TID Plus Software

Installation and Setup Guide

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1. General

a. Scope and Software Versions

This installation and setup guide details the intended installation, configuration, and operation of below software versions:

- **TOS Plus_2.01.118.0** as installed on the TacticID® Plus device
- **TID Plus_2.01.46.1** to be installed on the PC

To ensure compatibility for software operation, you **<u>MUST</u>** use **matching versions of TID Plus on the PC and TOS Plus on the device as indicated in the Packing List or Release Note.**

b. Operating System Compatibility

The following Microsoft operating systems have been verified compatible with this software:

- Windows 7 SP1, 64 bit
- Windows 8, 64 bit
- Windows 10, 64 bit

c. Minimum Hardware Requirement

Your PC's hardware configuration must meet or exceed the following specifications:

- Processor: 2GHz
- RAM: 2GB
- Hard disk space: 5GB available

d. Installation Package

Upon delivery of the TacticID® Plus Handheld Raman System, locate the USB drive included in the shipping box. This USB drive contains all manuals, software packages and necessary supporting documents and programs.

If the USB drive cannot be located, you may request a file download by submitting a Technical Support Request at http://www.bwtek.com/support/.

Fill out all required fields and be sure to also include the below information in the Questions/Comments section:

- This is a request for **product registration and portal account access**;

- The current TOS Plus version on the TacticID® Plus unit;
- The current TID Plus version installed on your PC (if any).

Once your request has been authenticated, your customer portal account will be created and login information sent to your email to allow download access at any time.

2. Installation Procedure

a. Installation Prerequisites

The following requirements must be met to ensure proper software installation and operation, and these required installation components are included in the USB drive provided by B&W Tek. Please copy the "TID_Plus_Installation" folder to local PC.

1. The user **MUST** have **Windows Administrative privilege** on the Windows computer to install and configure the software;
2. Internet access is required during the installation of software;
3. *.Net Framework 4.6.2* or newer is required for running this software: Installer will automatically detect if the proper version of *.net Framework* has been installed on PC already. If *.Net Framework 4.6.2* cannot be automatically installed, please refer to **Appendix I.**
4. *Microsoft Visual C++ 2013 Redistributable (x64) (version 12.0.30501* or newer) is required, which is located in the folder TID_Plus_Installation\Prerequisites\;
5. *Microsoft Visual C++ 2013 Redistributable (x86) (version 12.0.30501* or newer) is required, which is located in the folder TID_Plus _Installation\Prerequisites\;
6. *Microsoft Visual C++ 2015 Redistributable (x64) (version 14.0.23026* or newer) is required, which is located in the folder TID_Plus _Installation\Prerequisites\;
7. *Microsoft Visual C++ 2015 Redistributable (x86) (version 14.0.24215* or newer) is required, which is located in the folder TID_Plus_Installation\Prerequisites\.

For further help, please contact B&W Tek Support at http://www.bwtek.com/support/

b. MySQL Server Installation and Configuration

MySQL Server provides the backbone database services for the TacticID® Plus product. Installation and configuration are required on computer to be used for database service.

MySQL Server installer will automatically check if your PC meets all prerequisites. If a compatibility screen displays during installation, click on "Execute" to install.

Please follow the steps from Page 5 to Page 16 to fully install the TID software. Skipping any operation or screen will cause installation or later launch FAILURE!

The version listed below has been verified to be compatible with TID Plus.

- MySQL community 5.7.18.0 or newer

<u>NOTE</u>: **If a proper version of MySQL Server is already installed, skip MySQL Server installation. After confirmation of the MySQL Server configuration settings, continue with TID Plus Installation and Configuration in Section 7.**

- In the folder of TID Plus Installation\MySQL Server\, launch ***mysql-installer-community-5.7.18.0.msi***: *(If you do not get one, you can download the community version from the following link:* https://dev.mysql.com/downloads/windows/installer/8.0.html*)*
- License Agreement: Make sure "I accept the license terms" is checked. Then click Next.
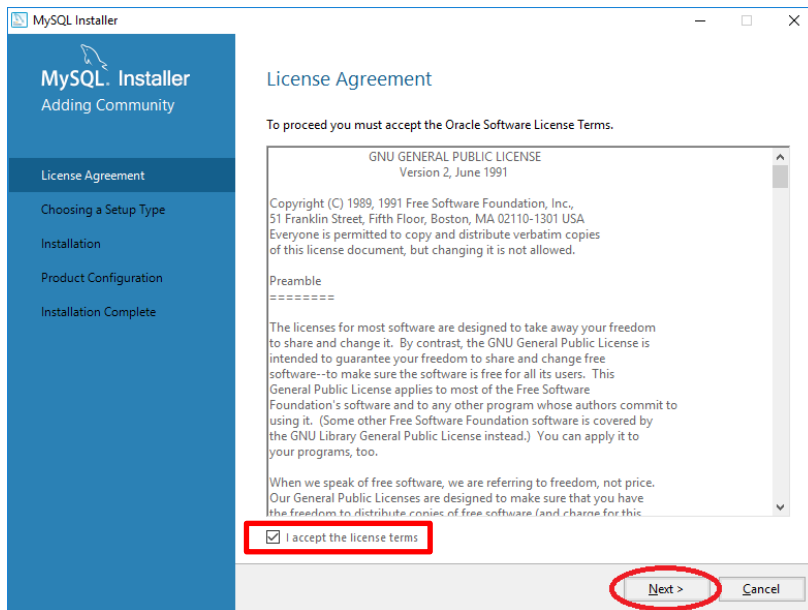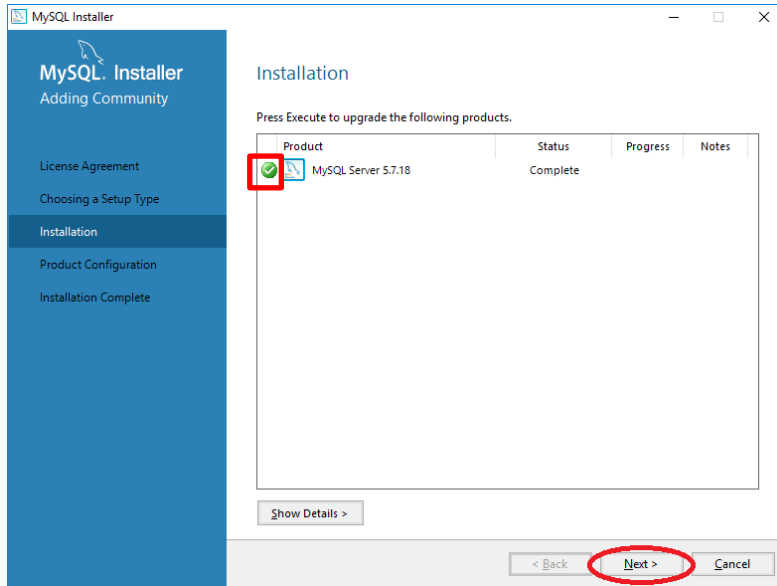
- Choosing a Setup type: choose "Server only" at Setup Type. Then click Next.
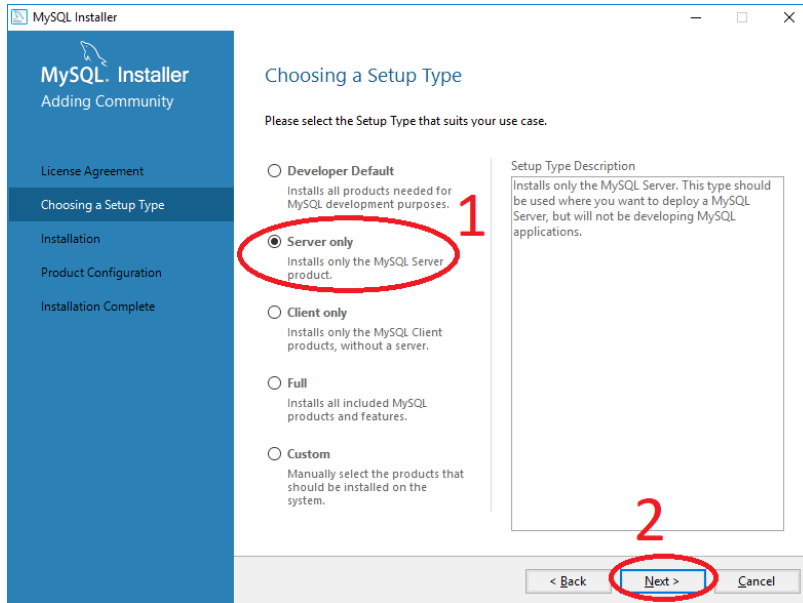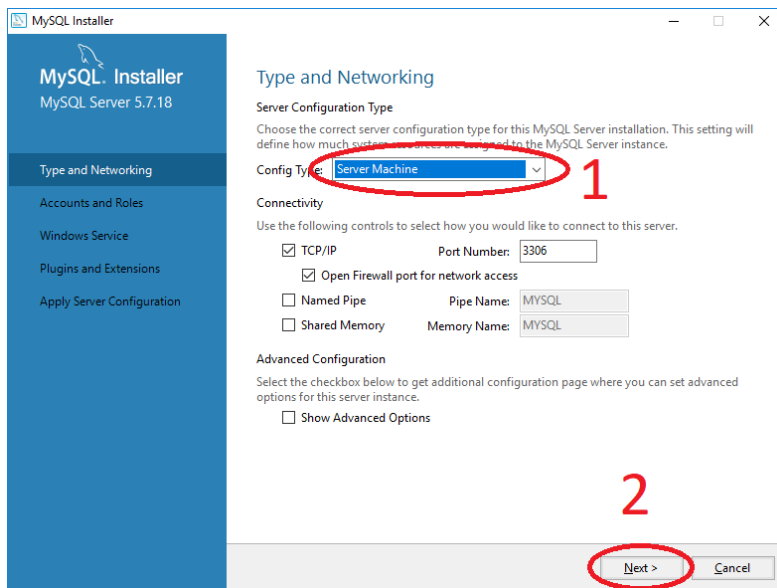

