySQL Installation

## MySQL server installation location

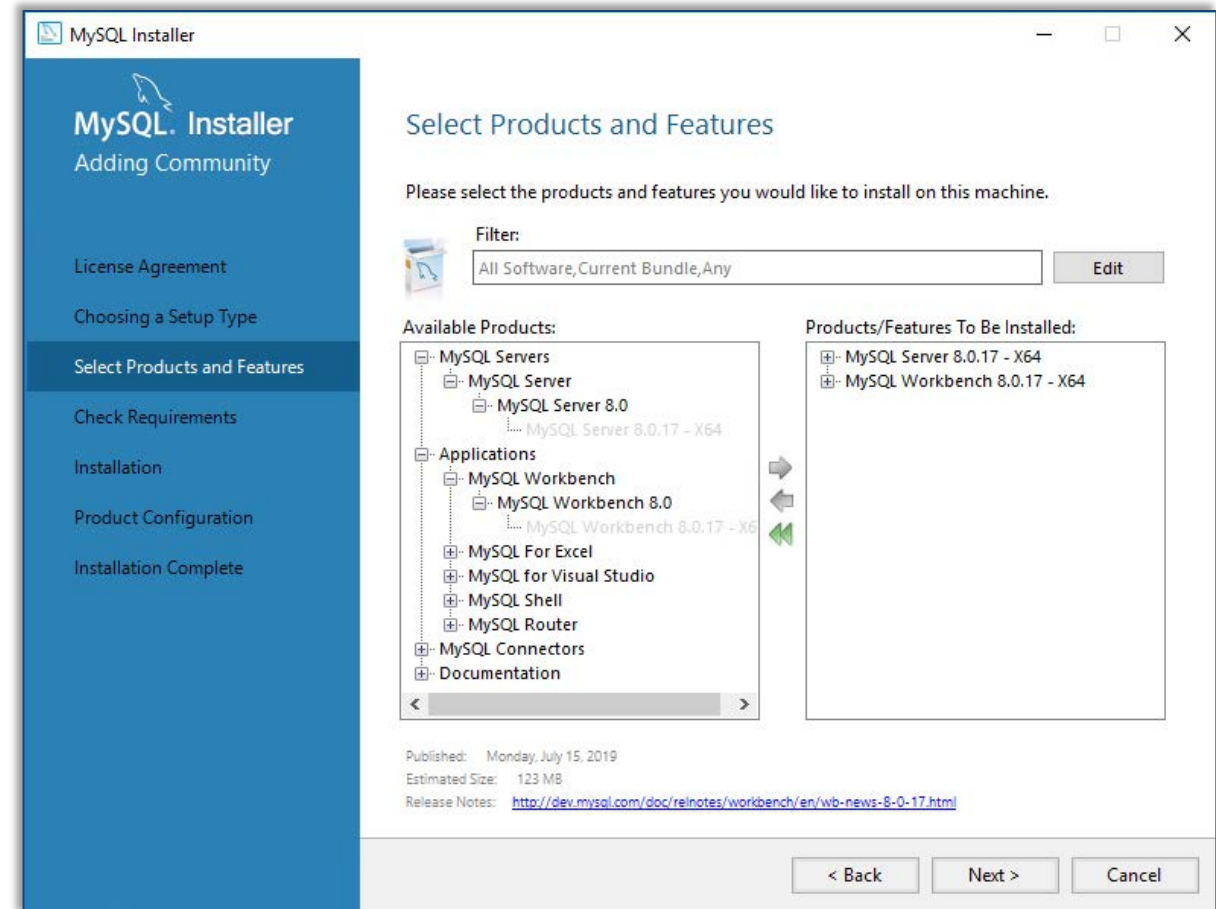
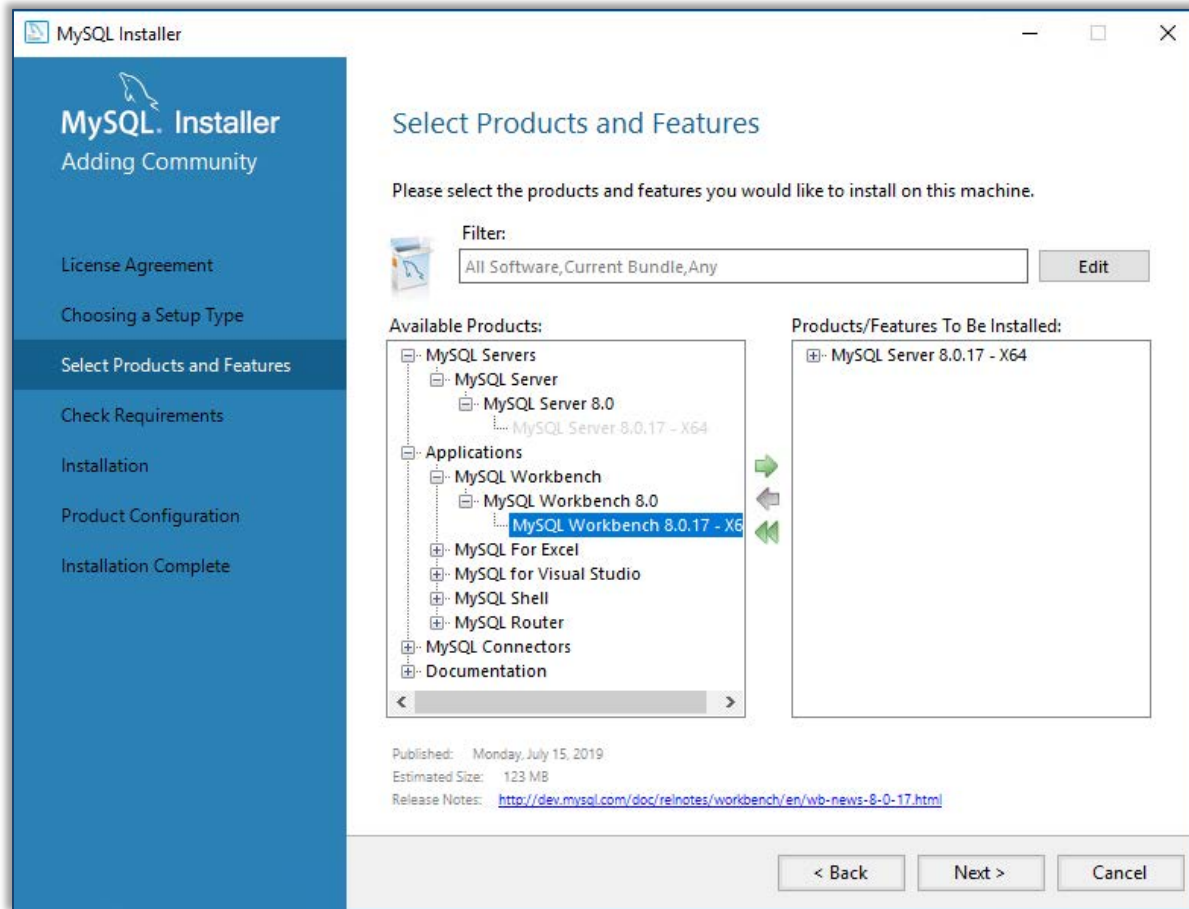
- Highlight MySQL Server in the Products/Features To be Installed section
- Click Advanced Options to bring up the Install Directory and Data Directory. Change the directory as appropriate. In our example, drive D: is used for the installation.



# MySQL Installation

## Add Workbench application

- Expand the Applications tree and navigate to the MySQL Workbench

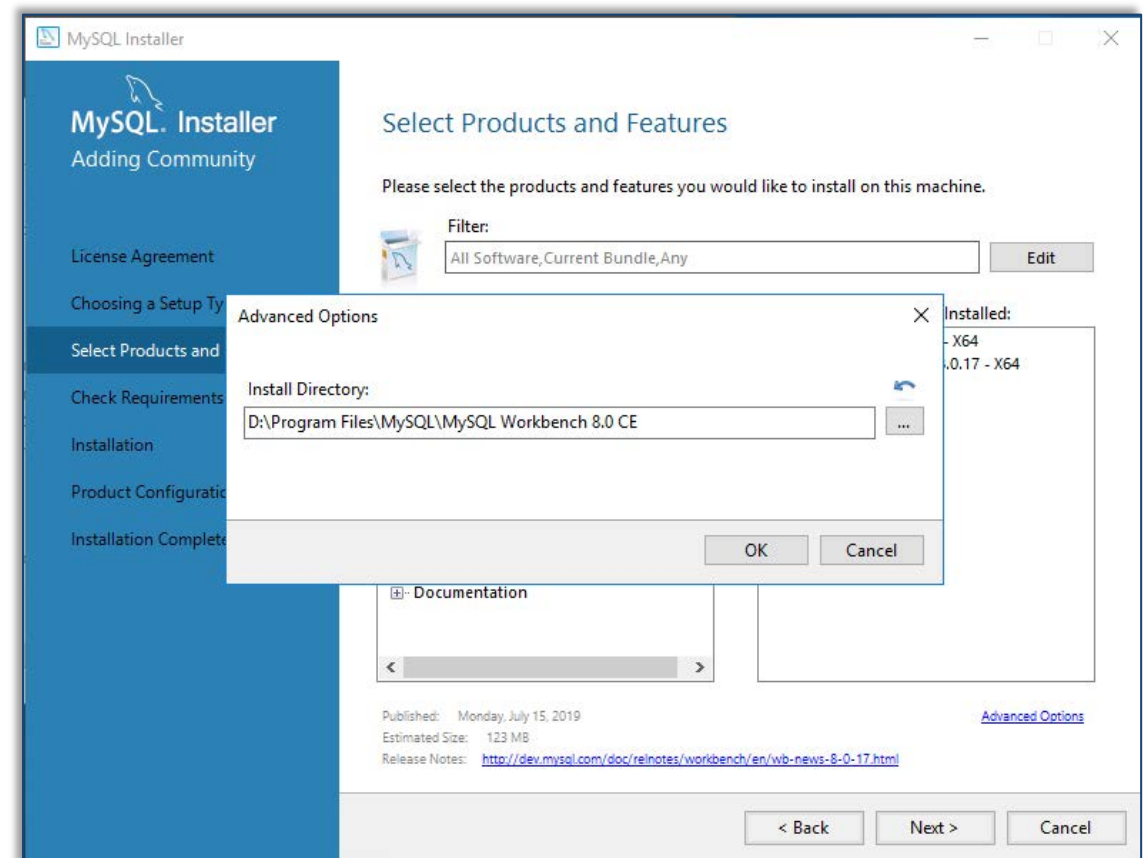
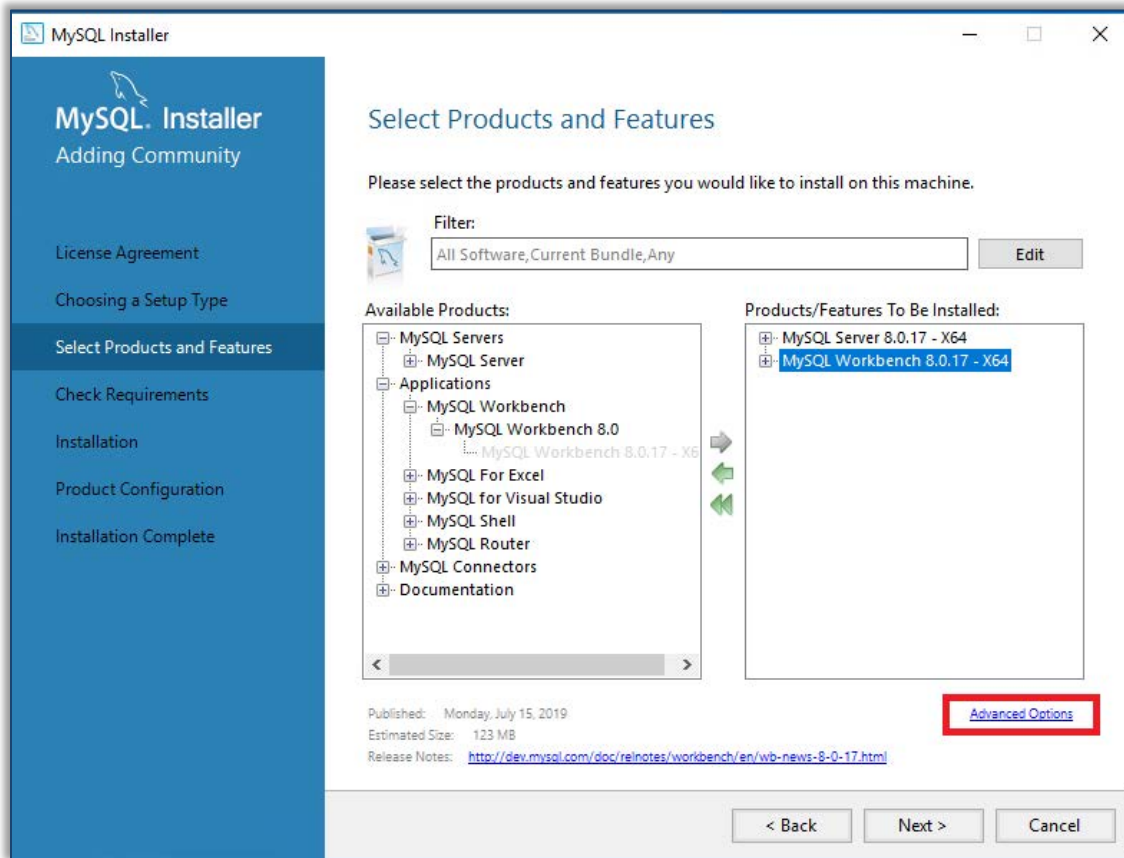




# MySQL Installation

## Workbench installation location

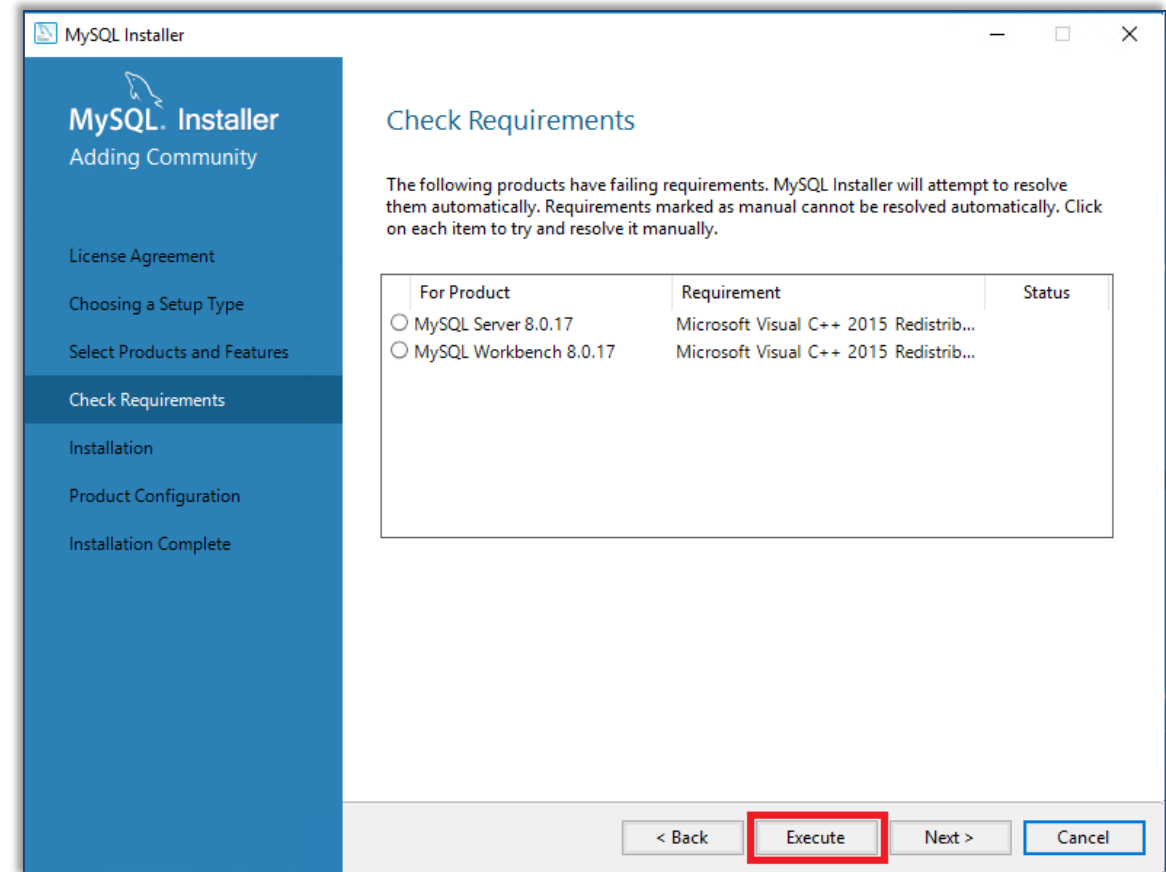
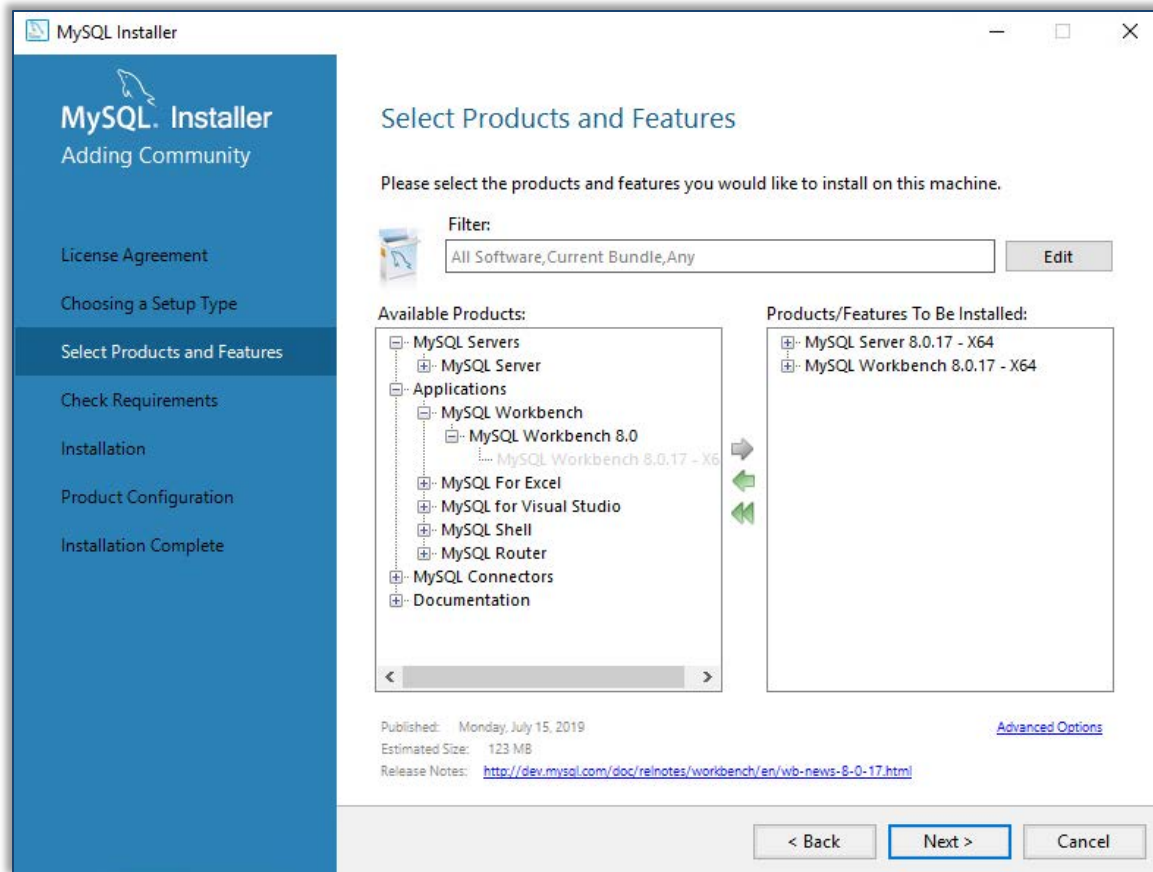
- Select MySQL Workbench in the Products/Features To Be Installed section.
- Click Advanced Options and change the directory as appropriate. Change the directory as appropriate. In our example, drive D: is used for the installation.



# MySQL Installation

## Visual C++ Redistribution

- Click Next > to proceed. The installer will check if the Microsoft Visual C++ redistribution required is already installed in the system and provides the relevant requirement. Click Execute and the installer will attempt to download and install the required redistribution software.

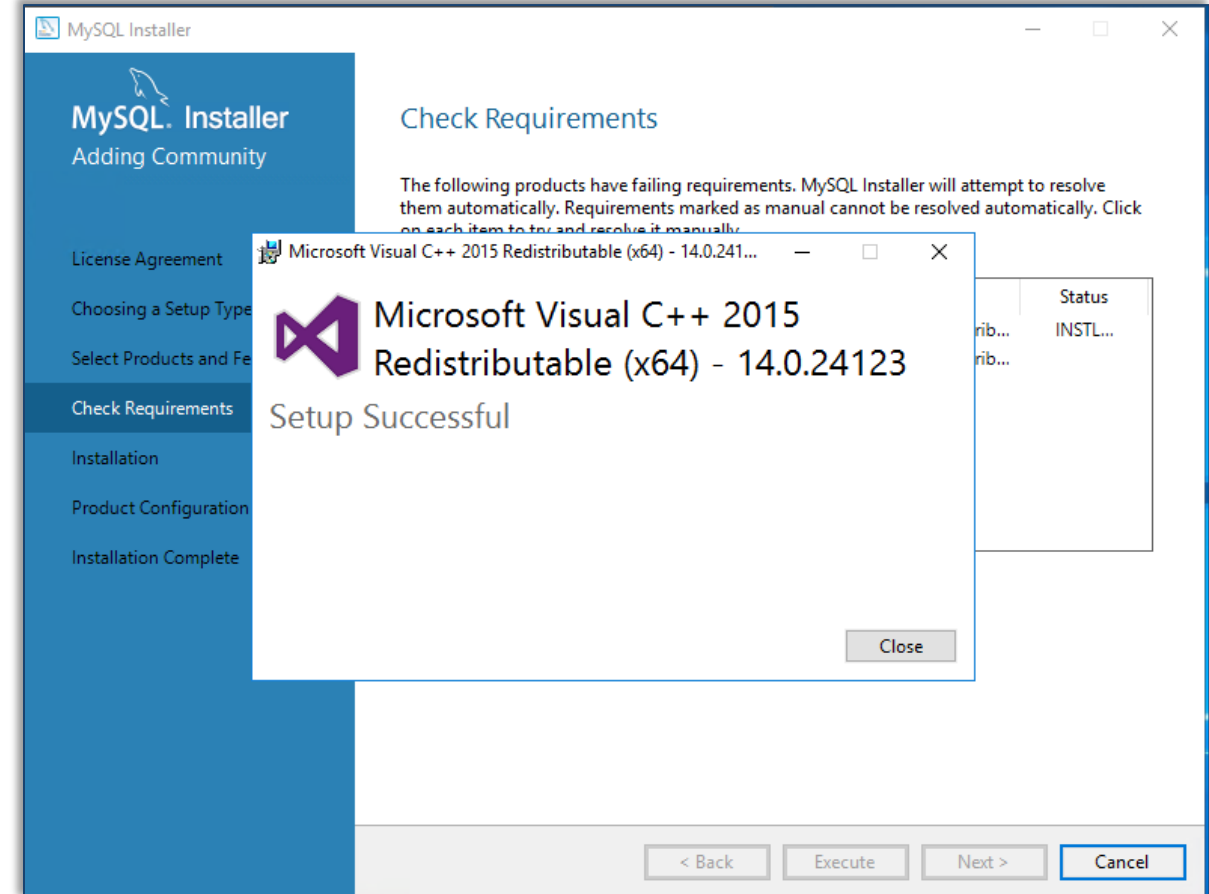
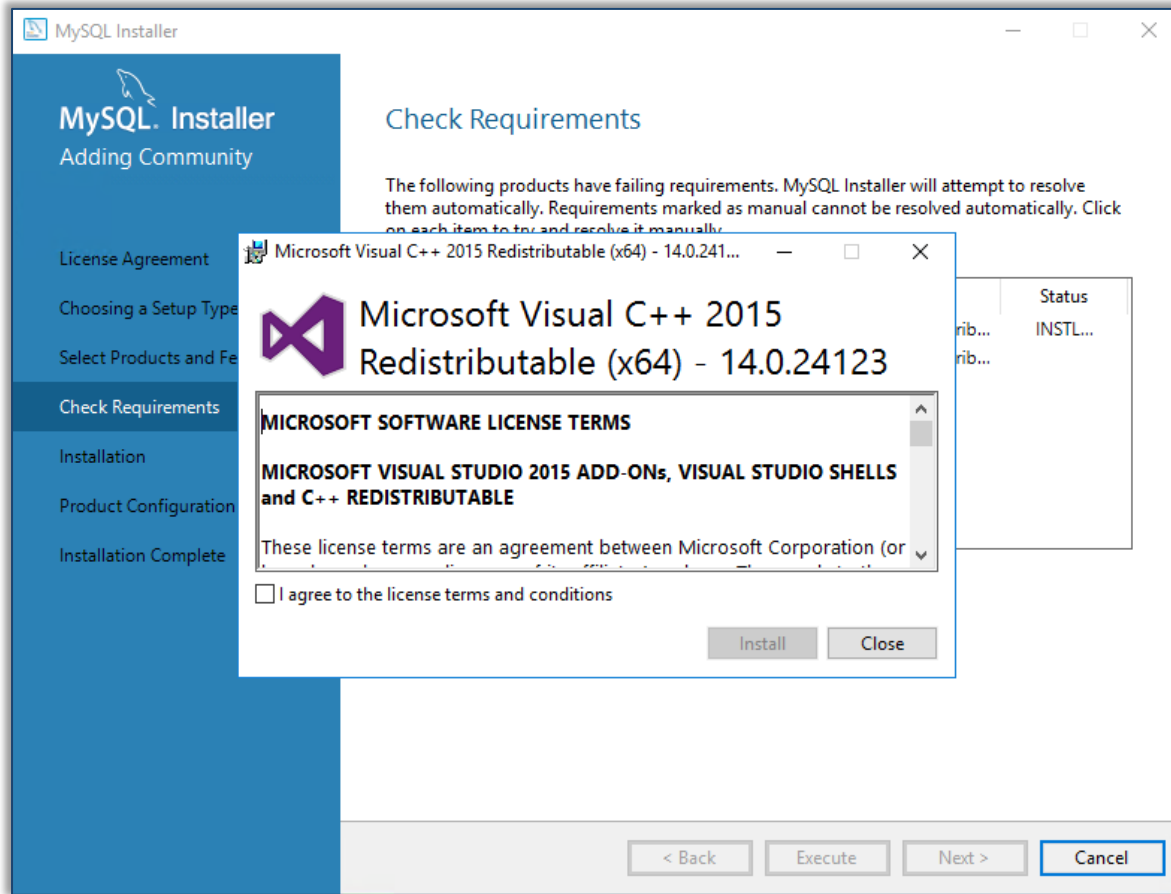




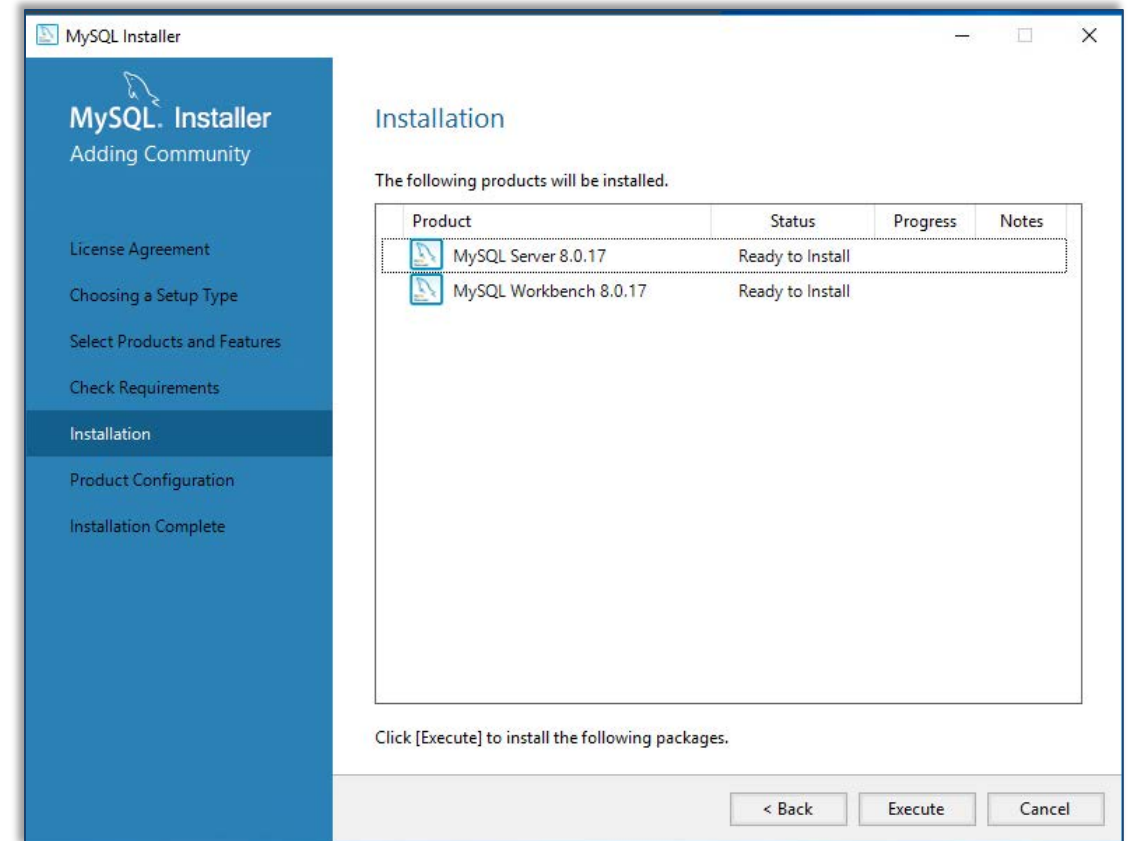
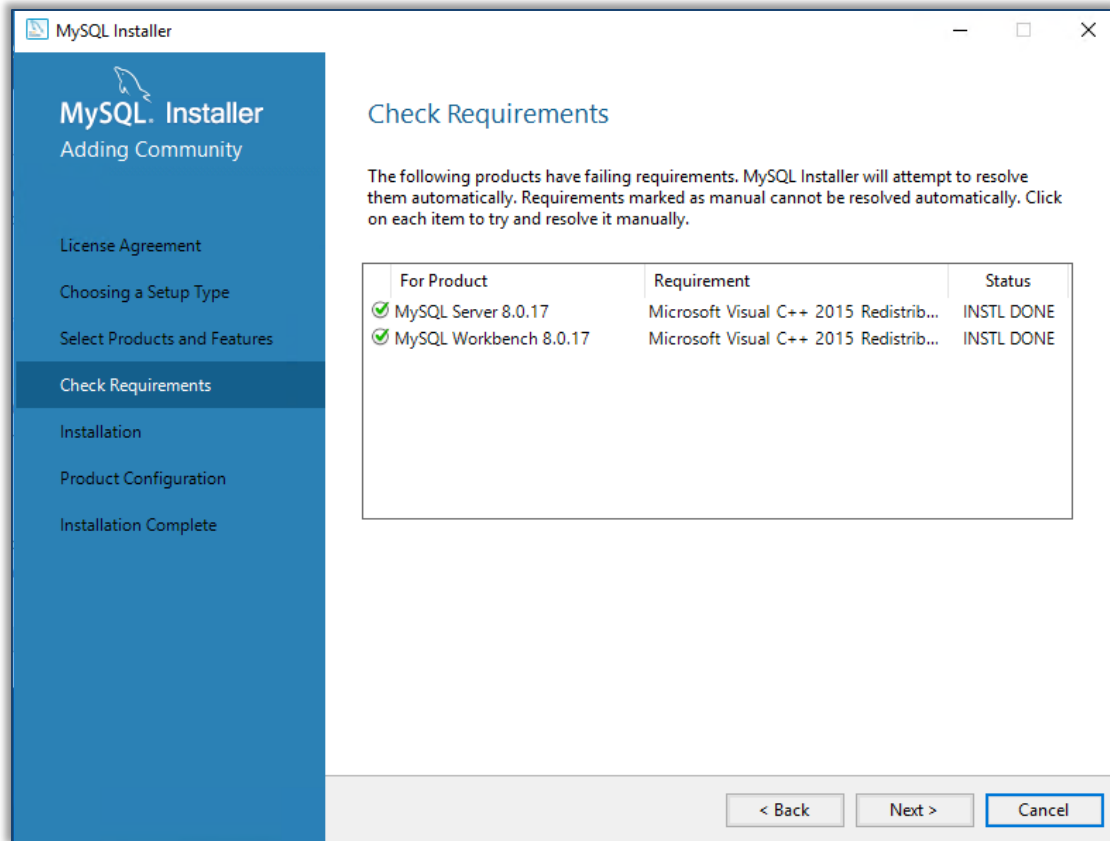
# MySQL Installation

## Visual C++ Redistribution

- Accept the agreement and click Install to proceed.