- Installation: click Execute to start installation of MySQL Server.
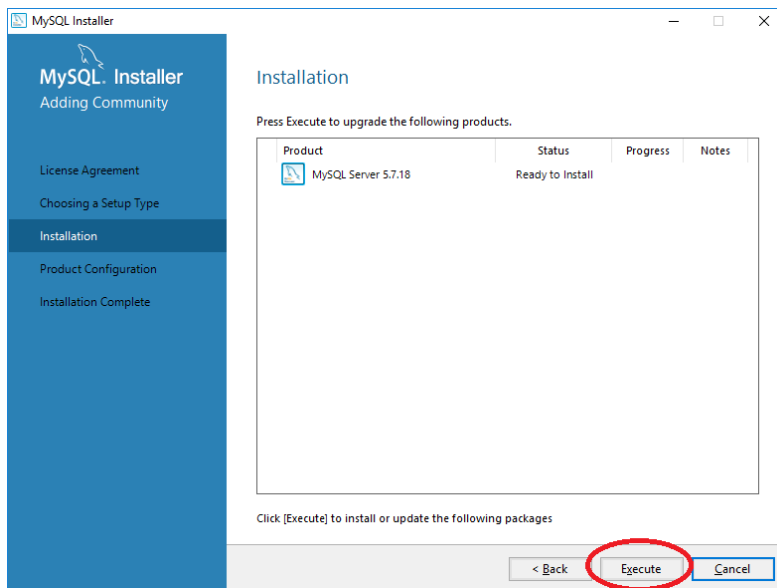
- After the installation is completed, a green check will appear. Click Next to start the MySQL configuration:
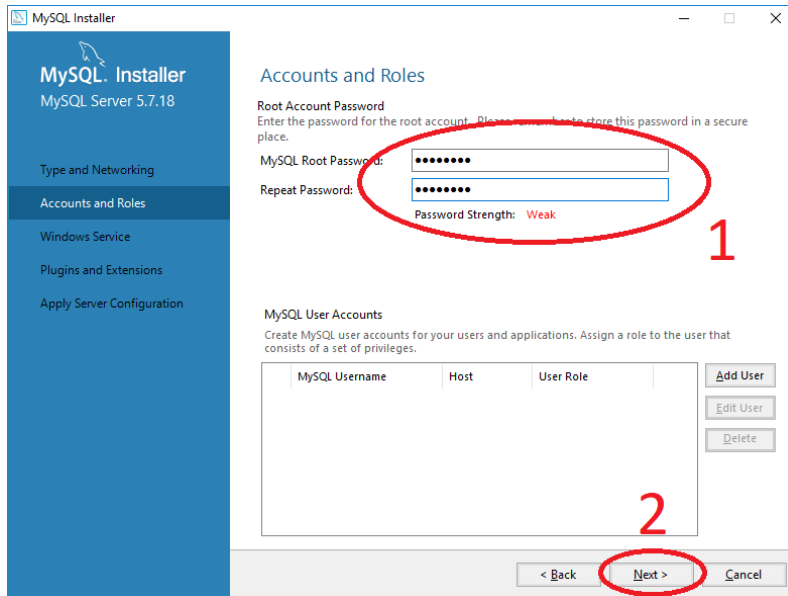

- On the page "Type and Networking": set "Config Type" as "Server Machine", and keep other settings as shown below. Then click Next.
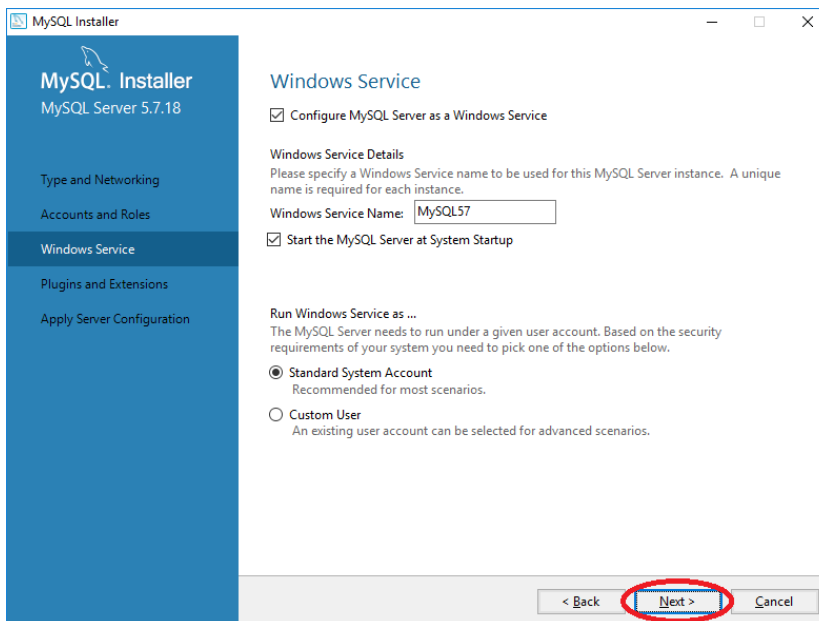

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- On the page of "Accounts and Roles": create a MySQL Server Root Password.

**<u>***Please Document this password and store it securely!!!***</u>**

- On the "Windows Service" page: keep default configurations. Then click Next.

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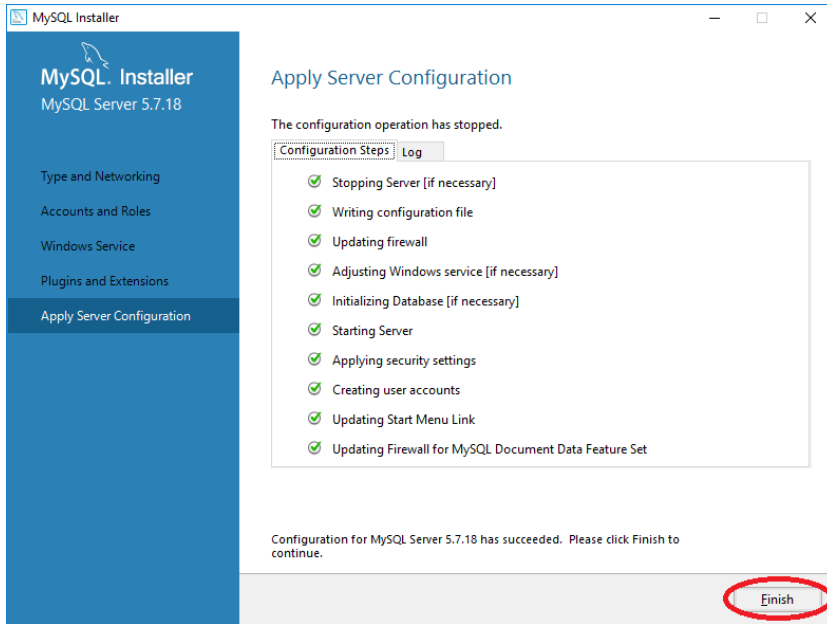
- On the "Plugins and Extensions" page: configure to Enable X Protocol and specify Communication Port number 33060. Select Open Firewall port for network access. Then click Next.
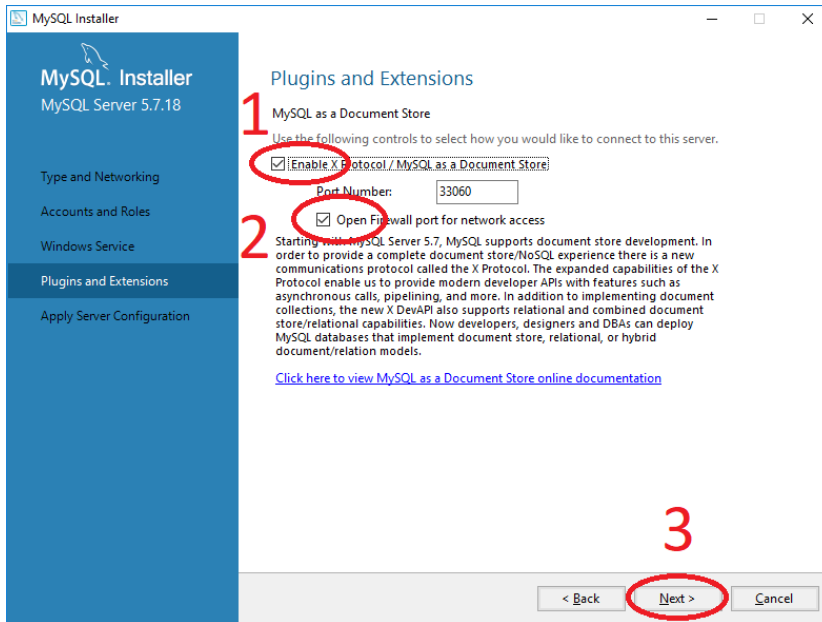

- On the "Apply Server Configuration" page click Execute. This will take some time while it goes through the list of configuration steps until all items are configured and checked. No action is required during configuration.