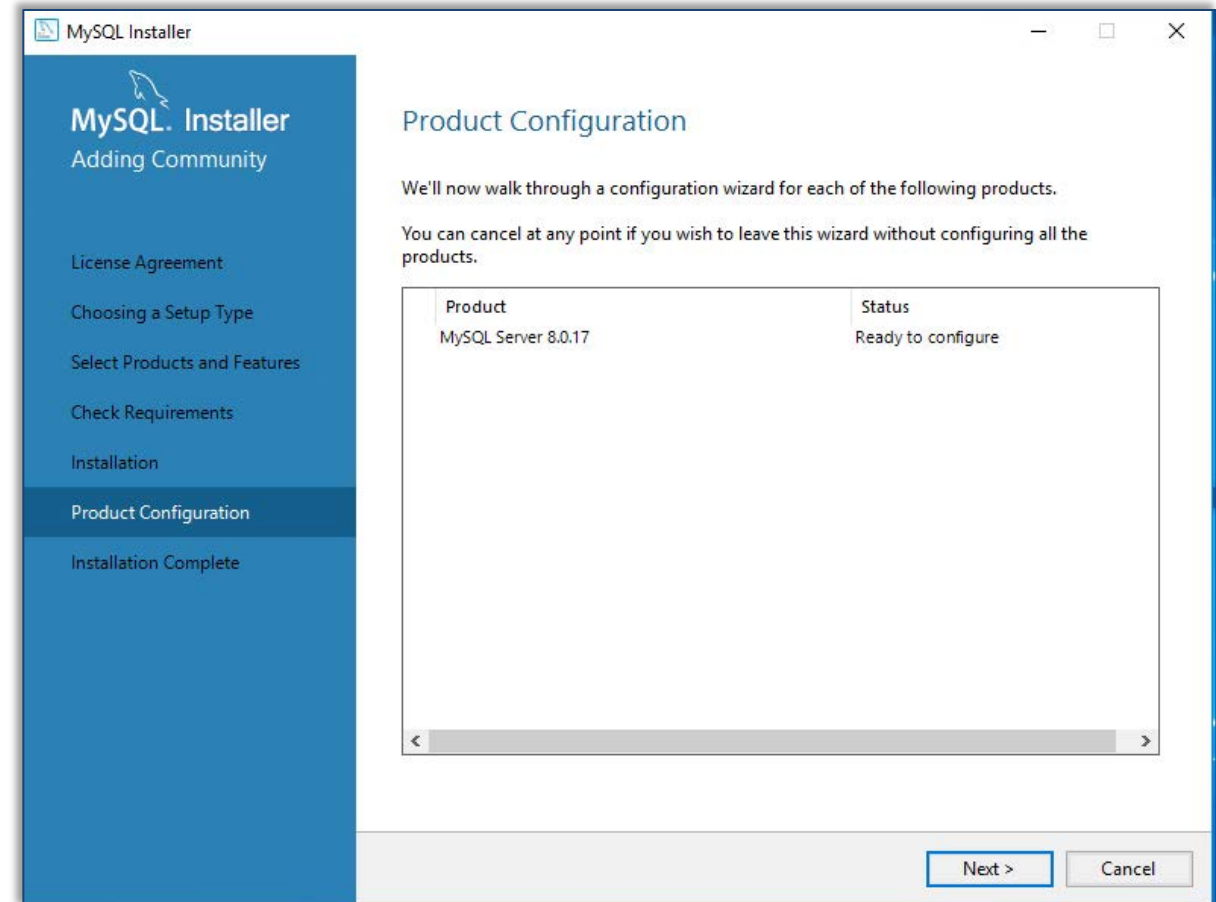
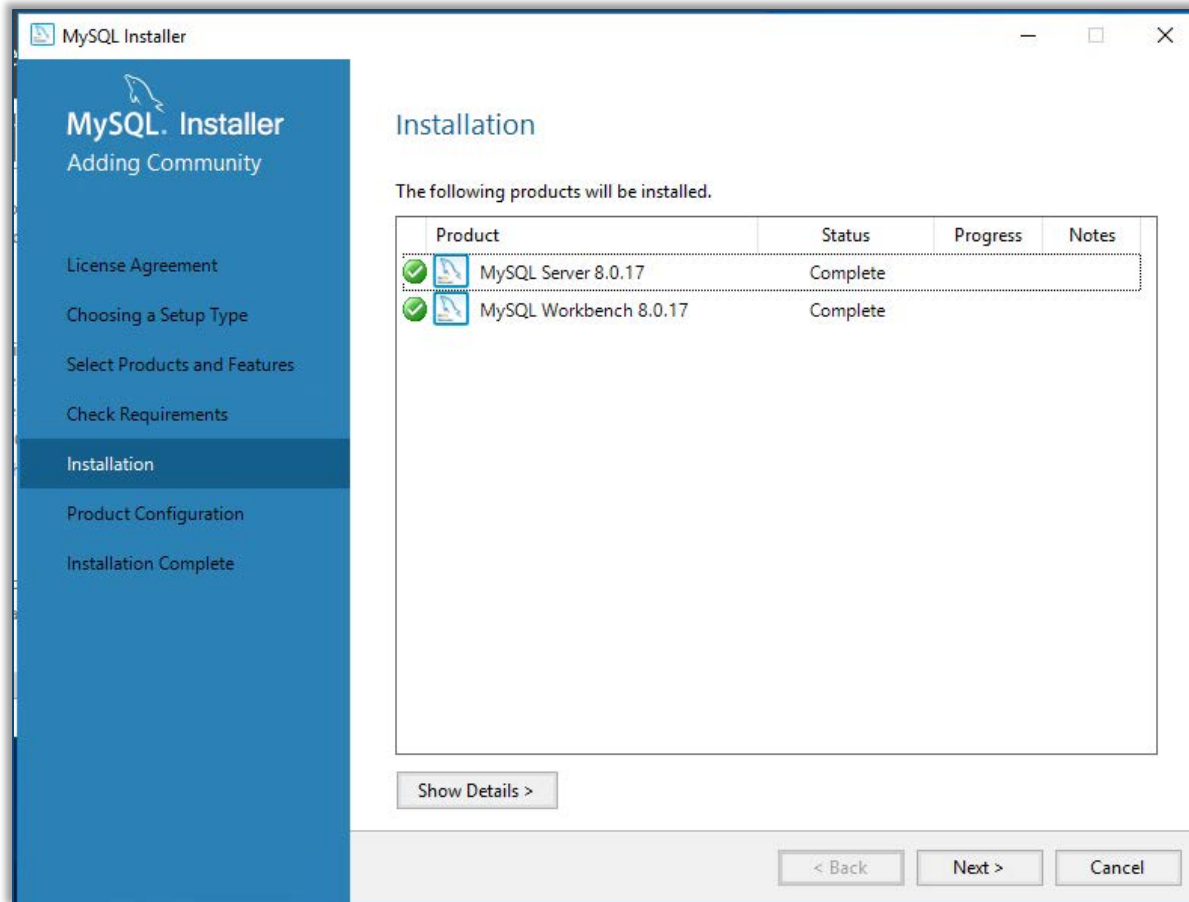
- Click Next > to verify the prerequisite of the installation has been met that the MySQL Server and MySQL Workbench are ready to install.
- Click Execute to continue the installation.



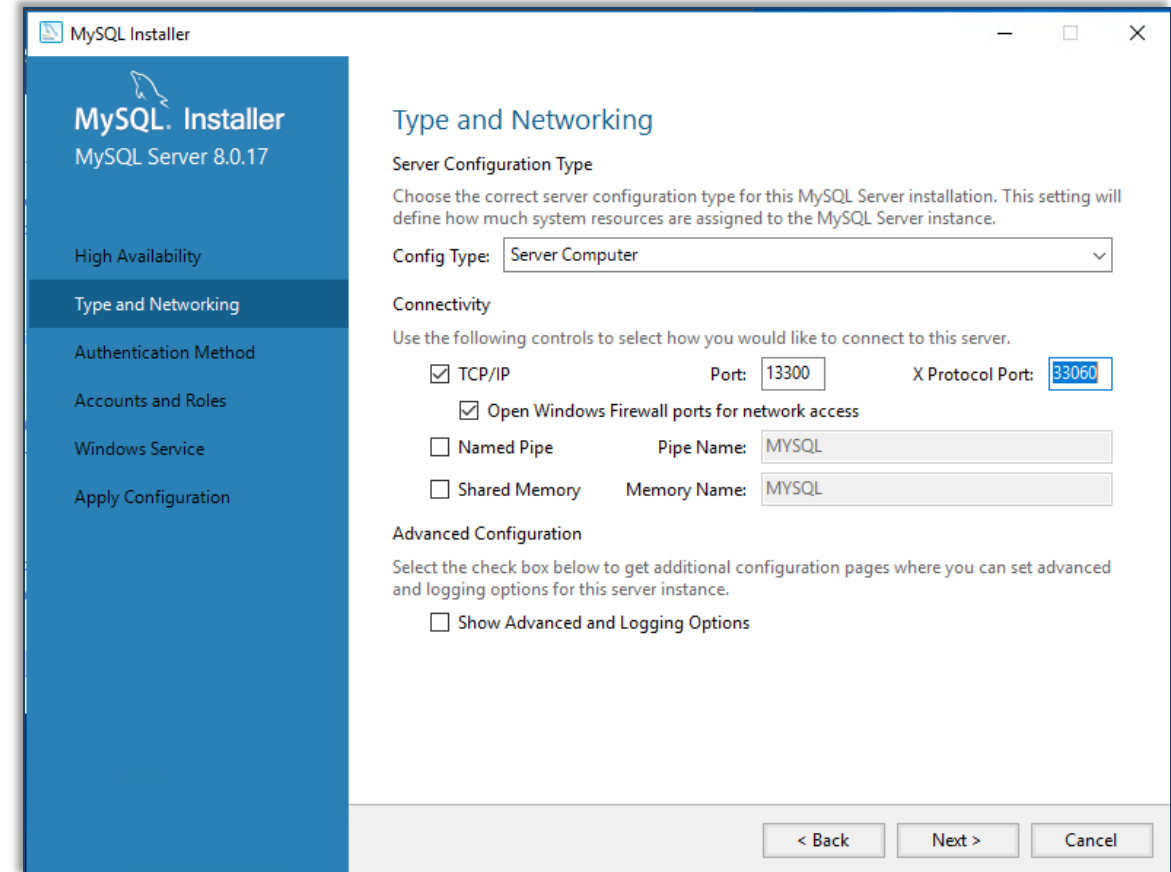
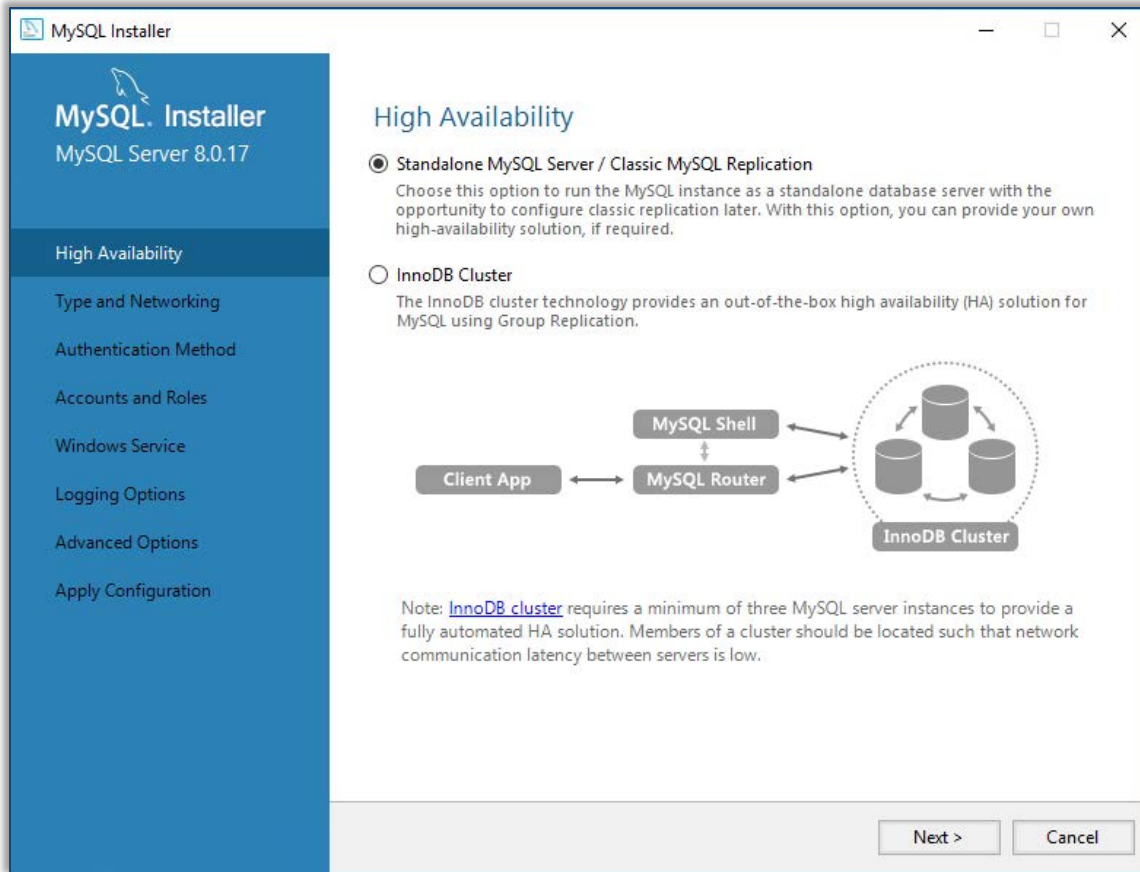
# MySQL Installation

## Installation is complete

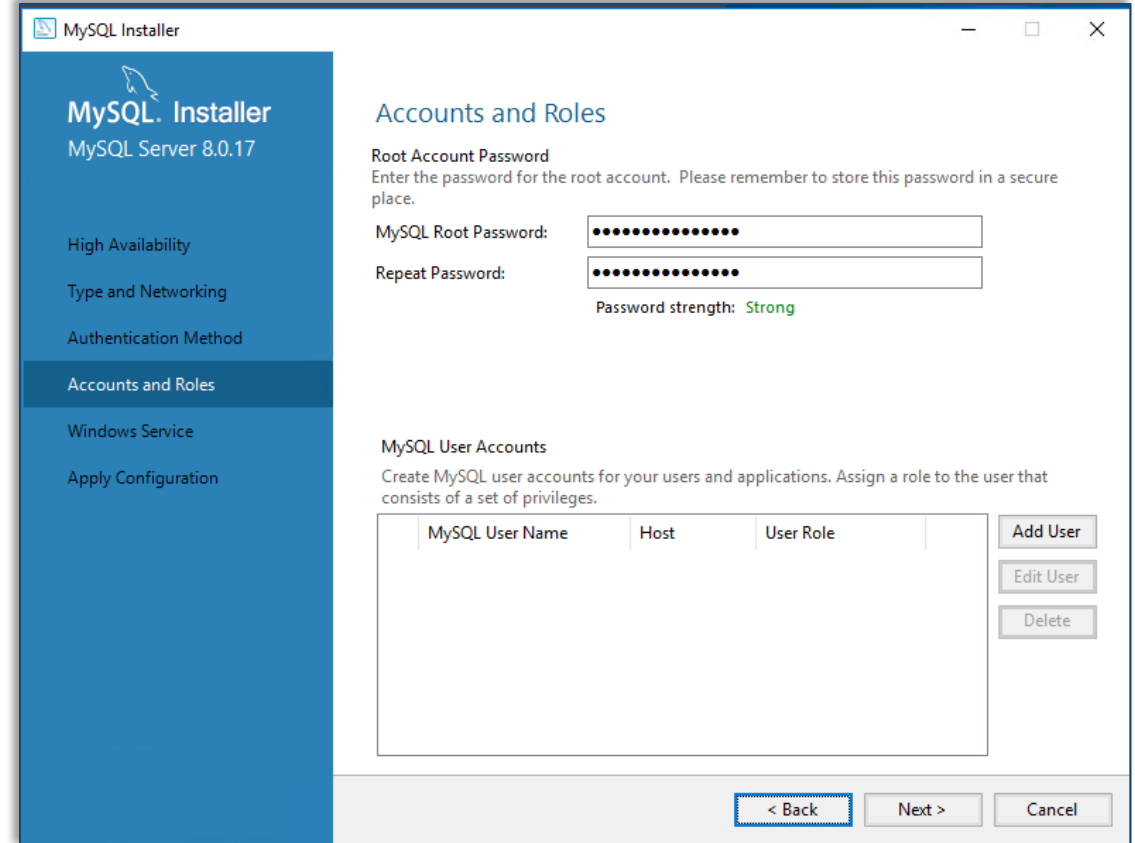
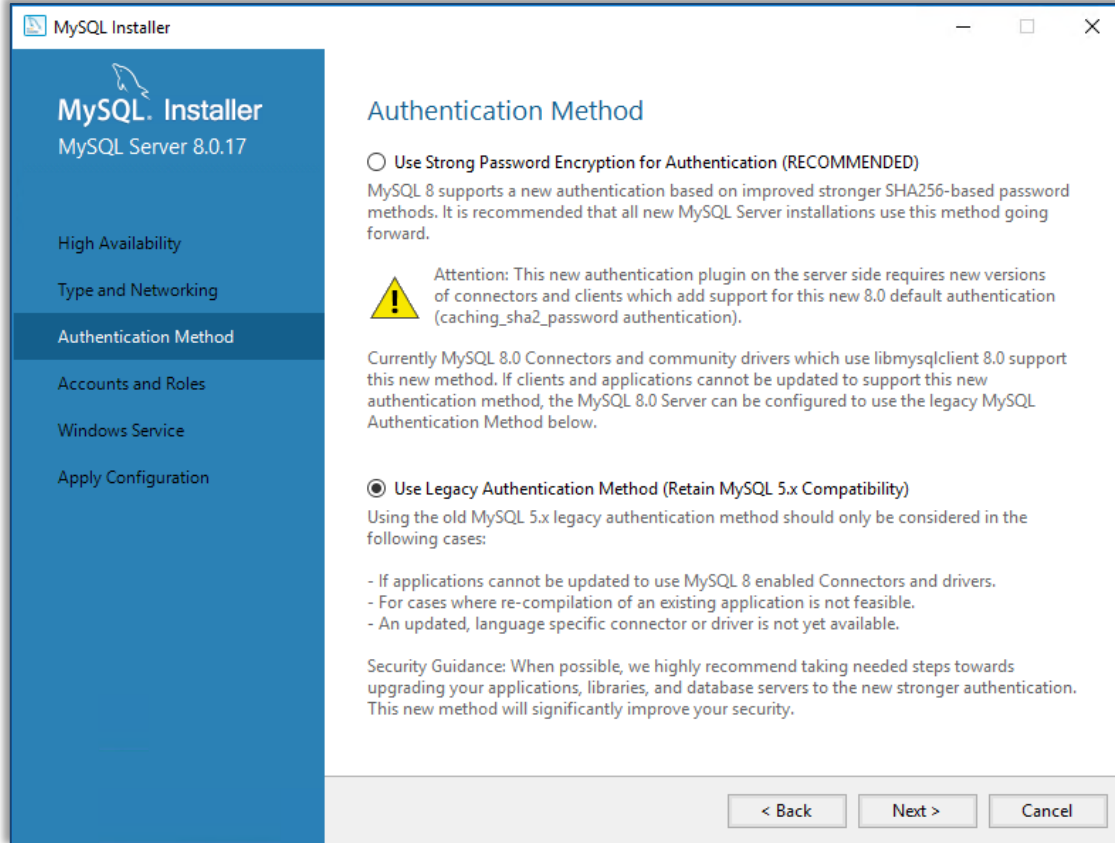
- Once the installation is complete, the next step is the configure MySQL Server.



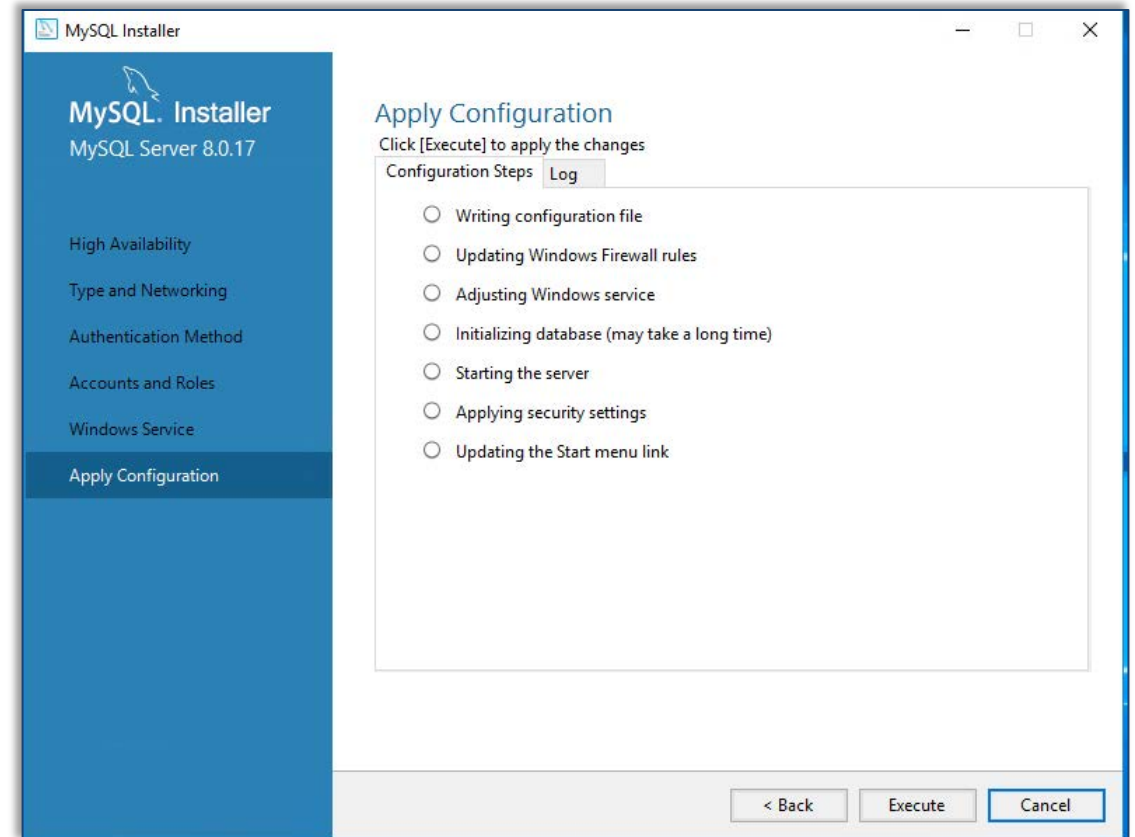
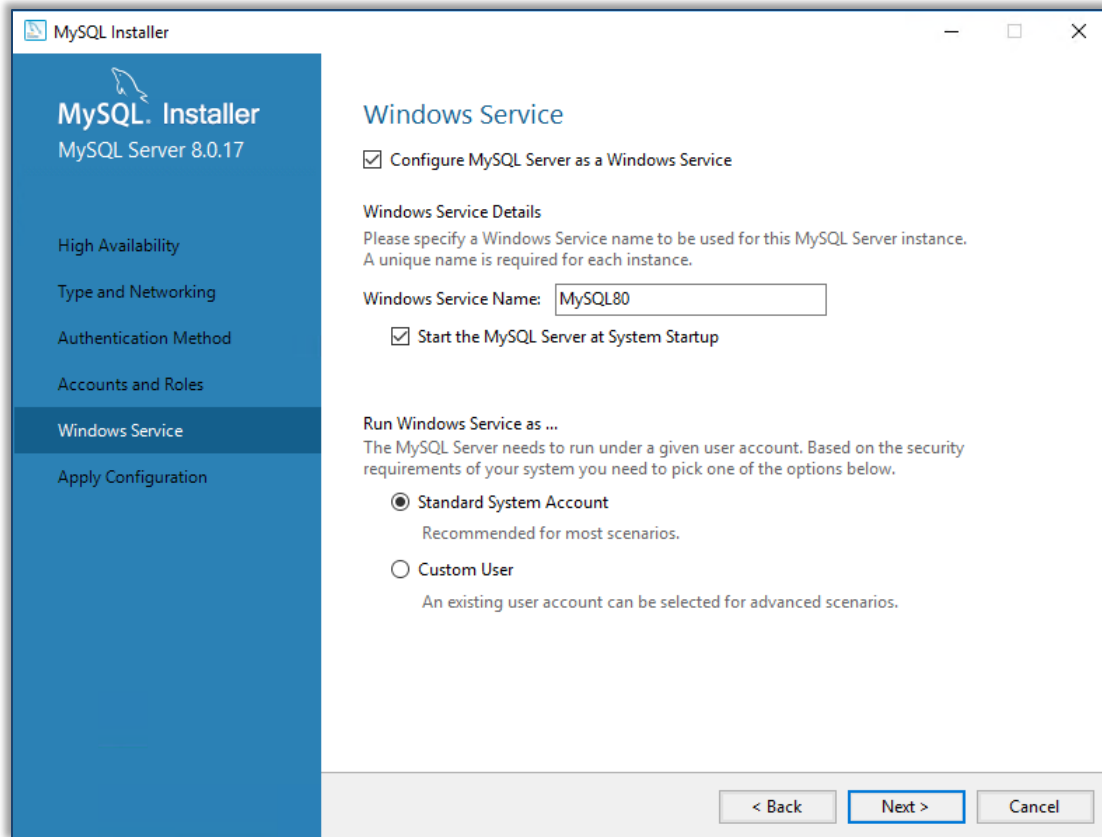
- Select Standalone MySQL Server / Classic MySQL Replication. Use the below settings:
  - Config type: Server Computer
  - TCP/IP port: 13300



- Select Use Legacy Authentication Method. Click Next to continue
- Set the MySQL Root Password. Safe keep this root password and is needed to reconfigure MySQL and perform database export and import, if needed.



- Take note of the default Windows Service Name make sure that the MySQL Server starts at Windows system startup.
- Click Execute to apply and complete the configuration.

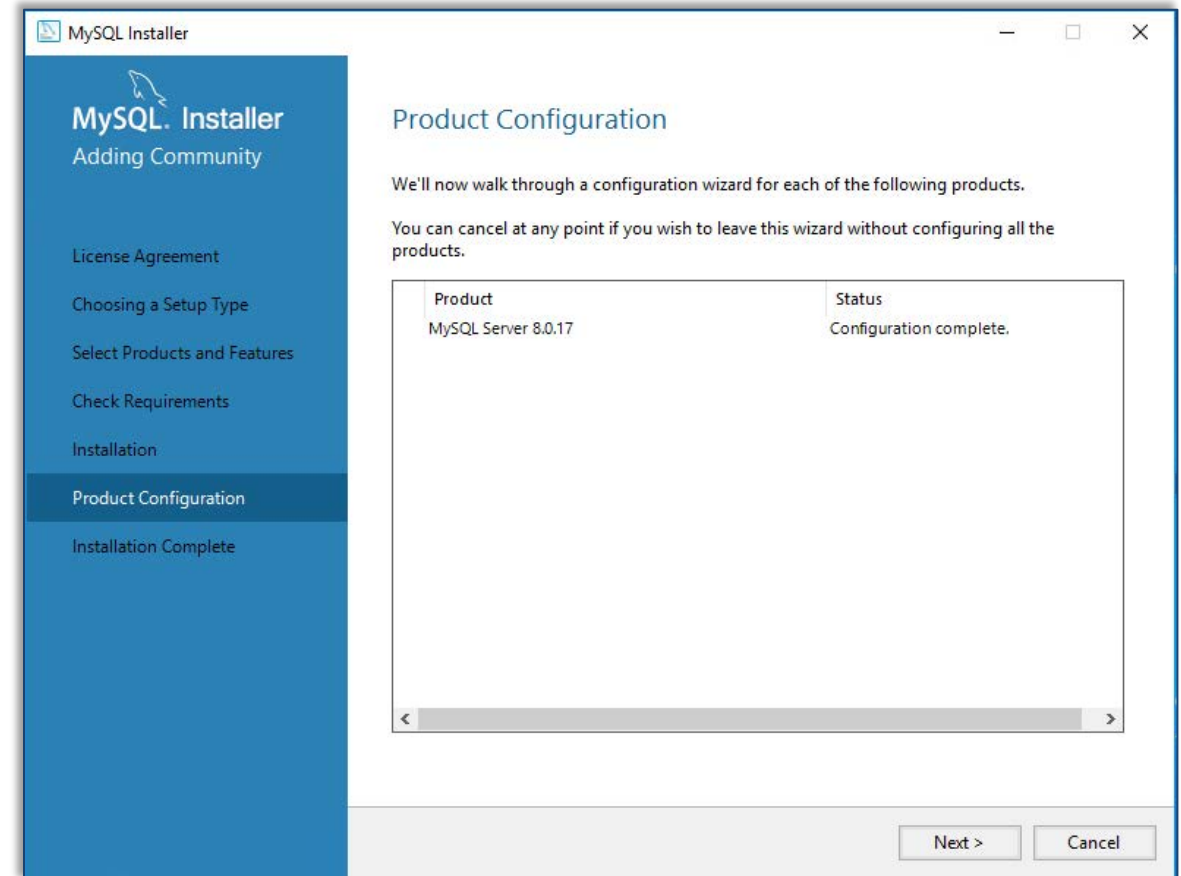
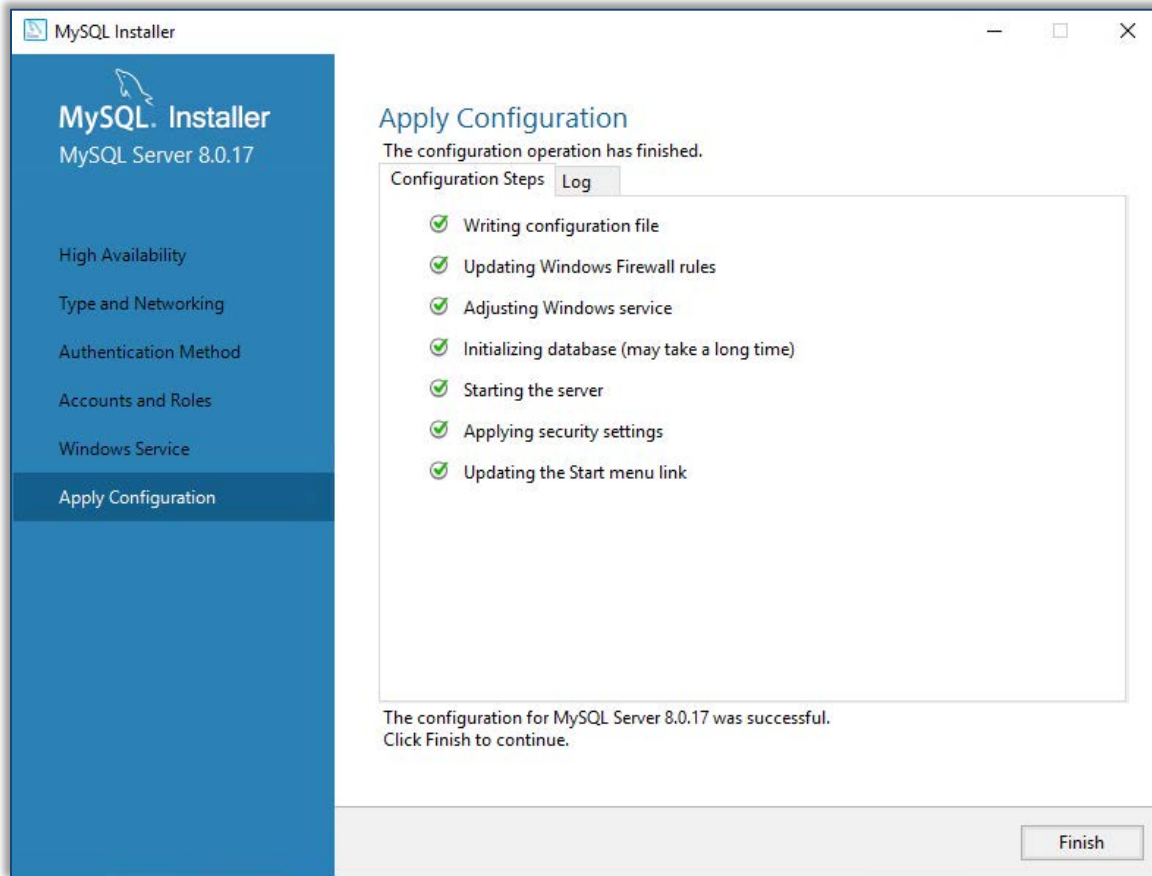