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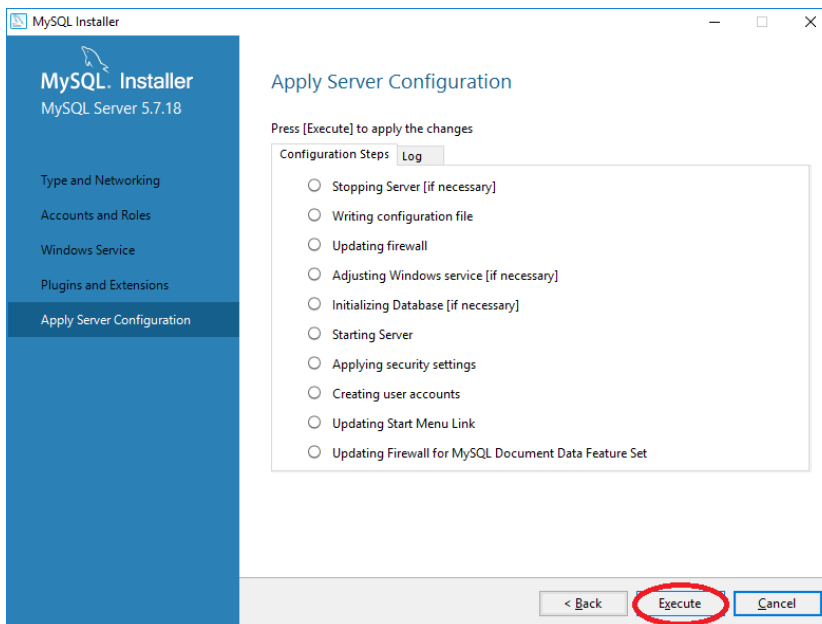
- Configuration is done when all the items are checked. Click Finish.

- On the "Product Configuration" page: MySQL configuration completion is confirmed. Click Next.
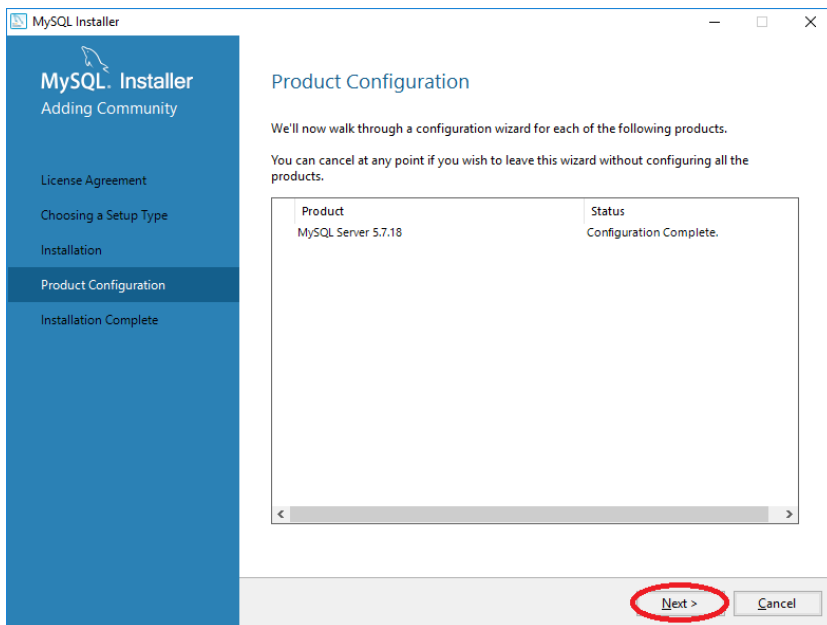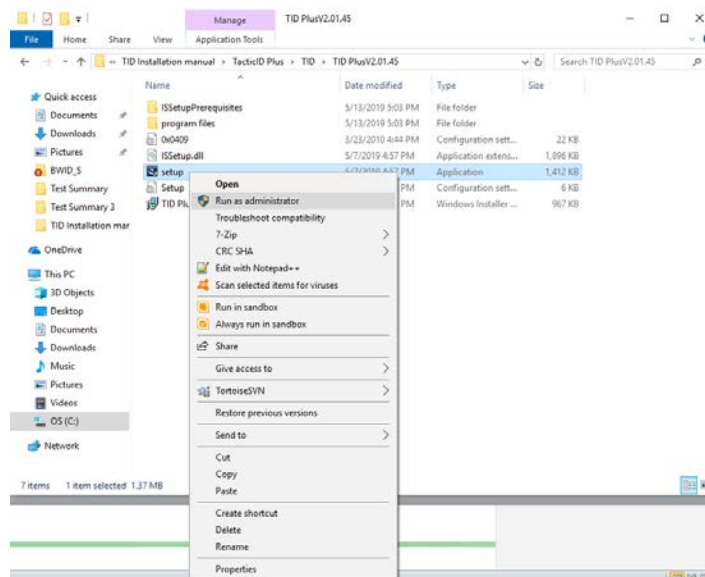
- On the "Installation Complete" page: click Finish to complete MySQL Server installation. MySQL Server is now installed and configured.
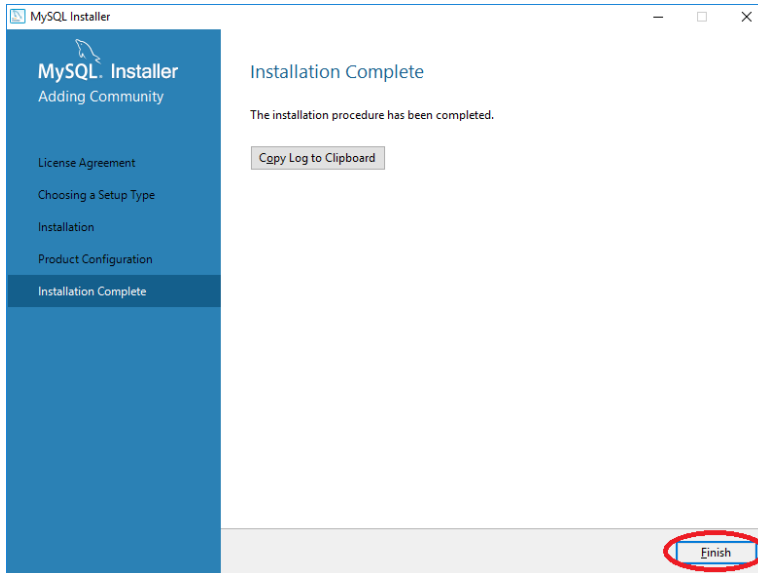

c. TID Plus Installation and Configuration

After successful installation and configuration of MySQL Server, TID Plus software needs to be installed and configured:

a) In the folder \TID_Plus_Installation\TID Plus Software\ -> launch **setup.exe** by right-clicking the icon and **Run as administrator**.

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b) You may be required to install certain programs onto your computer. Click Install and reboot your computer if required.
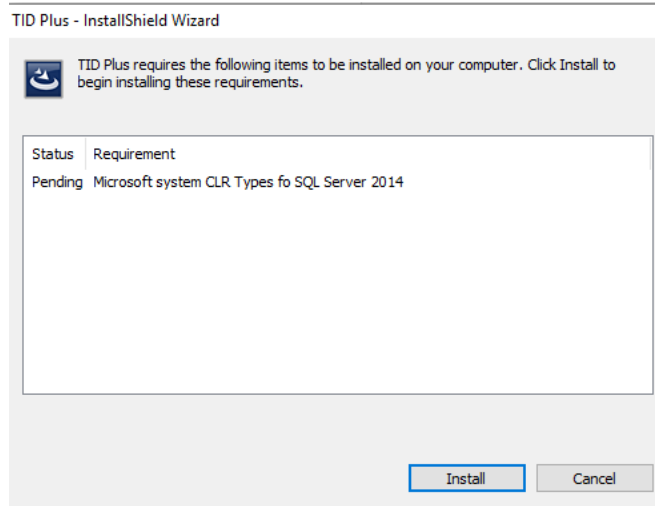
c) Read and accept the end-user license agreement. Choose Complete Setup type and default installation location: C:\Program Files (x86)\BWTEK\TID Plus\.
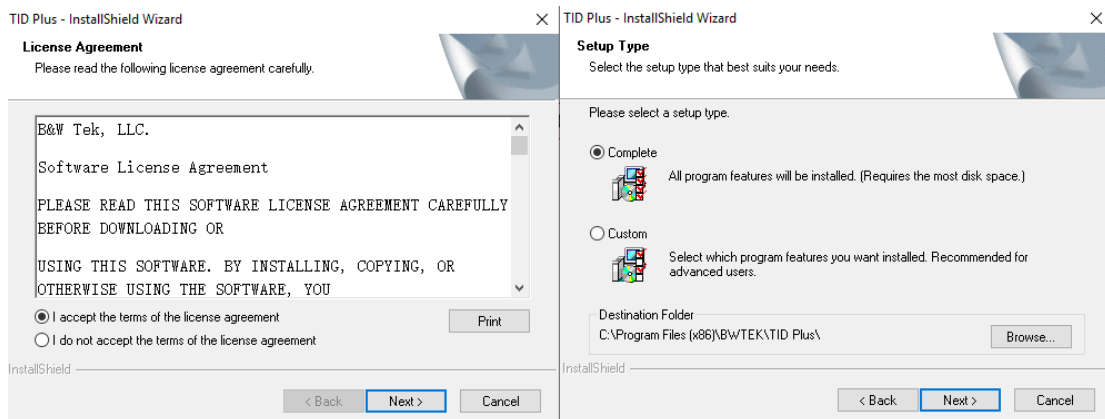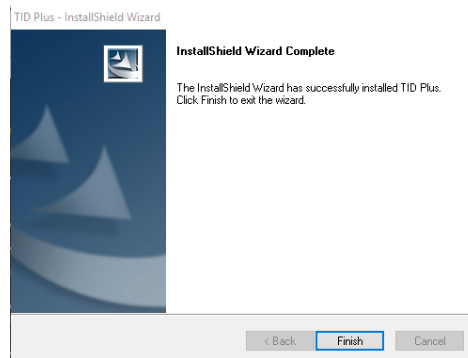

d) During the installation, the following screen MAY appear and installation may temporarily be held. Press any key to continue.
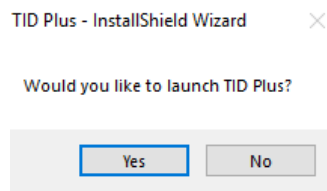

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e) When installation is completed, click Finish:

f) A message box shows up. For first-time installation, click "No" to exit; if this is software upgrade, click "Yes" and finish steps: h, m, n and o.

g) Installation of TID software is successful on the PC. An icon of "TID Plus" will appear on the PC desktop. Right click "TID Plus" and left click on "Properties". Under Compatibility tab, check "Run this program as an administrator". Click Apply and then OK. If it's already checked, click OK to exit.
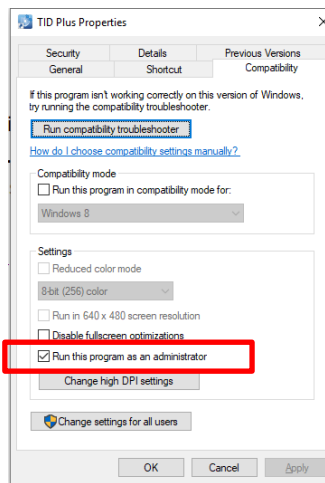
h) Launch TID Plus software from desktop, TID Plus login screen appears; enter user name: "IT ADMIN" with default password "999999", and click Login to continue.

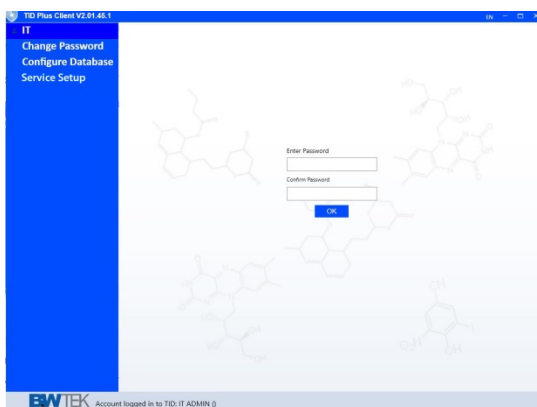i) Configuration table appears for IT management:

j) IT page is for IT administrator to reset password;

k) Configure database is listed as below:

- User name: root
- Password: the password created during MySQL installation in Section 6.
- Server address: localhost
- Port: 3306
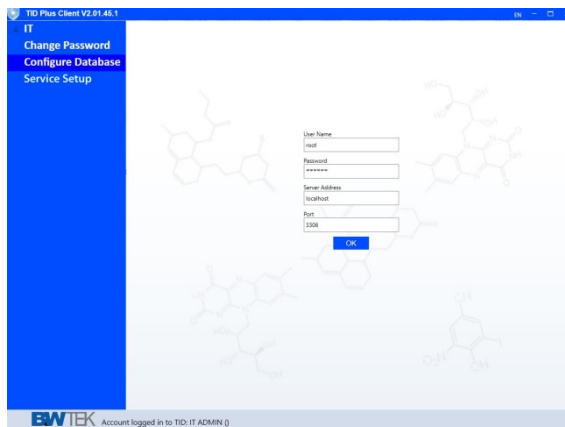
l) After clicking OK a message indicating the database has been configured successfully will appear.
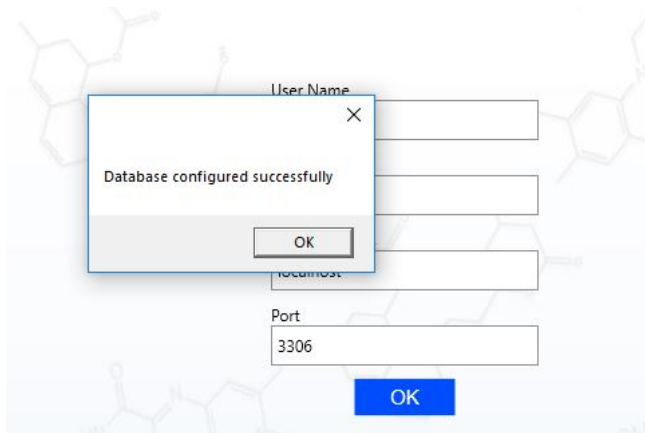
m) In Service Setup, click Create/Update Database and a message will pop up: "Database created successfully". Click OK to continue;
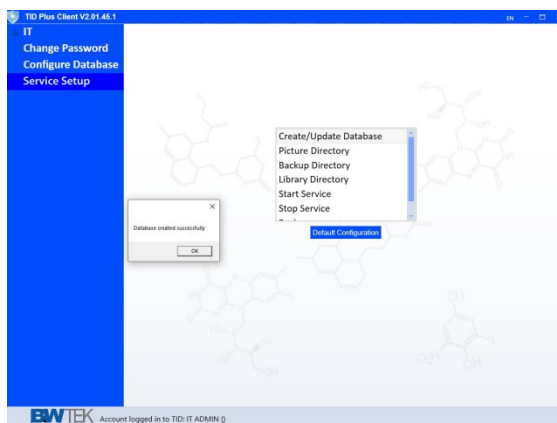
n) Select "Stop Service". A message "Would you like to stop service?" appears. Click OK.
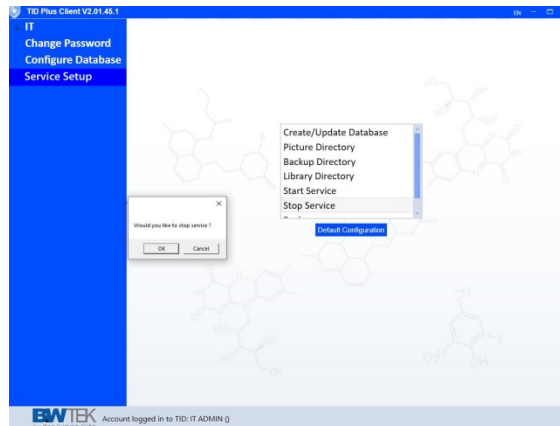
o) Select "Start Service". A message "Would you like to start service?" appears. Click OK.
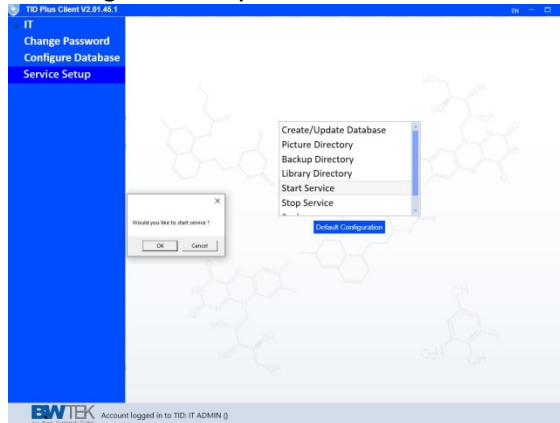
Note: these next two steps are to ensure Windows service of "TID Plus Database Service" is running successfully.

p) In Windows Search Bar, type in "Computer Management". In the "Services and Applications" panel to the left, click on "Services", or directly search "Services". In the services list, find "TID Plus Database Service" and confirm it is Running.
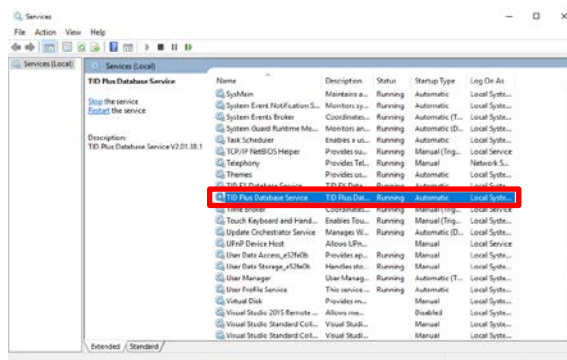
q) Exit TID Plus Configuration window.

3. Additional Steps

a. Device USB Driver Installation

If USB connection is used to connect the TacticID® Plus device and TID Plus on PC, the device driver needs to be installed on the PC. Generally the device driver will be installed on the PC automatically once the connection is established between the device and the PC using the USB cable shipped within the package. The following steps will guide the users to check whether or not the device driver installation is completed.