# MySQL Server

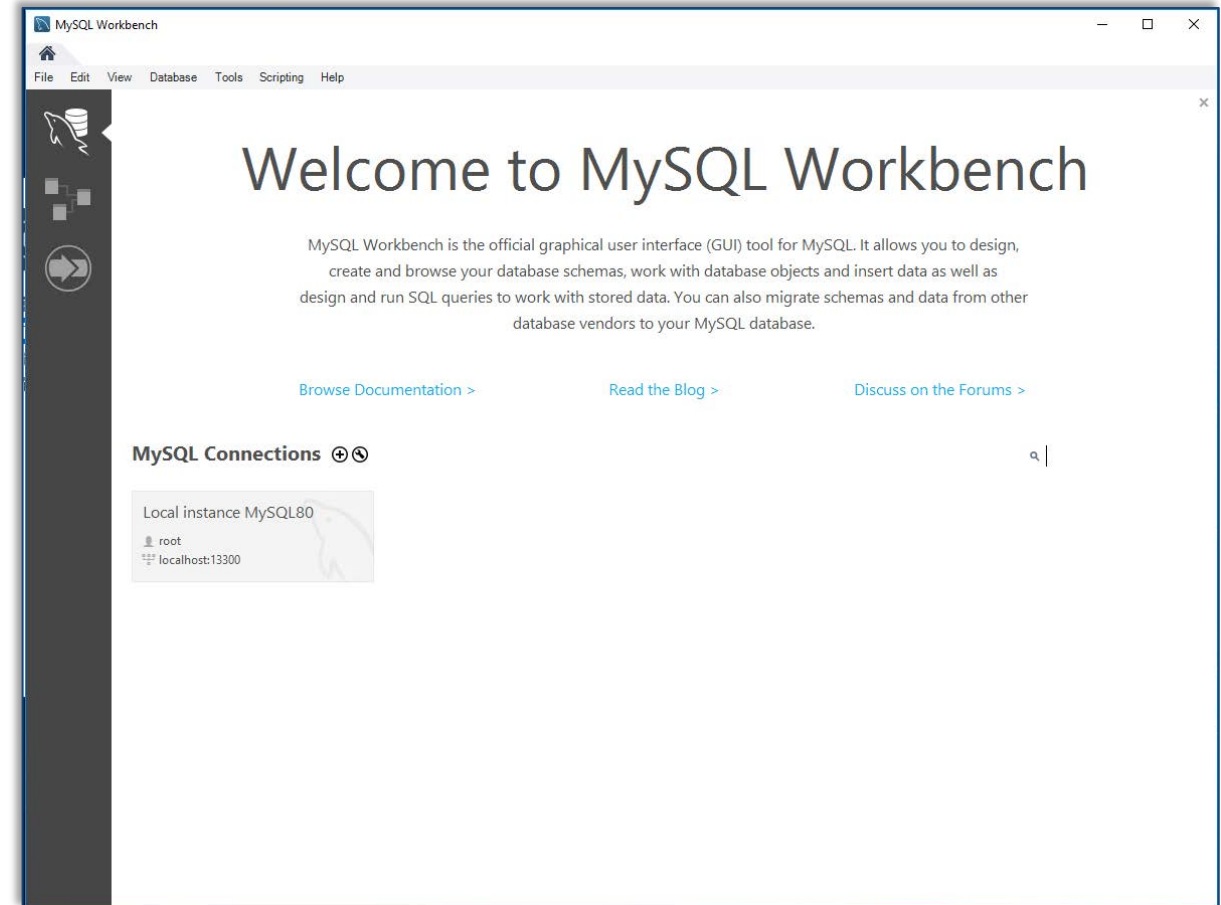
## Basic configuration

- At this point the basic configuration of MySQL is complete.
- Click Next to finish and it will bring up Workbench.





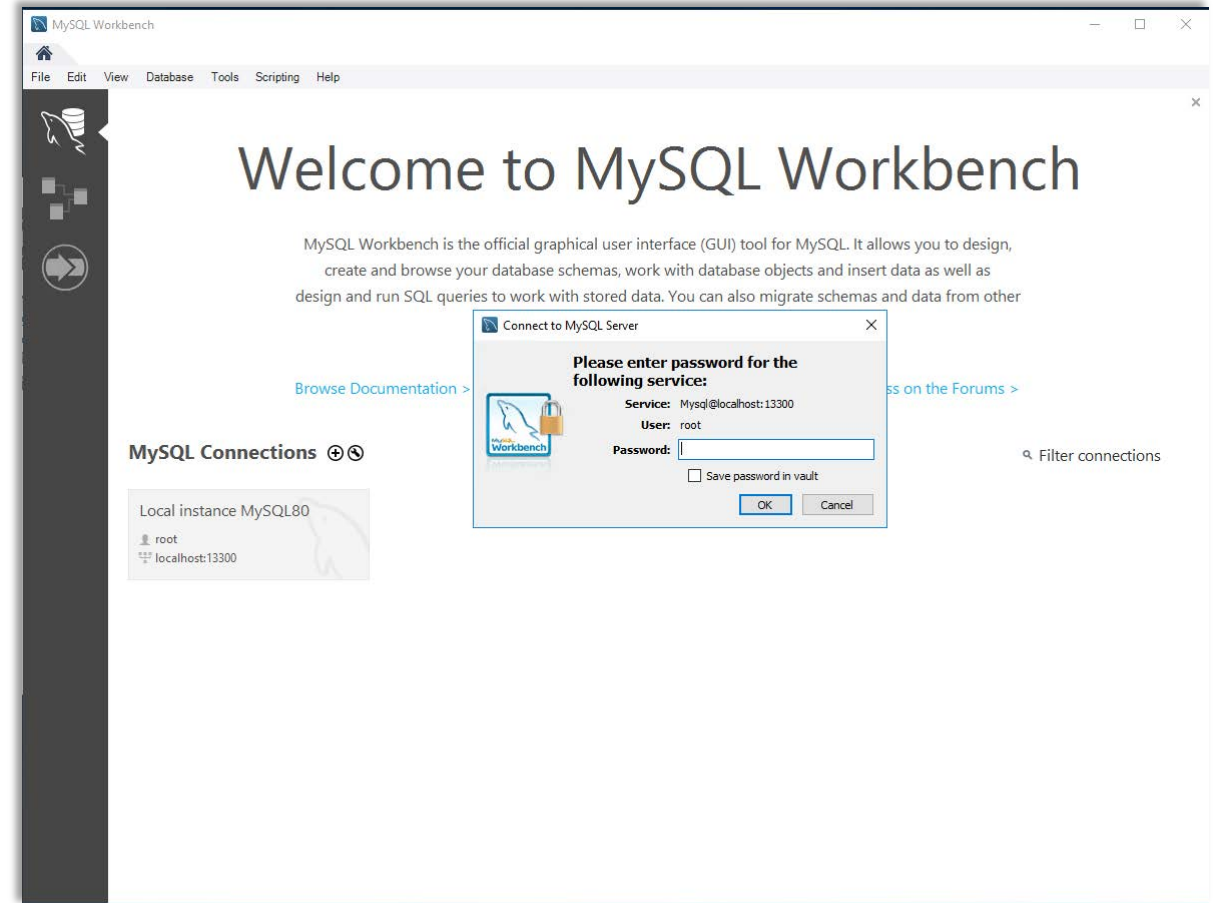
- When done, the MySQL Workbench opening menu is displayed.
- There is a Local Instance MySQL80 in the MySQL Connections list.
  - The connection was set up during MySQL configuration phase earlier.



# MySQL Database

## Setup for VeSion

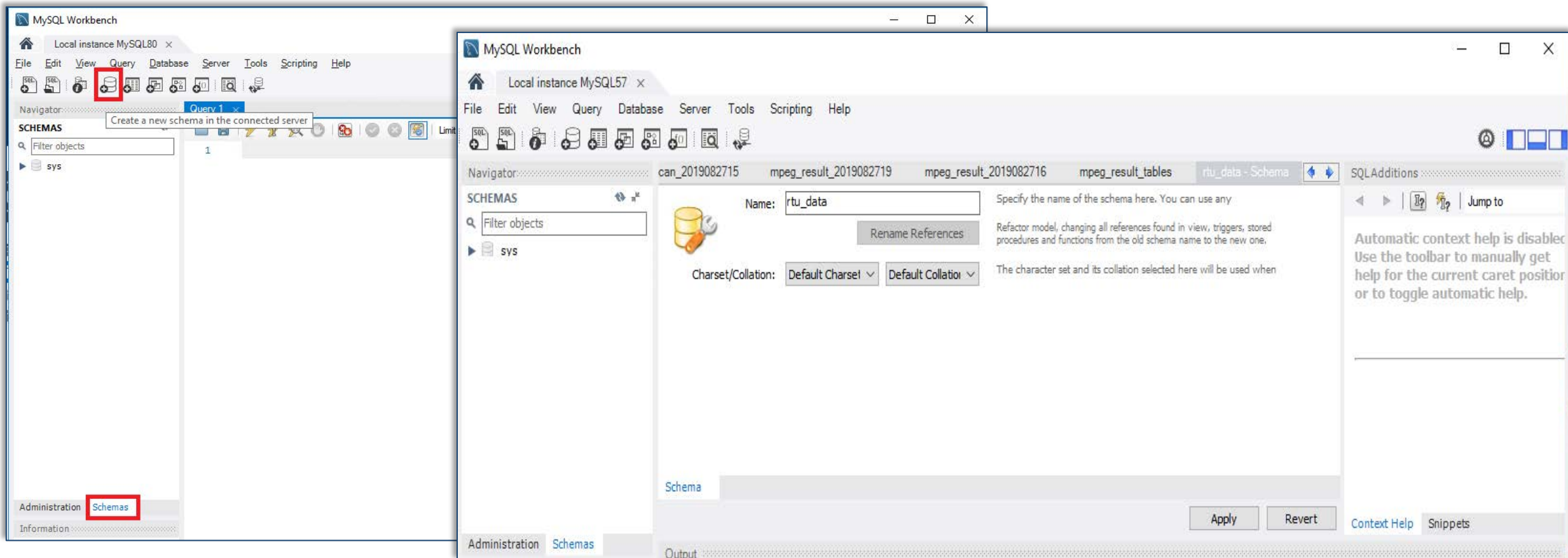
- Double click on the Local instance MySQL80 connection and log in as root
  - Use the password previously set up during MySQL Server installation and configuration.



# MySQL Database

## Create Schema

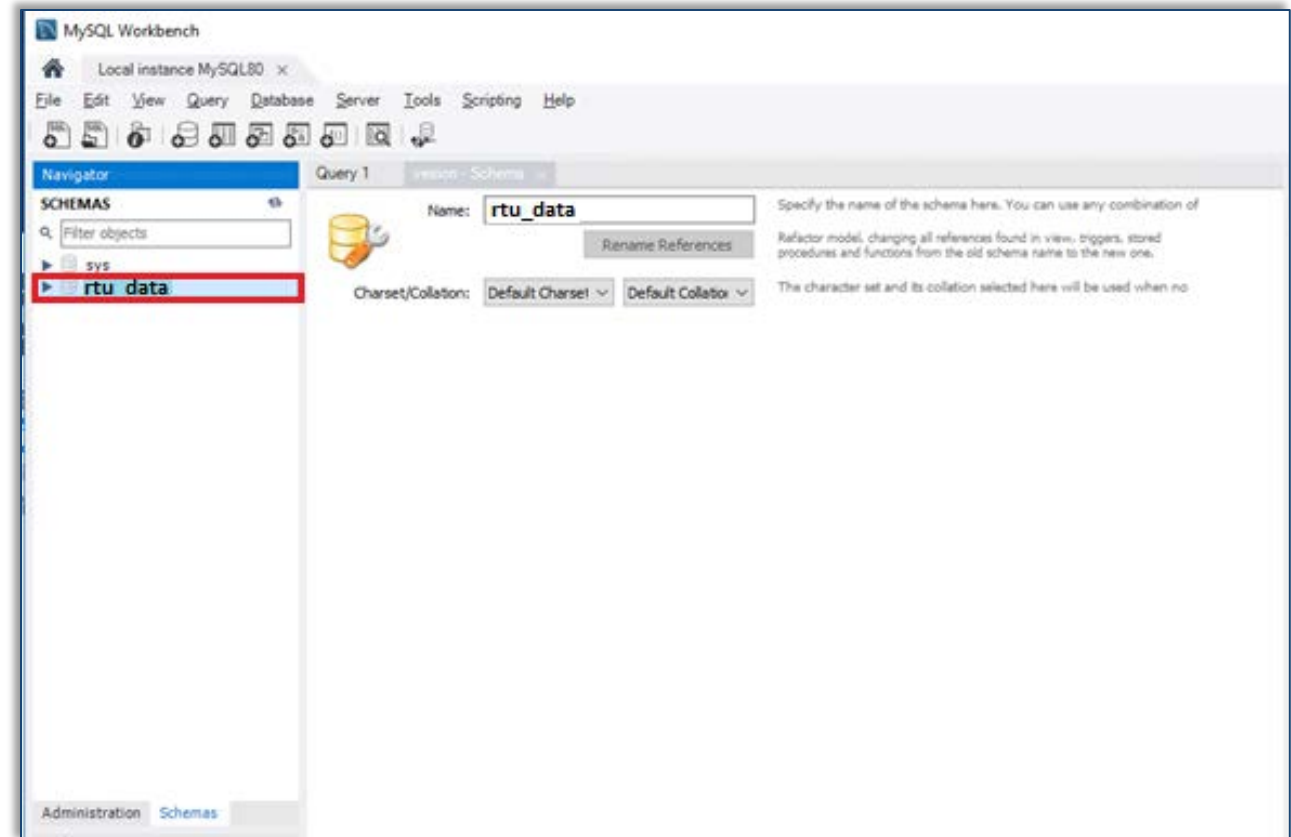
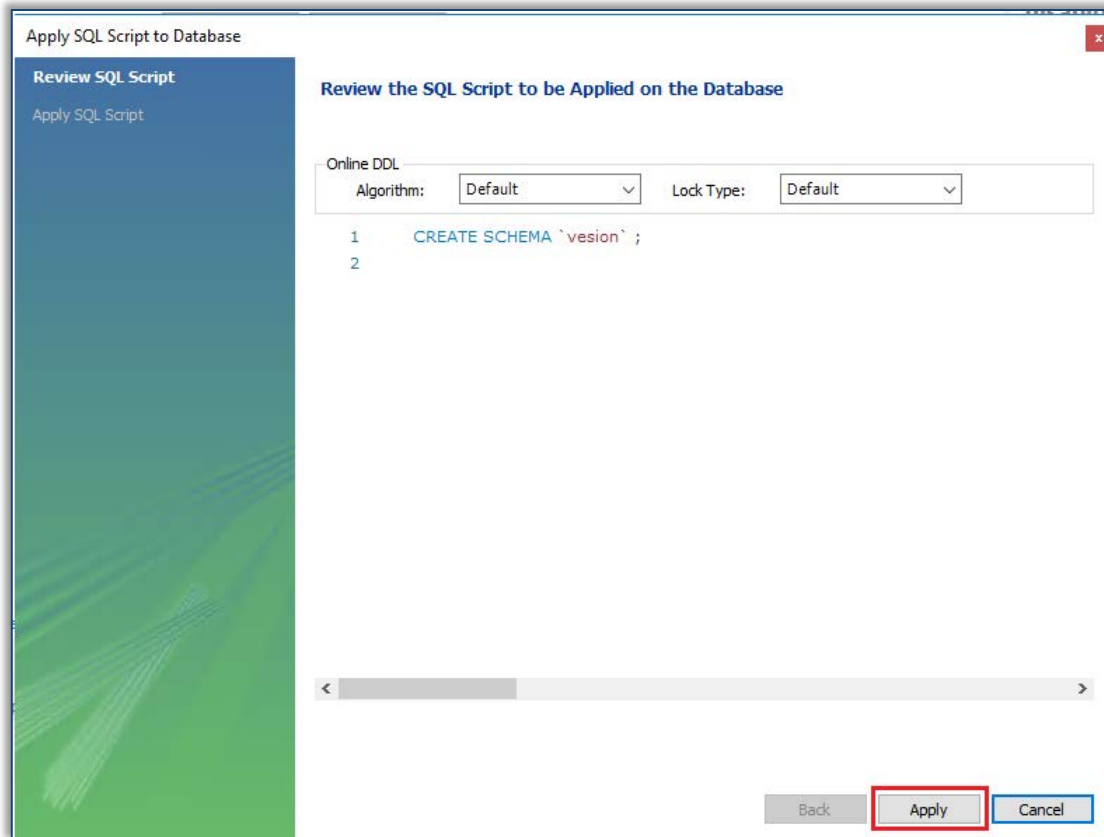
- Select the Schemas tab near the bottom left, then
  - Click on the Create a New Schema icon on the tool bar.
  - Type `rtu_data` as the name of the schema. Click Apply.