1. Power on the TacticID® Plus device;
2. Insert one end of the USB cable into the MicroUSB port of the TacticID® Plus device and insert the other end into a USB port on PC;
3. A message "a device is plugged in and may need further configuration" may appear. Wait until the driver is installed automatically on computer with a message "device is configured/installed and ready to use";
4. Another message may show up indicating the device is installed as "USB Ethernet/RNDIS Gadget";
5. To confirm the device driver is installed successfully, go to Windows Search Bar and type "Device Manager". The device driver is installed successfully when "USB Ethernet/RNDIS Gadget" is listed under Network Adaptors.
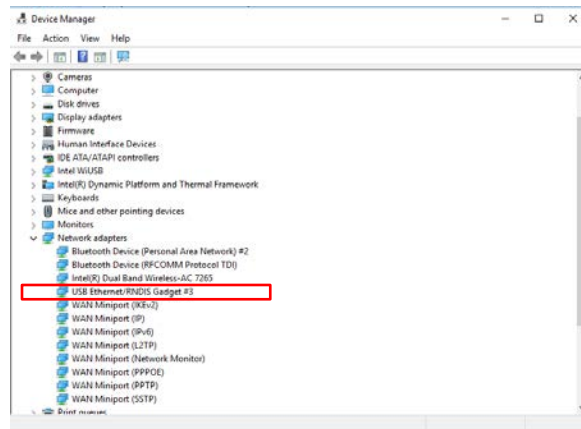
6. Manual driver installation:

Some computers with Windows 7 or Windows 8 operating systems (and some Windows 10 operating systems) will need manual installation of the device driver. Follow instructions listed below:

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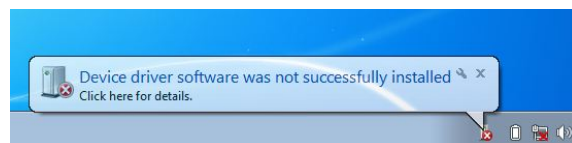
a. If USB driver cannot be installed automatically, perform operation steps 1-3 listed above;
b. In Windows search bar type "Device Manager" and find the malfunctioning USB device RNDIS/Ethernet Gadget:
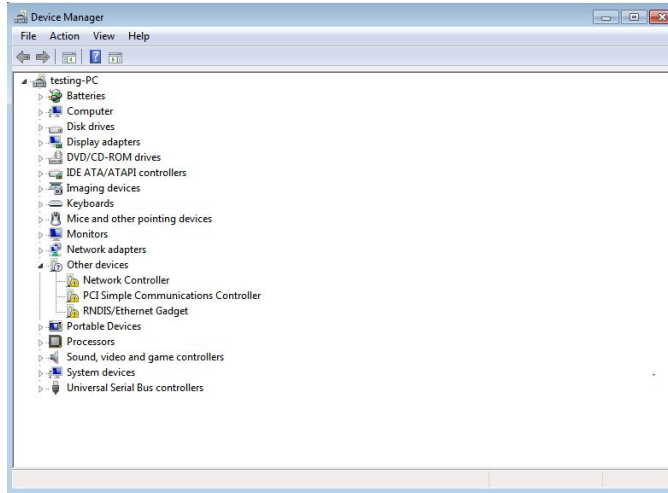
c. Right click this device and select Update Driver…
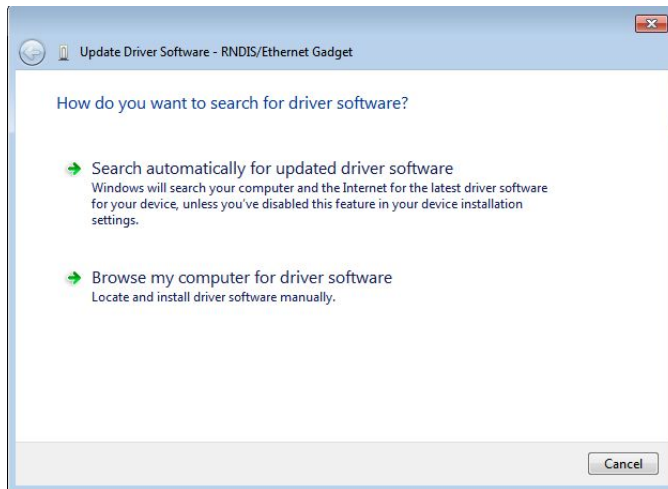
d. Select Browse my computer for driver software and direct to the folder of RNDIS driver in the TID Plus installation folder:
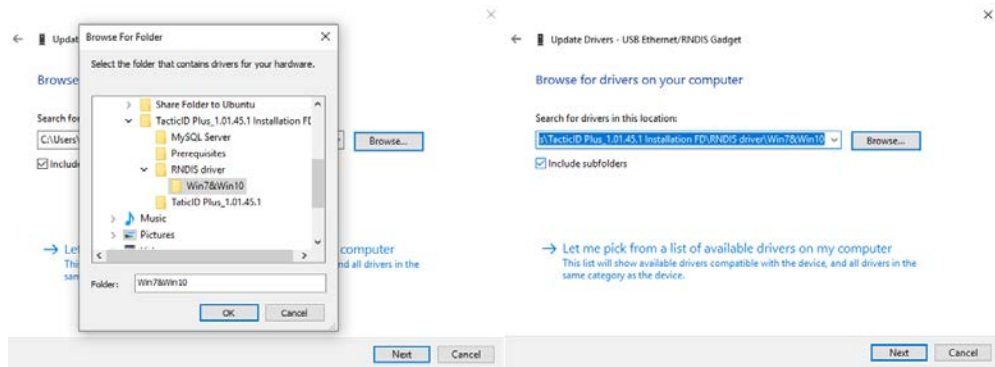
e. Click Yes and then wait until driver is installed successfully onto computer:

f. Go back to Device Manager and confirm the USB Ethernet/RNDIS Gadget driver is installed and running properly:

b. Firewall Configuration

Note: Please present this document to your IT administrator. Use the procedure to check or set firewall configuration only when the connection cannot be established between TacticID® Plus device and PC where TID Plus is installed.

This procedure is to ensure proper communication can be established between TacticID® Plus device and PC with TID Plus. Certain network traffic rules and Wi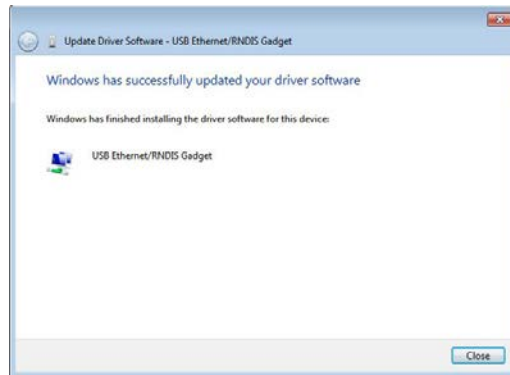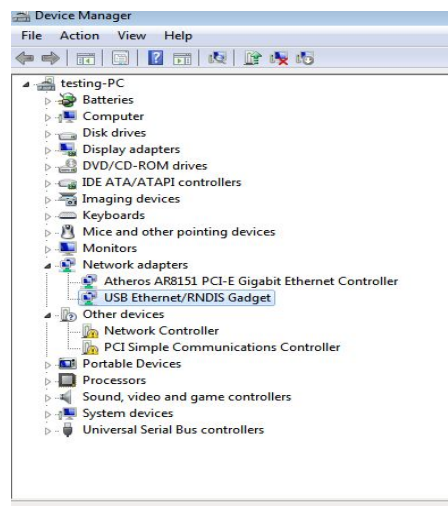ndows Firewall Settings need to apply as **Third Party Antivirus or Firewall** software (such as McAfee, Norton Endpoint...etc.) may block or conflict with the communication between the device and software. Consult your IT Department for firewall configuration.

- **Communication Port Requirement**

The TacticID® Plus product uses several specific communication ports to establish communication between database services and that between the device and PC. These communication ports need to be **OPEN** and allow **BOTH TCP and UDP** protocols. **Third Party Antivirus or Firewall software or other application software** may block or conflict with the communication between the device and software. Consult with your IT Department. The below lists specific ports that are used:

MySQL Server:
- TCP: 3306, 33060

TID Plus:
- TCP: 12201, 8732
- UDP: 12202, 12203

- **Allow Programs in Windows Firewall**
    1. Allow TID Plus in Windows Firewall. Open Windows Firewall in Control Panel. Click "Allow a program or feature through Windows Firewall":

2. Click "Change settings", and then find **Client**. Enable both Home/Work (Private) and Public categories, and check the checkbox. Click OK to exit.
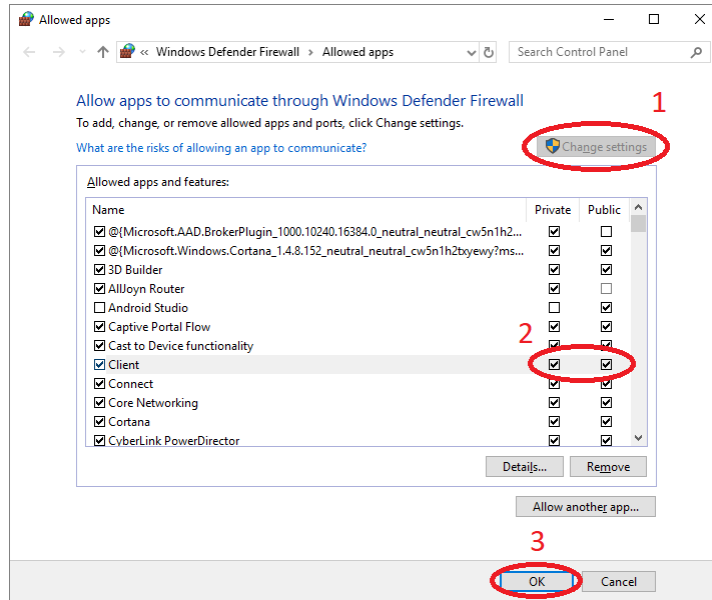
3. In some scenarios when Client.exe is not listed, the user has to add it in manually: click "Allow another app…" and find program in the directory. Typical path would be **C:\Program Files (x86)\BWTEK\TID Plus\TID Client** unless installed otherwise; enable both private and public as shown above:
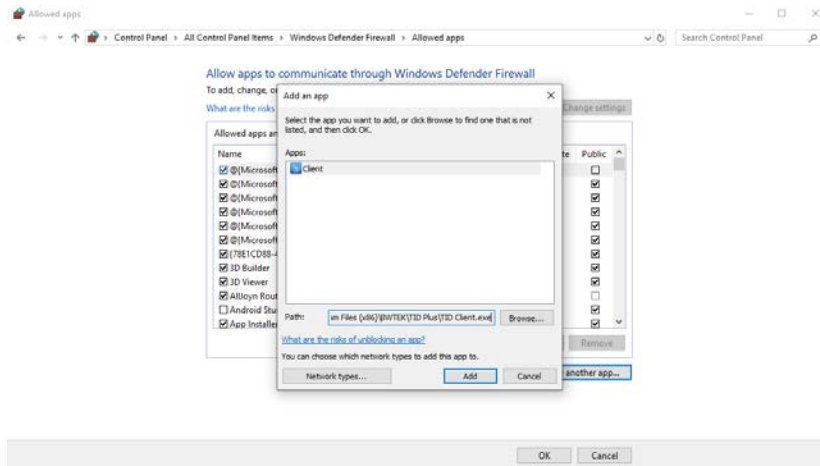
- **Windows Firewall Rule Configuration**
    1. In Control Panel -> System and Security -> Windows Defender Firewall -> Advanced settings -> Inbound Rules -> New Rule.
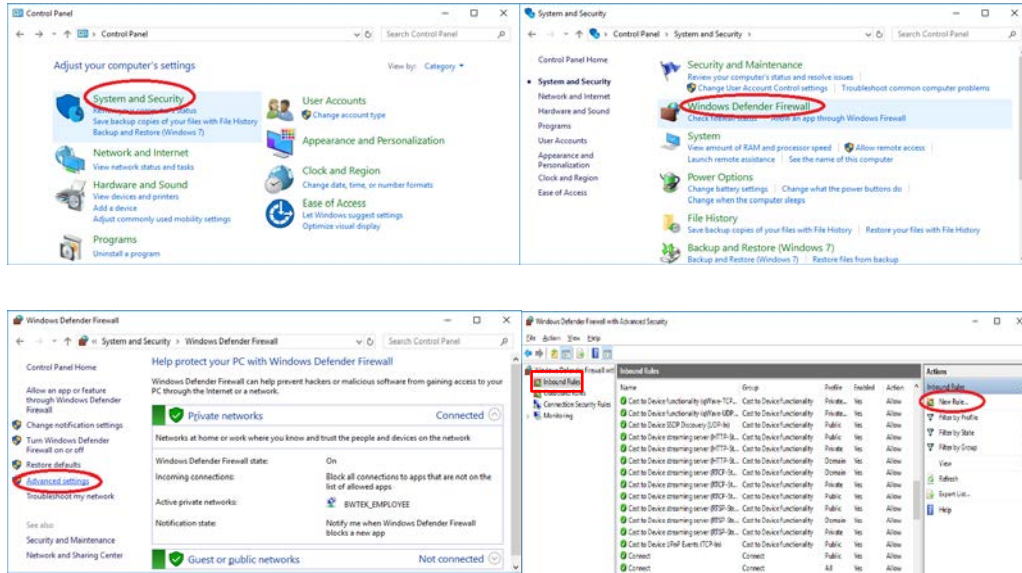
    2. On the "Rule Type" page, select "Port" -> Next -> Choose "TCP". In "Specific local ports", enter: **12201, 8732** -> Next.

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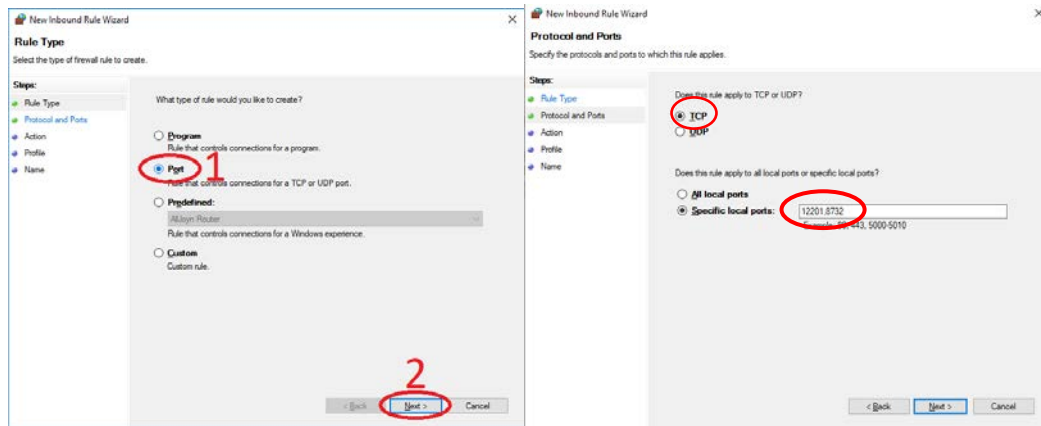
3. On Action page, choose "Allow the connection" -> Next. In Profile page, check Domain, Private, Public -> Next.
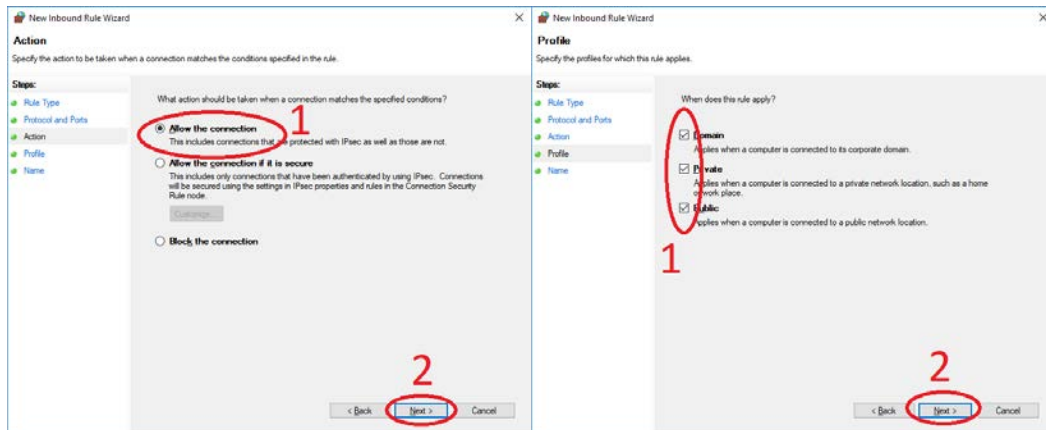
4. On Name page, name it "TacticID Plus TCP" -> Finish. Then Create another New Rule -> Select "Port" -> Next.
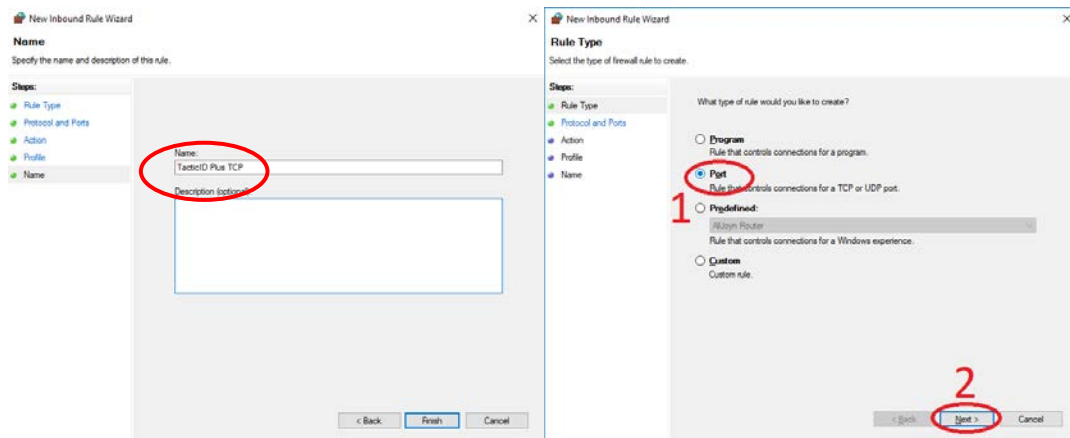
5. Choose "UDP". In "Specific local ports", enter: **12202, 12203** -> Next. 3. On Action page, choose "Allow the connection" -> Next.

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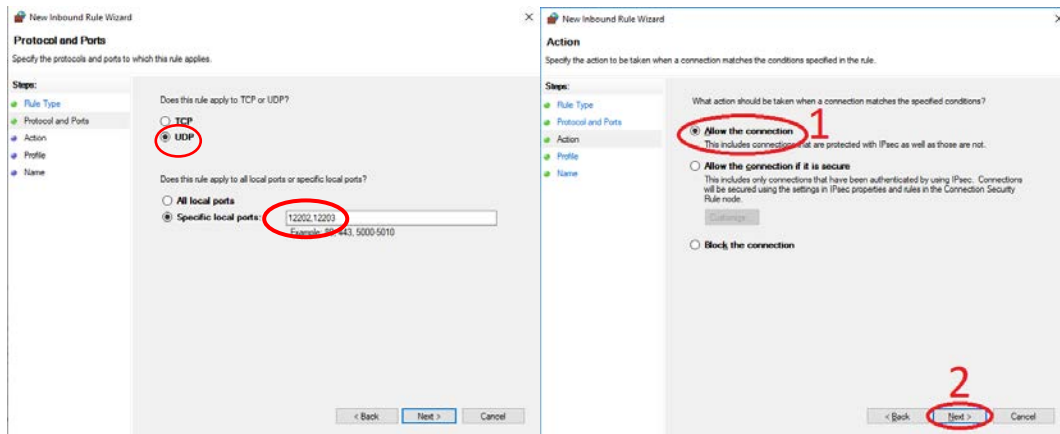
6. On Profile page, check Domain, Private, Public -> Next. Then Name it "TacticID Plus UDP" -> Finish.
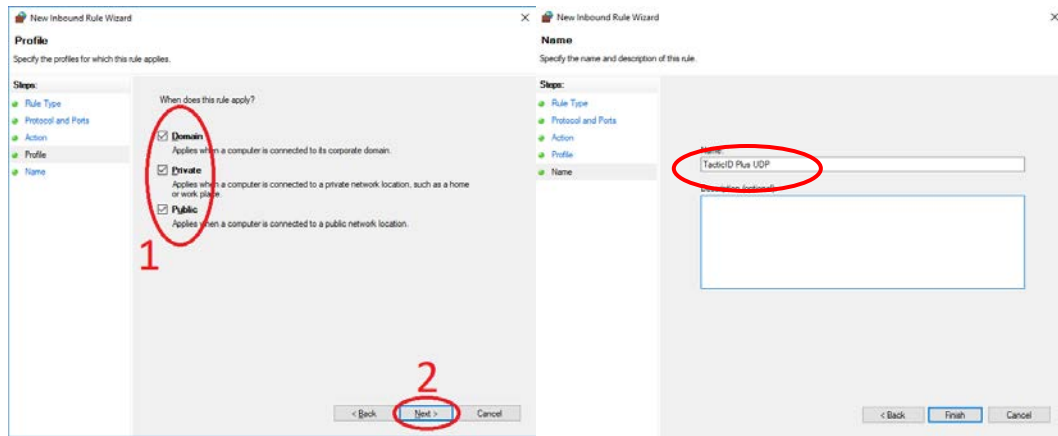
7. User may configure Outbound Rules as well by repeating this procedure from 1 to 6.