# MySQL Database

## Create Vesion Schema

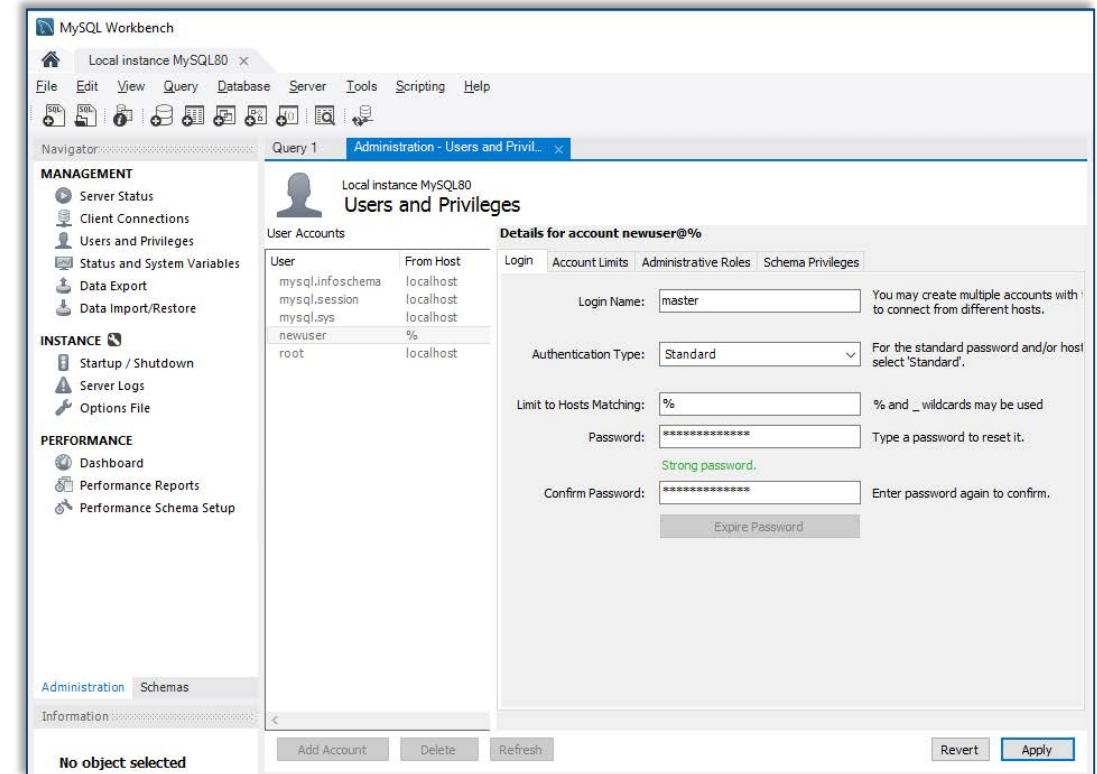
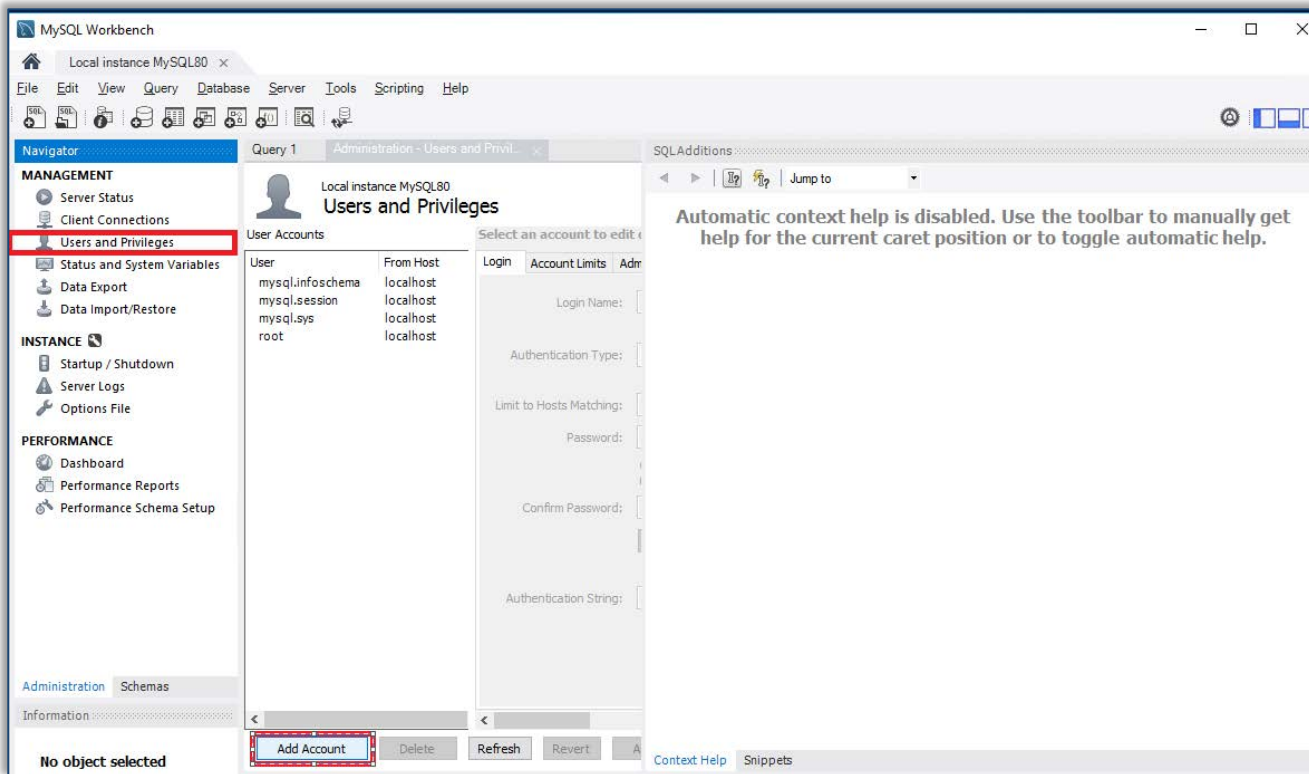
- In the Review SQL script click Apply to create the schema. Click Finish to complete creating the schema.
- Check that rtu\_data schema is listed in the SCHEMAS section



# MySQL Database

## Add user for VeSion server login

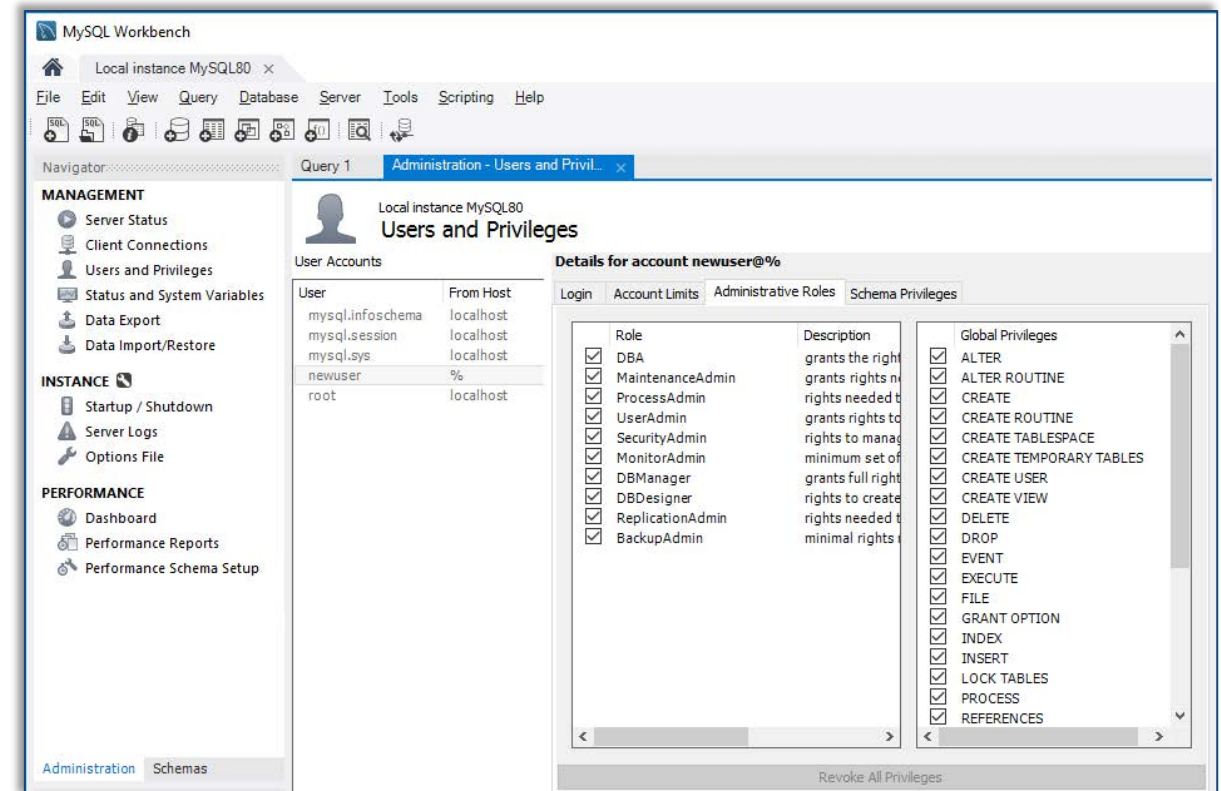
- Select Administration tab, at the bottom left, then click on Users and Privileges and Add Account.
- Add a new user account with login name “master”. Enter a password and click Apply. Safe keep the user account password.



# MySQL Database

## Assign administrative roles

- While with user “master” selected in the User section, move to the Administrative Roles tab and enable DBA. This allocates all privileges to the user “master”.

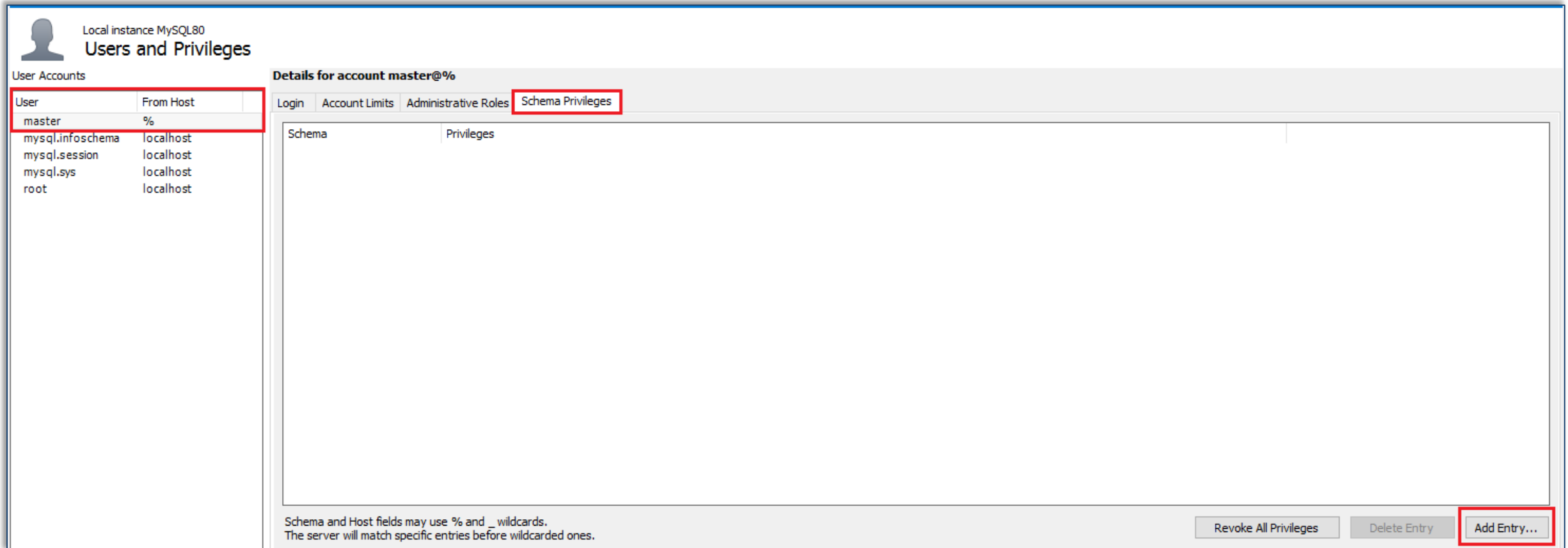




# MySQL Database

## Schema Privileges

- Now, make sure that the Workbench window is maximized to fully display the window select the Schema Privileges tab and hit the Add Entry... button to access the schema list.



The screenshot shows the MySQL Workbench interface for managing users and privileges. The window title is "Local instance MySQL80 Users and Privileges". On the left, the "User Accounts" table lists several users, with the "master" user highlighted. The main area shows "Details for account master@%", with the "Schema Privileges" tab selected. The table below is empty, with columns for "Schema" and "Privileges". At the bottom right, the "Add Entry..." button is highlighted.

| User             | From Host |
|------------------|-----------|
| master           | %         |
| mysql.infoschema | localhost |
| mysql.session    | localhost |
| mysql.sys        | localhost |
| root             | localhost |

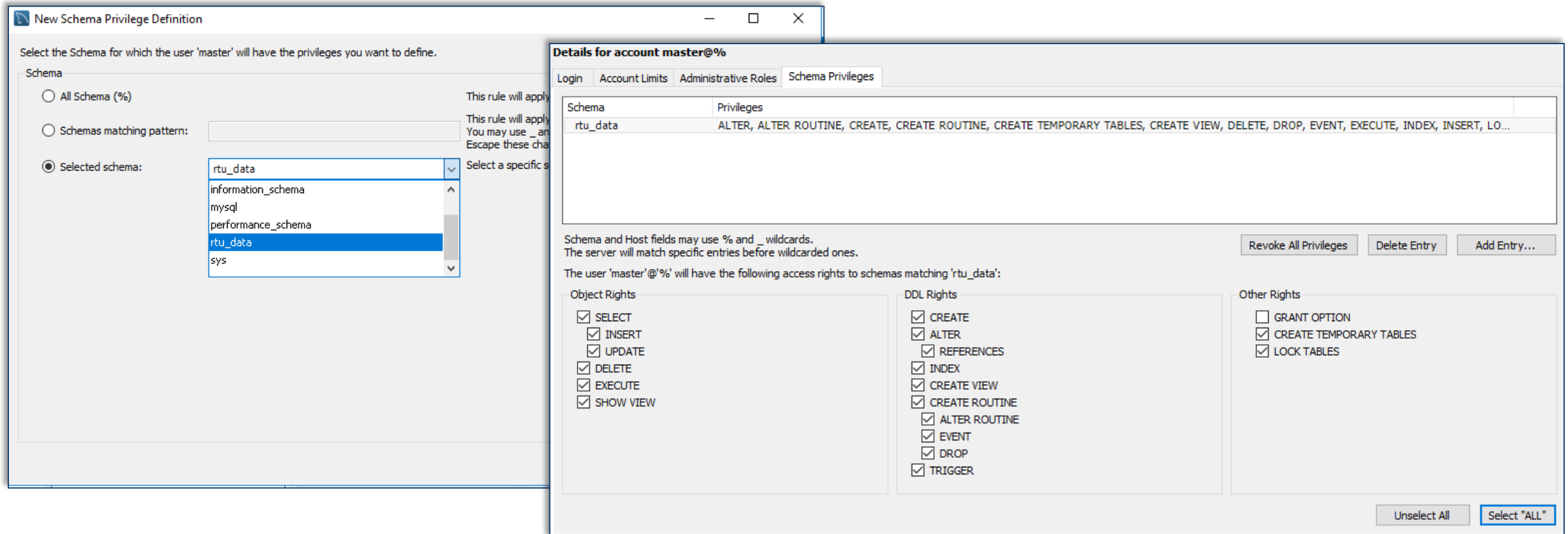
| Schema | Privileges |
|--------|------------|
|--------|------------|

Schema and Host fields may use % and \_ wildcards.  
The server will match specific entries before wildcarded ones.