c. TID Login

TID Plus software accepts different levels of accounts login for data management:

a. The "IT ADMIN" account offers functions to configure IT settings shown in section 7.h);
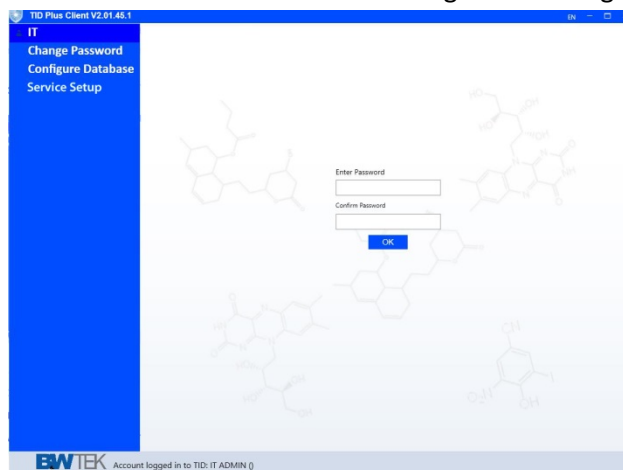
b. Login as "TID ADMIN" with default password 999999 for first-time use when MySQL database has never been synchronized. After synchronization, this account will be disabled.

c. Account of "ADMIN" and all user accounts are accepted for user login for data management when the database is initialized.

d. IP address configuration

Make sure Device is powered on and connected to PC where TID Plus is installed. Start TID Plus and log into server to reach interface as given below:
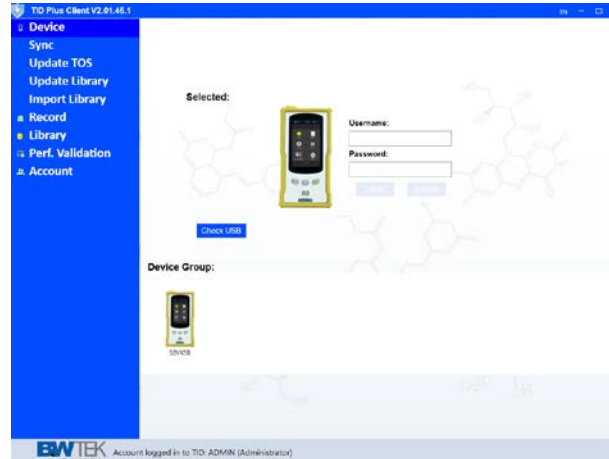
The button "Check USB" is activated when device is detected. Click this button and the IP address of this connection will be configured automatically.

In some scenarios due to IT restriction, the automatic IP address configuration for USB connection will not work after clicking this button. In this case manual setup is required by authorized IT personnel:
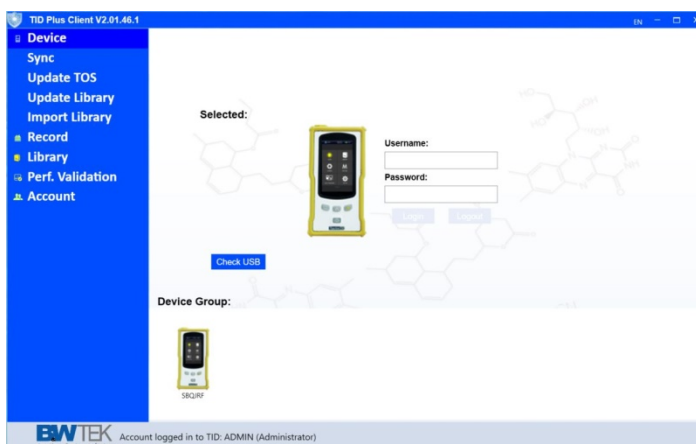
1. Go to "Network and Sharing Center" in Windows 10 or equivalent program in Windows 7 or 8, and find the network connection which is associated with this device. You can plug and unplug the USB to differentiate if there are multiple connections in your Network setting:

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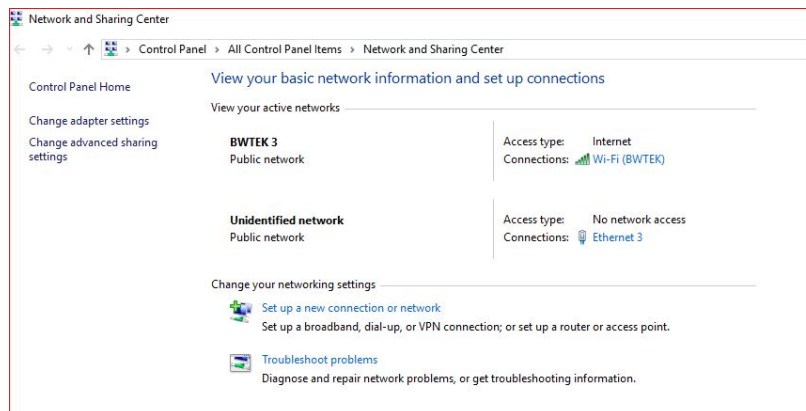
2. Click the Connections for example Ethernet 3 shown above and then click Properties:
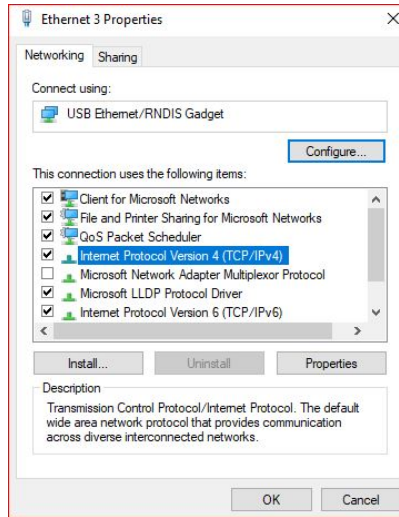
3. Select: Use the following IP address and configure as below. Contact B&W Tek for support if this IP address is not available on this computer.
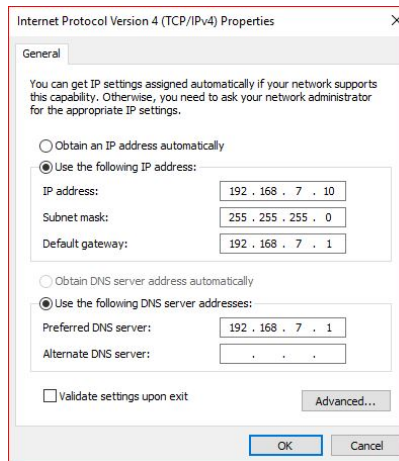
4. On the TacticID® Plus Device, log in with any valid user account, and go to Data Transfer and select the USB connection – so have green check mark next to it:
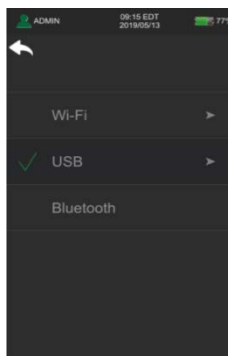
5. The icon with the correct device SN will show up under Device Group in the TID Plus interface. The communication is established successfully.
    Note: If icon does not show up under Device group, double check firewall setting and IP configuration, or call B&W Tek support for help.
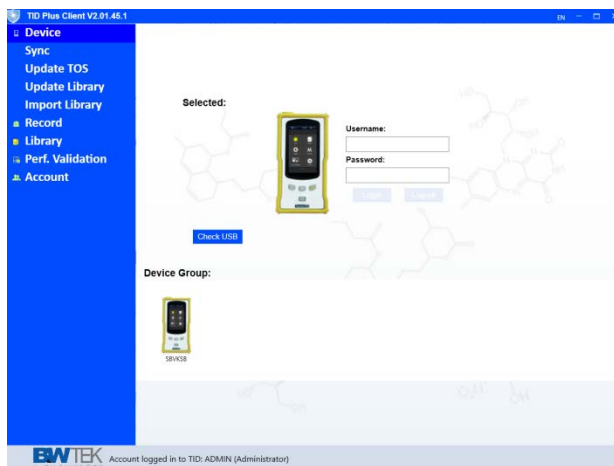
6. Please note that this IP configuration is associated with a specific USB port. User must reconfigure this IP address for each port if switch automatically or manually.