Revoke All Privileges Delete Entry Add Entry...



- Choose the Selected schema option in the New Schema Privilege Definition pop-up. Pick the rtu\_data schema from the list, then click OK to close the selection window.
- Click on Select “ALL” to allocate all applicable privileges.



The image shows two overlapping windows from the MySQL administration tool. The background window is titled "New Schema Privilege Definition" and shows the "Selected schema:" option selected, with a list of schemas including "rtu\_data" which is highlighted. The foreground window is titled "Details for account master@%" and shows the "Schema Privileges" tab. It displays a table with the schema "rtu\_data" and a list of privileges: ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DELETE, DROP, EVENT, EXECUTE, INDEX, INSERT, LO... Below the table, there are three sections of rights: Object Rights, DDL Rights, and Other Rights, each with a list of checked and unchecked options. At the bottom right of the foreground window, there is a button labeled "Select 'ALL'" which is highlighted with a blue border.

**New Schema Privilege Definition**

Select the Schema for which the user 'master' will have the privileges you want to define.

Schema

All Schema (%)

Schemas matching pattern:

Selected schema:

- rtu\_data
- information\_schema
- mysql
- performance\_schema
- rtu\_data
- sys

**Details for account master@%**

Login Account Limits Administrative Roles Schema Privileges

| Schema   | Privileges   |
|----------|--|
| rtu_data | ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DELETE, DROP, EVENT, EXECUTE, INDEX, INSERT, LO... |

Schema and Host fields may use % and \_ wildcards.  
The server will match specific entries before wildcarded ones.

The user 'master'@'%' will have the following access rights to schemas matching 'rtu\_data':

**Object Rights**

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW VIEW

**DDL Rights**

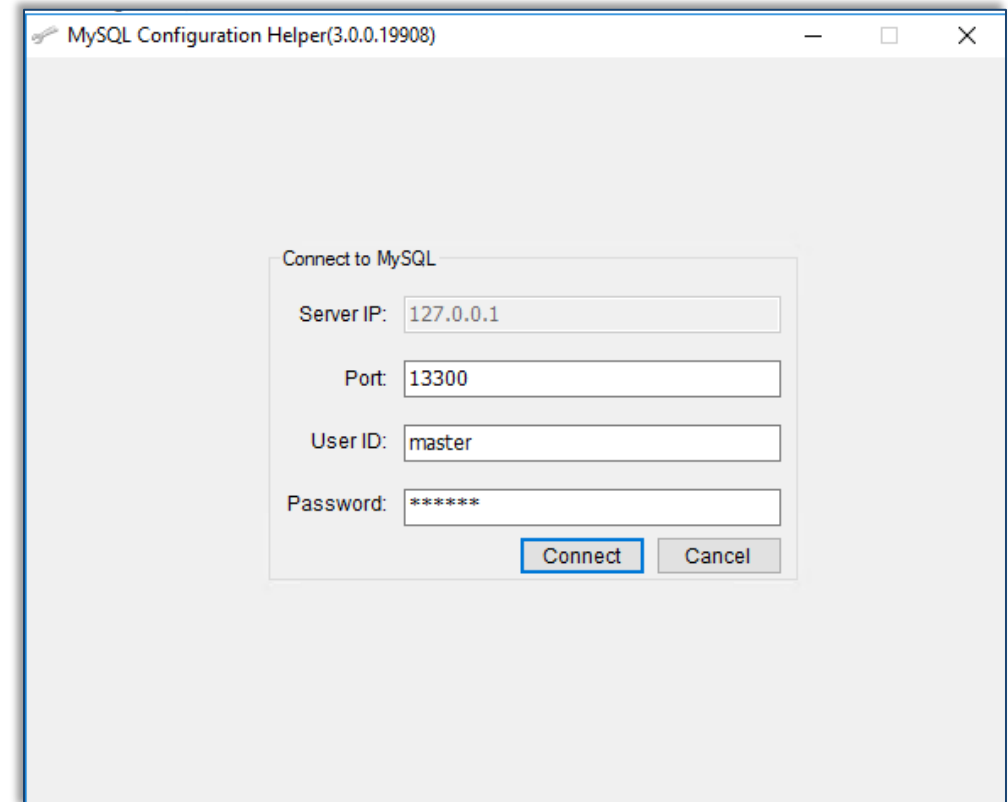
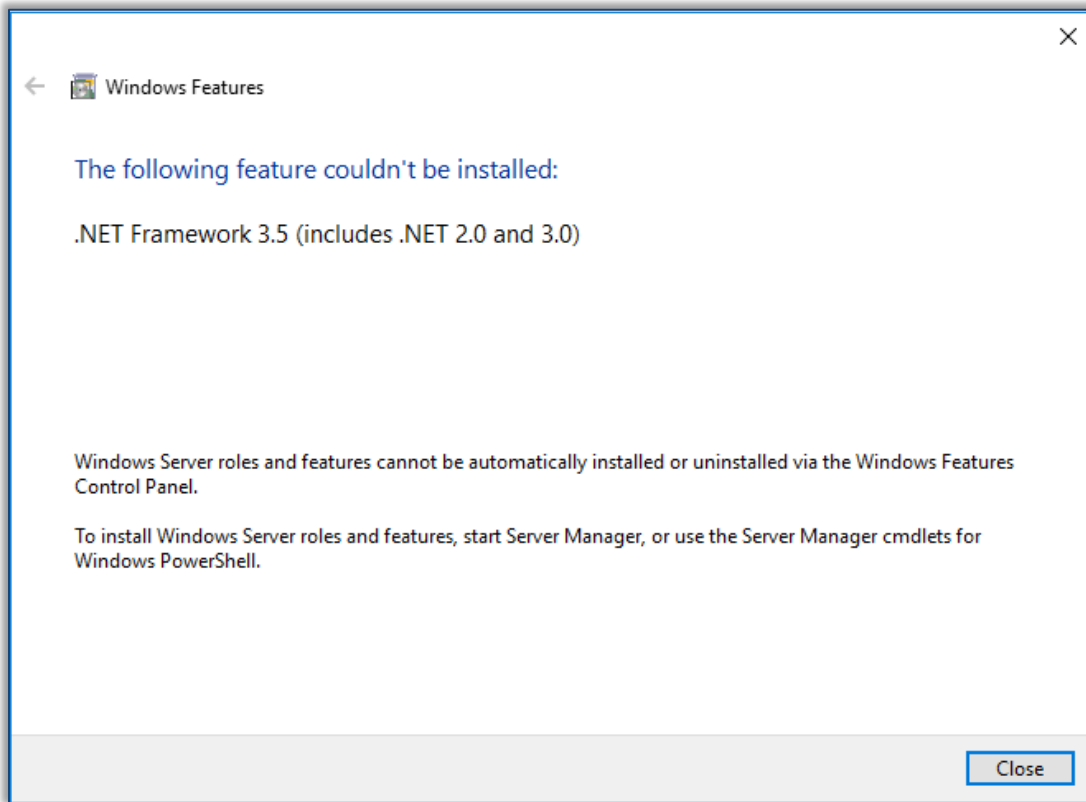
- CREATE
- ALTER
- REFERENCES
- INDEX
- CREATE VIEW
- CREATE ROUTINE
- ALTER ROUTINE
- EVENT
- DROP
- TRIGGER

**Other Rights**

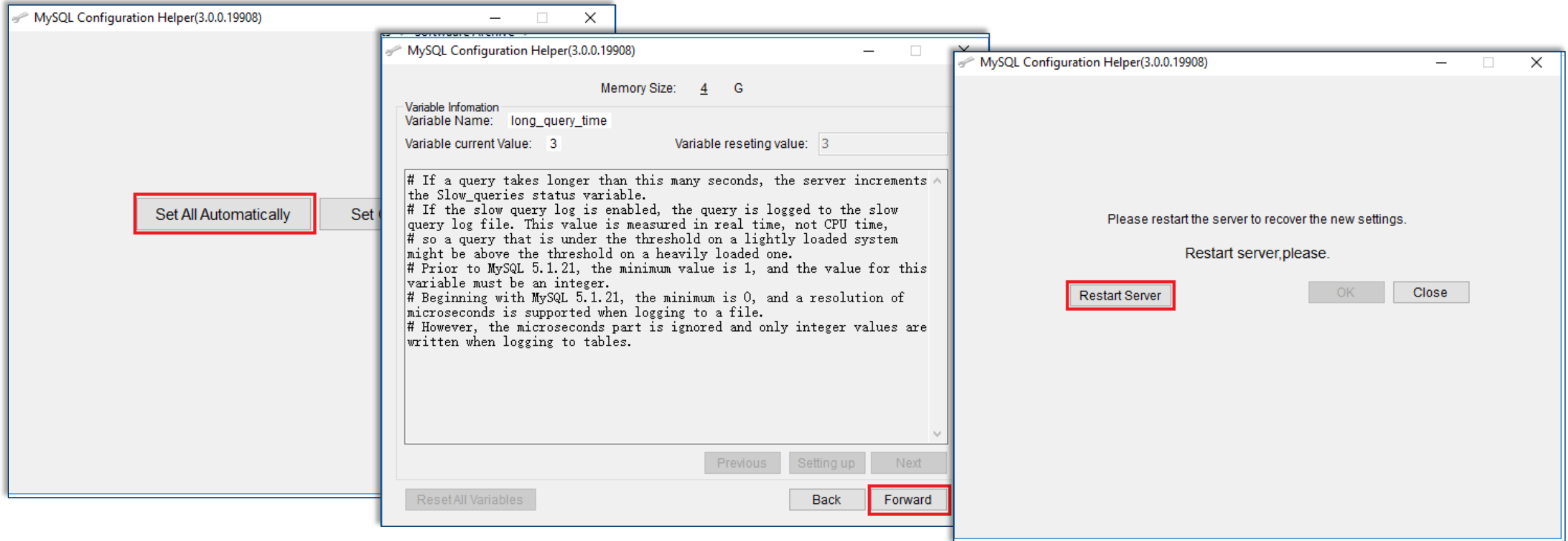
- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES

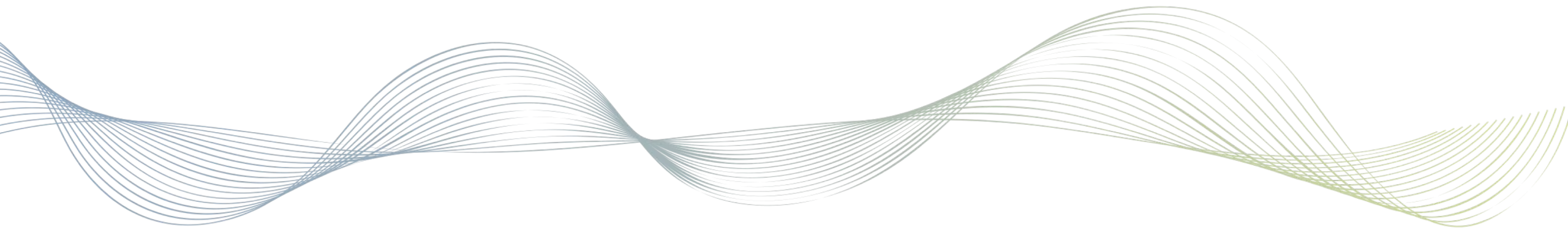
Unselect All Select "ALL"

- Unzip MySQLConfigurationHelper(3.0.0) and put a copy in the local drive of the server.
  - Execute the software by clicking on MySQLConfigurationHelper.exe. If .NET Framework 3.5 features have not been added, then it will prompt for the need of the features.
  - Once the configuration tool is launched, enter the password for user “master” and then Connect.



- Select Set All Automatically to run the configuration tool.
  - It will go through each variable setting and set the value. Click Forward when prompted.
  - Click Restart Server to restart MySQL to take the new variable settings. Or click Close to restart MySQL using Workbench.





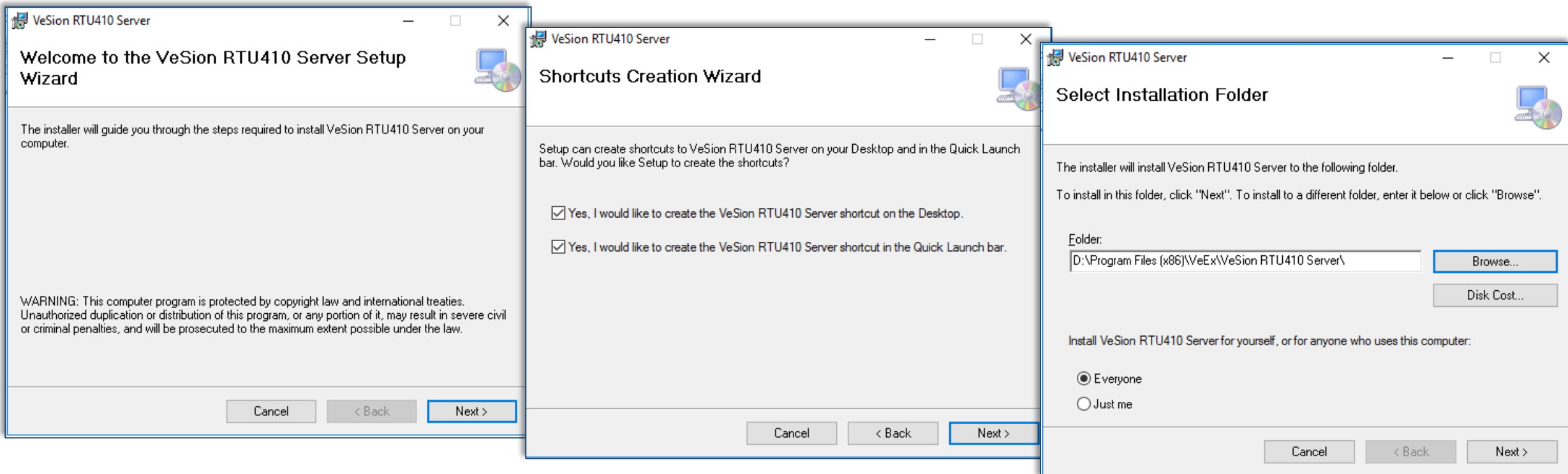
# Installing VeSion RTU410 Server

Step 4



# Install VeSion RTU410 Server Application

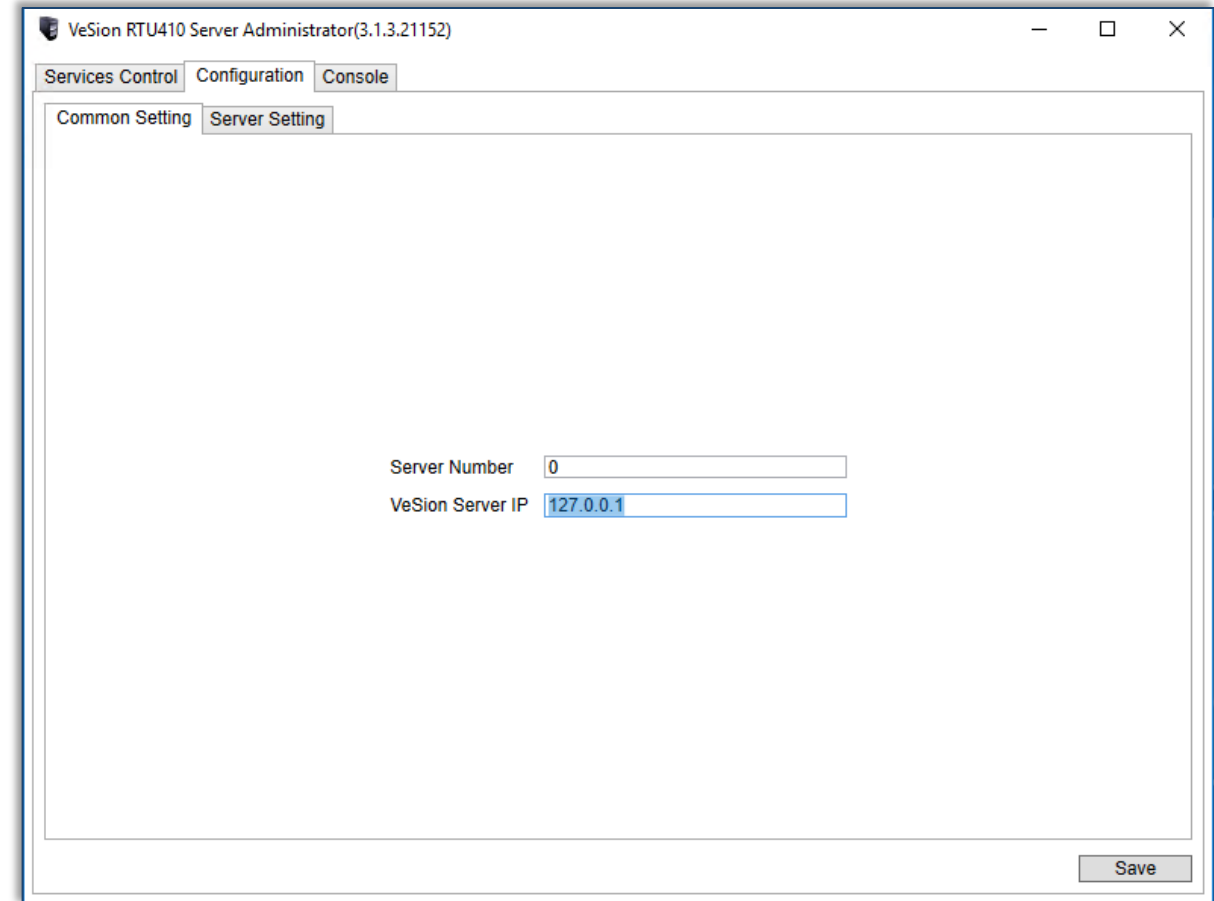
- Run `setup.exe` to install the VeSion RTU410 Server application to the target hard drive.
  - The VeSion RTU410 Server will be installed in the `\Program Files (x86)\VeEx\VeSion RTU410 Server\` by default. Set the target drive as appropriate. In the example below drive D: is the target drive.
  - Select install VeSion for Everyone.
  - Click Next> to continue.



# Configure VeSion RTU410 Server Application

## Common Setting

- Launch VeSion RTU410 Server Administrator and select the Configuration tab
- Select the Common Setting sub-tab and update the settings:
  - Server Number: the unique server number of the RTU410 server in the same VeSion Server
  - VeSion Server IP: enter the IP address of the VeSion Server that the VeSion RTU410 Server will be connected to

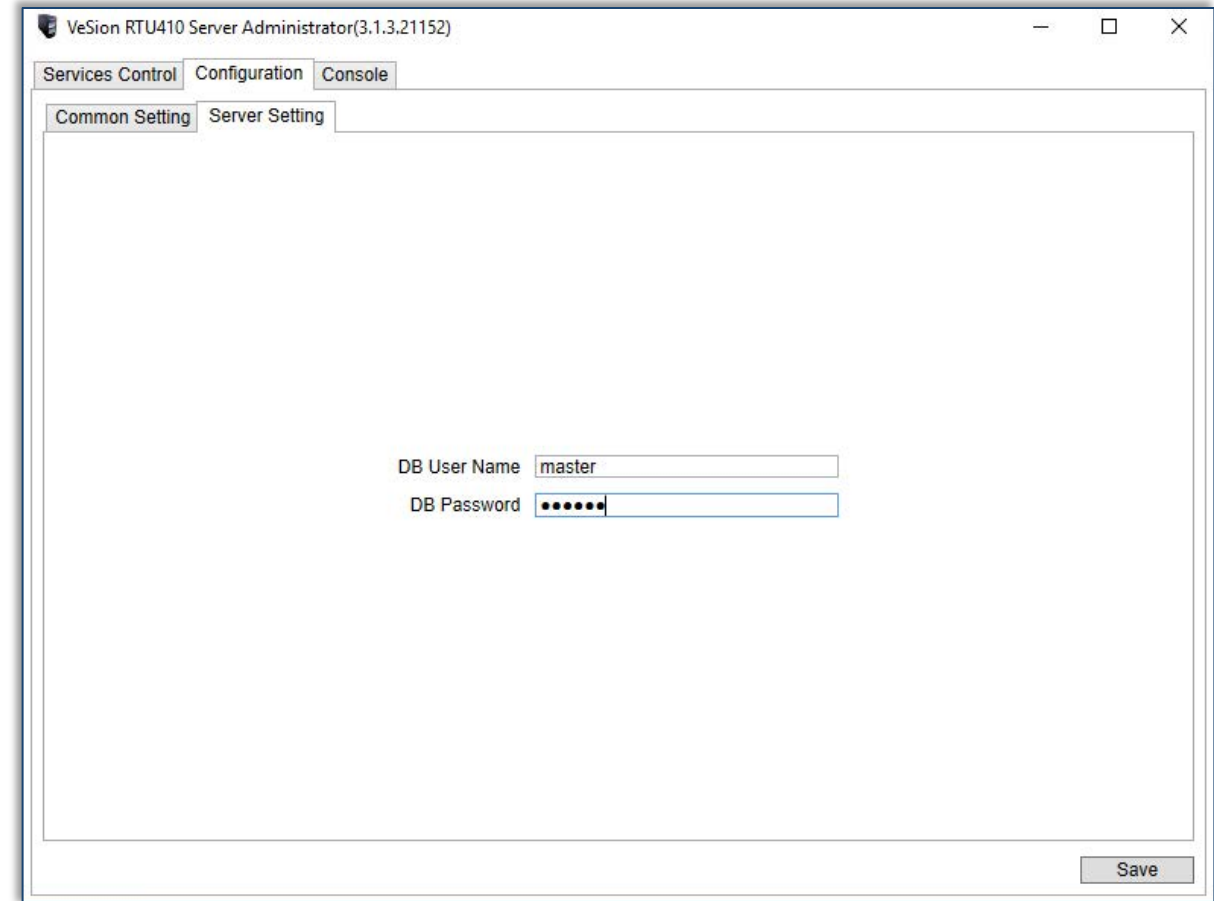




# Configure VeSion RTU410 Server Application

## Server Setting

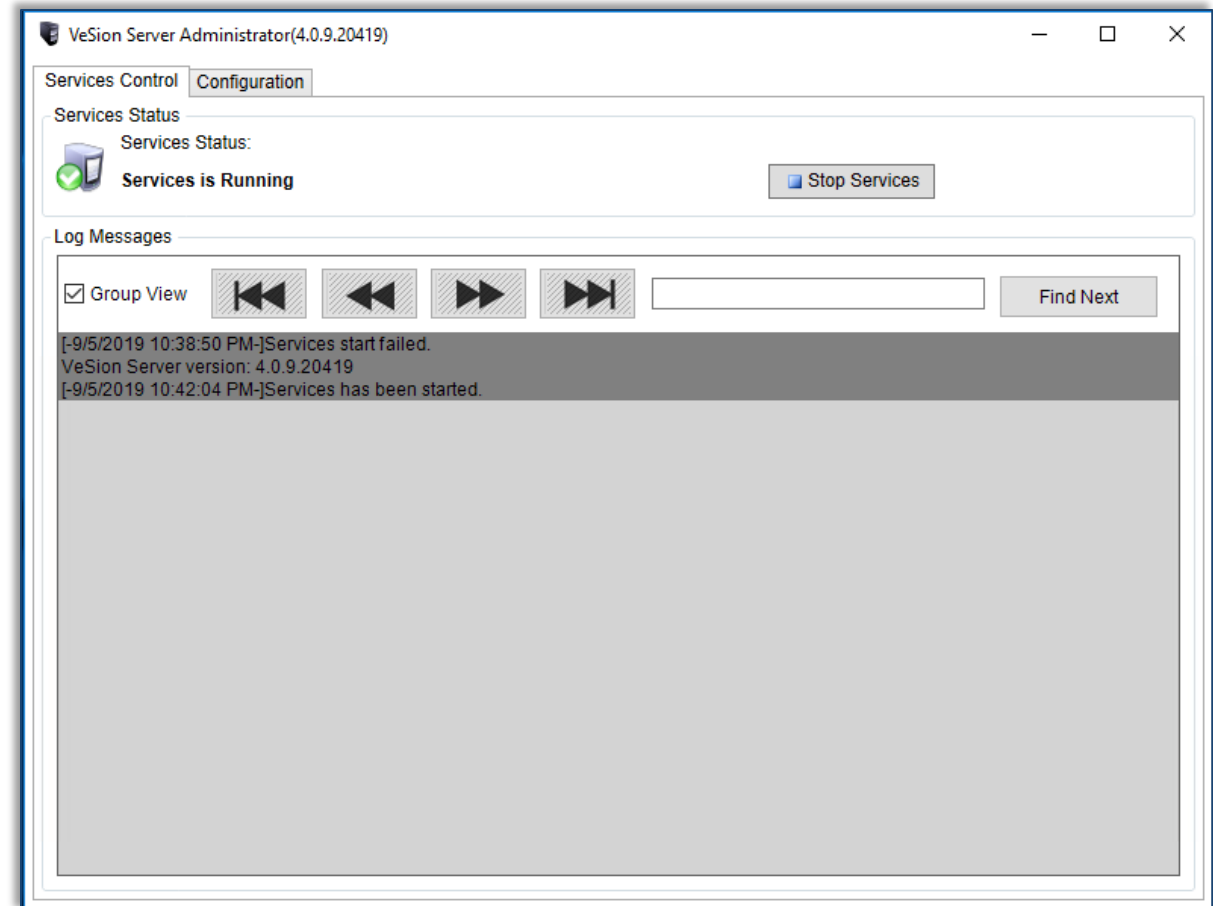
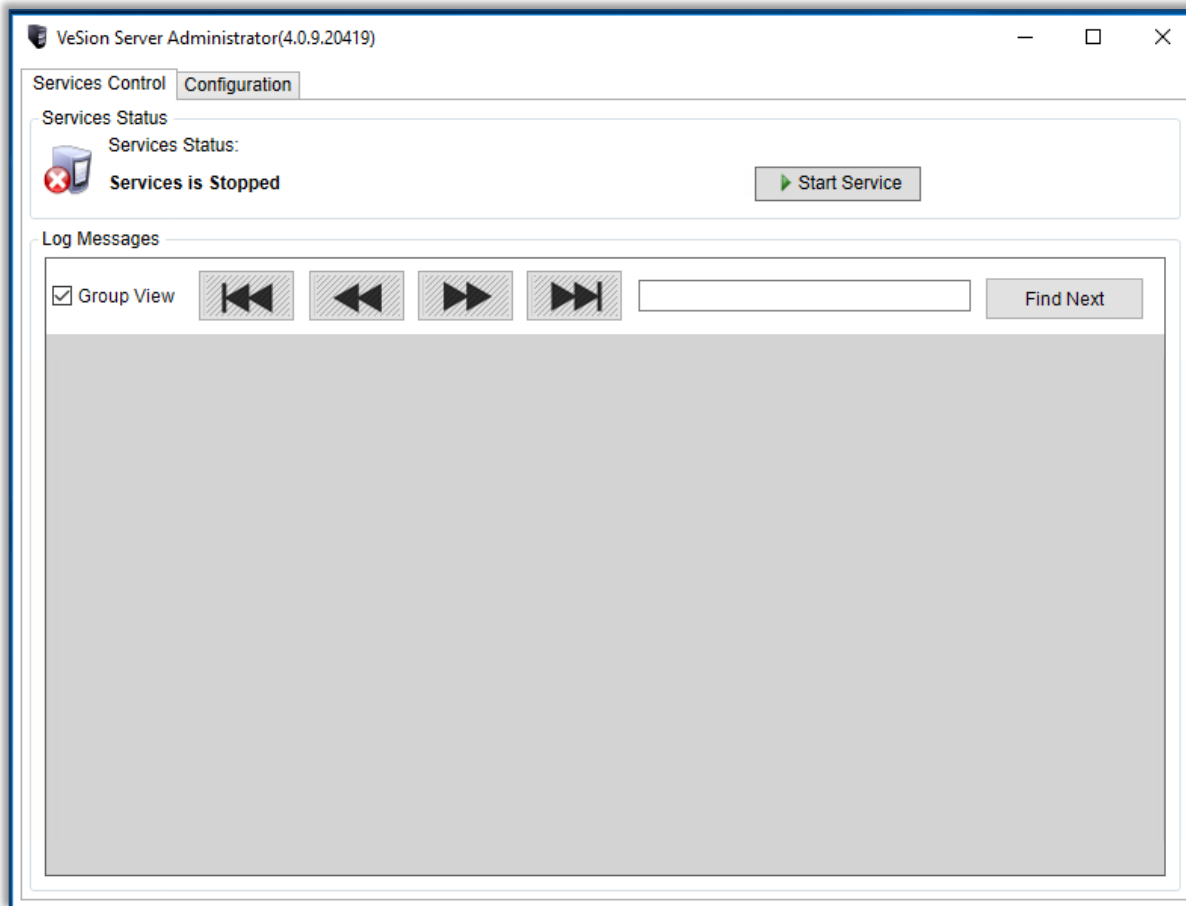
- Select the Server Settings sub-tab and update the settings:
  - DB User Name: master
  - DB Password: as previously configured
- Click Save to save settings



# Starting VeSion RTU410 Server

## Services Control

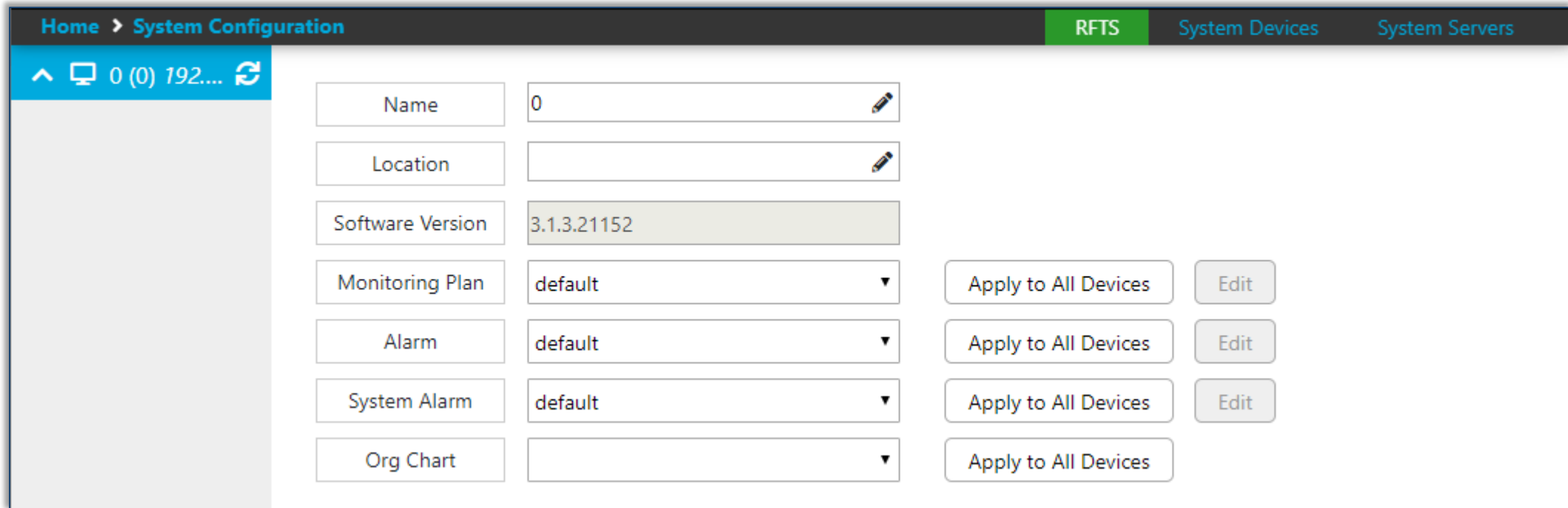
- Go to the Services Control tab on the VeSion RTU410 Server Administrator.
- Click Start Service button to start the service.



# Starting VeSion RTU410 Server

Verify the RTU410 server is online

- Log in to the VeSion system via web interface.
- Go to Main Menu > System Configuration > Server & Device, click the RFTS tab on the banner. Then verify that the RTU410 server is available in the server and device pane at the left.
- Enter the server name, location of the server as appropriate, then click Save at the bottom of the menu.



| Field            | Value       | Buttons                    |
|------------------|-------------|----------------------------|
| Name             | 0           | Apply to All Devices, Edit |
| Location         |             | Apply to All Devices, Edit |
| Software Version | 3.1.3.21152 | Apply to All Devices, Edit |
| Monitoring Plan  | default     | Apply to All Devices, Edit |
| Alarm            | default     | Apply to All Devices, Edit |
| System Alarm     | default     | Apply to All Devices, Edit |
| Org Chart        |             | Apply to All Devices       |


# Thank you!

Any questions?

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