4. Appendix I Microsoft Root Certificate Authority Update Instruction

The following information can be references for failure in installing .NET Framework 4.6.2:

The .NET Framework 4.5 redistributable was updated on October 9, 2012 to correct an issue related to an improper timestamp on a digital certificate, which caused the digital signature on files produced and signed by Microsoft to expire prematurely.

- docs.microsoft.com/en-us/

This issue occurs when this certificate MicRooCerAut2011_2011_03_22.cer is missing particularly when you operate in an environment that's disconnected from the Internet or that has a firewall that blocks content from http://ctldl.windowsupdate.com. This behavior is due to recent changes to Microsoft Windows Enforcement of Authenticode Code Signing and Timestamping.

- https://blogs.msdn.microsoft.com/

Here is the solution to manually import the missing certificate:

Step 1:
In your keyboard, press the **Win** key and **R** key at the same time to bring up the Run dialog. Enter **certmgr.msc** and click the **OK** button.
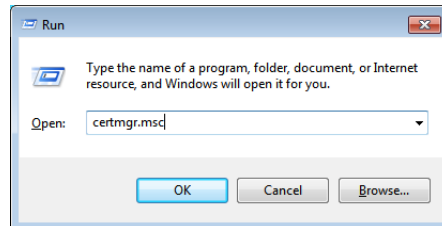
Step 2:
Right-click the "**Trusted Root Certification Authorities**", then click the "**All Tasks**", then "**Import**".
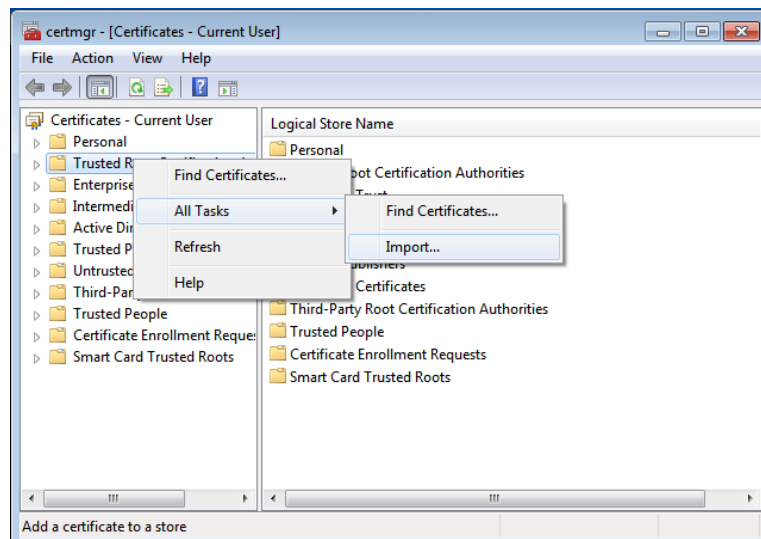
Step 3:

Click the **Next** button on the Certificate Import Wizard, then use the **Browse** button to locate the certificate file in the installation folder of Prerequisites, then click the **Next** button on all of the following pages. On the last page, click the **Finish** button. If a security warning pops out to let you that you are installing the Microsoft Root Certificate Authority 2011, Click the **Yes** button to complete the import.
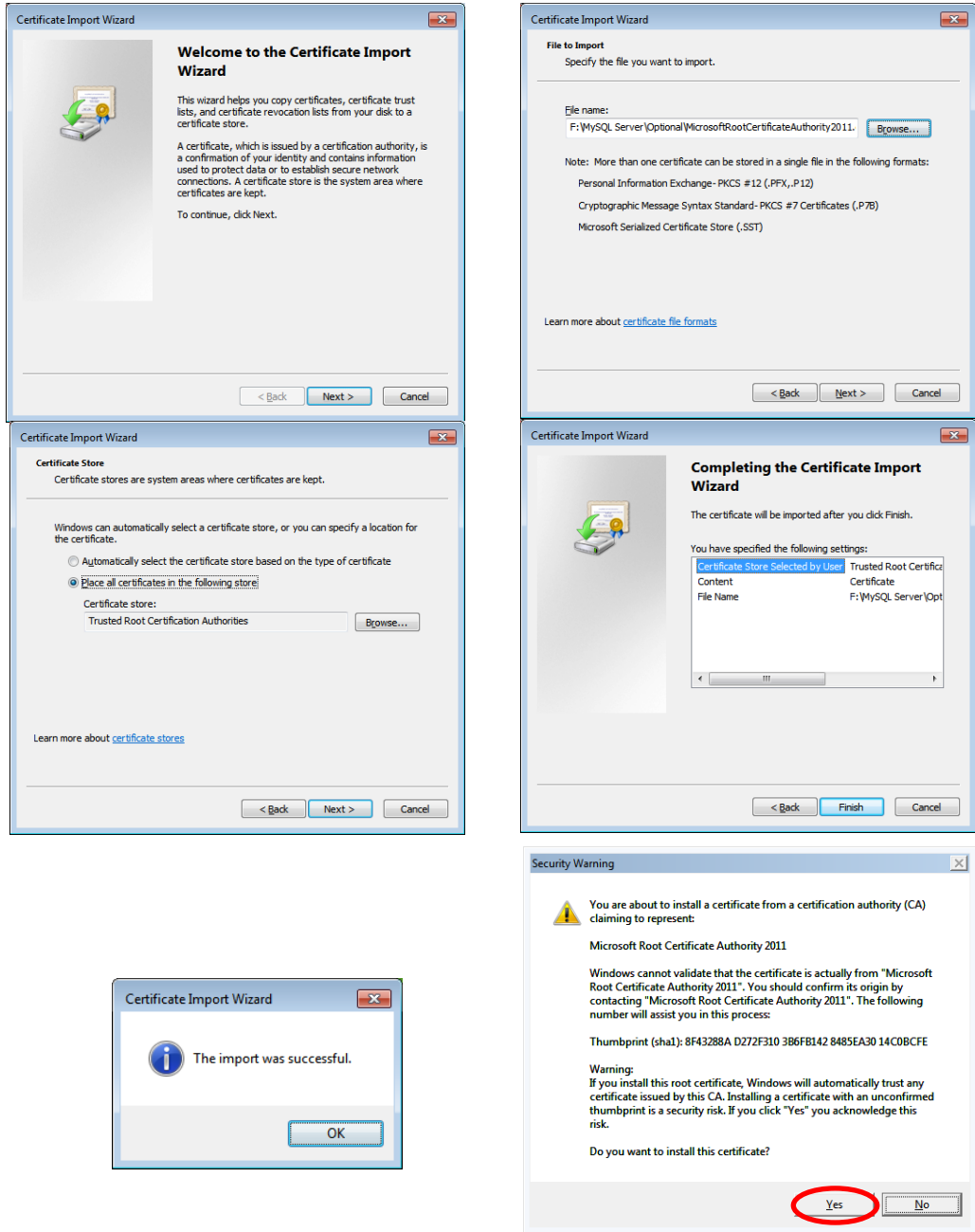
Step 4:

Locate **NDP462-KB3151800-x86-x64-AllOS-ENU.exe** in the folder TID_Plus_2.01.46.1 Installation\MySQL Server\. Right click this program and **Run it as administrator** to install;

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5. Appendix II Frequently Asked Questions

1. What if Device is identified as USB Serial device (COM port) and not as RNDIS device?
Solution:
a) locate the file "5-runasadmin_register-CA-cer.cmd" in the folder TID_Plus_2.01.45.1 Installation\ Prerequisites\, right click this file and Run it as administrator;
b) in Device Manager, find this device and right click to update driver;
c) Manually locate the folder of TID_Plus_2.01.45.1 Installation\ Prerequisites\ kindle_rndis.inf_amd64-v1.0.0.1\ and click Next;
d) Device is recognized successfully as "Kindle USB RNDIS Device(USBNetwork enabled).

2. What if TID Plus Database Service cannot start in Windows Services?
Solution:
Most of the time this is due to the port conflict between TID Plus and other software preinstalled on the same computer. The list of ports used in TID Plus software is provided in section 9 of this document. Disable other services which are conflicting. So far HP JumpStart has been identified as a conflicting app, but we will update this list continuously.

3. What if after connecting TacticID® device to PC and login to both TOS and TID software, the device SN does not show up in the Device Group?
Solution:
a. In TOS/Data Transfer, go to the configuration page of selected connection to see if it is disabled, if yes enable it;
b. Check if switched to USB port other than the one connected before. If yes, click "Check USB" again;
c. In some scenarios, due to the restriction of IT setting, user may go to network and manually configure the IP address. Check relevant section of this document for details;
d. If connection is through Wi-Fi, check both Device and PC are under the same network;
e. Check firewall setting to make sure TID Plus program is allowed to go through firewall in both public and private network;
f. If MySQL service is located in another computer of the same network, make sure both computers have inbound/outbound rules set correctly.

4. What if I forget MySQL root password?
Solution:
Firstly, shut down service mysql57. Go to C:\ProgramData\MySQL\MySQL Server 5.7. *Note that ProgramData is a hidden folder*. Find the file my.ini, and open it and add one line skip-grant-tables below [mysqld]

```
[mysqld]
skip-grant-tables
```

Secondly, start service mysql57, by right, you can access the database, run mysql -u root –p in cmd under database directory to access the database. Typically the directory is C:\Program Files\MySQL\MySQL Server 5.7\bin, and then use the query below to update the password:
update mysql.user set authentication_string=password('NEW_PASSWORD') where user='root';
The 'NEW_PASSWORD' should be the new password you want to set.
Finally, shut down the service again. Remove the line 'skip-grant-tables' from my.ini and save it. Start the service again and try to use the password you set to login MySQL root.