TID21 Software

Installation and Setup Guide

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1. Scope

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

- **TOS-1064, version 1.02.159.0 or higher**, installed on the TacticID-1064/TacticID-1064ST devices
- **TOS-XM, version 2.0.983 or higher,** installed on the TacticID Mobile device
- **TID21, version 1.01.77.18 or higher,** installed on the PC

To ensure that software functions correctly, you **MUST** use **compatible versions of TID21 and TacticID series devices, as indicated in the Packing List or Release Note.**

2. Operating System Compatibility

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

- Windows 8, 64 bit (Pro and Enterprise)
- Windows 10, 64 bit (Pro and Enterprise)

We recommend that the user set the default system locale to English (United States) to ensure compatibility with TID21.

3. Minimum Hardware Requirement

Your PC must meet or exceed the following hardware specifications:

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

4. Installation Package

Upon delivery of the TacticID Mobile 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 include the following information in the Questions/Comments section:

- That this is a request for **TID21 installation issues**;

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- The current TOS and library version on the TacticID Mobile device and/or TacticID-1064/ST devices;
- The current TID/TID Plus/TID EX/TID21 version installed on your PC (if any).

Once your request has been authenticated, a support ticket will be generated and your request will be answered by our support specialists.

5. Installation Prerequisites

The following requirements must be met to ensure proper software installation and operation; the required installation components are included on the USB drive provided by B&W Tek. Please copy the "TID21_1.01.77.18_Installation_FD" folder to your PC before beginning installation.

1. The user **MUST** have **Windows Administrator privileges** to install and configure the software;
2. Internet access is highly recommended during the installation process;
3. *.NET Framework 4.6.2* or newer is required for running this software:
    a. The installer will automatically detect if the proper version of *.NET Framework* is already installed.
    b. If not, locate *NDP462-KB3151800-x86-x64-AllOS-ENU.exe* in the folder under TID21_1.01.77.18_Installation_FD\MySQL Server\. Right click this program and choose **Run as administrator**.

    A trusted root certificate from Microsoft is required to install .NET Framework. Ensure that your PC can access the internet. If internet access is not available, please refer to Microsoft Root Certificate Authority Update Instruction in Appendix I.
4. TID21 requires Microsoft Visual C++ 2013 Redistributable (x64) (version 12.0.30501 or newer), Microsoft Visual C++ 2013 Redistributable (x86) (version 12.0.30501 or newer), Microsoft Visual C++ 2015 Redistributable (x64) (version 14.0.23026 or newer), and Microsoft Visual C++ 2015 Redistributable (x86) (version 14.0.24215 or newer). All installers are located in TID21_1.01.77.18_Installation_FD\Prerequisites

For further assistance, please contact B&W Tek Support.

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Please follow the steps below to fully install and configure the software. Skipping any operation or screen will cause installation or software FAILURE!

Please keep all username and password information created during installation in a safe and accessible location. B&W Tek is not responsible for account recovery!

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6. MySQL Server Installation and Configuration

MySQL Server provides the backend database services for TID21. Installation and configuration of MySQL is required in order for TID21 to function.

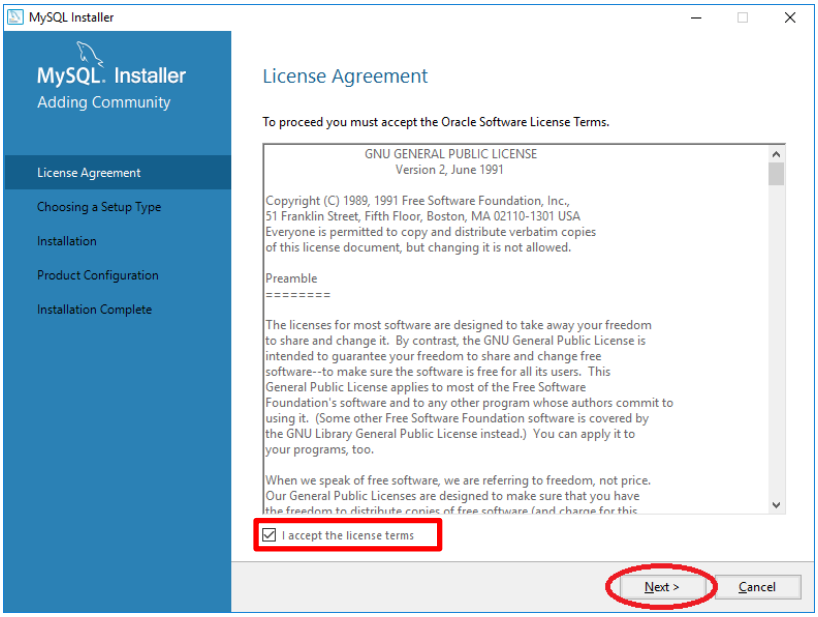
The MySQL Server installer will automatically check if your setup meets all necessary prerequisites. If a compatibility screen displays during installation, click on “Execute” to install.

The versions listed below have been verified to be compatible with TID21.

- MySQL Community 5.7.18.0 or newer

NOTE: If the proper version of MySQL Server is already installed, you can skip MySQL Server installation. Please confirm the MySQL Server configuration settings in the following pages, and continue with TID21 Installation and Configuration in Section 7.

- In the folder TID21_1.01.77.18_Installation_FD\MySQL Server\, launch **mysql-installer-community-5.7.18.0.msi.**
- “License Agreement”: Make sure “I accept the license terms” is checked, then click **Next.**



- “Choosing a Setup Type”: choose “Server only,” then click **Next.**

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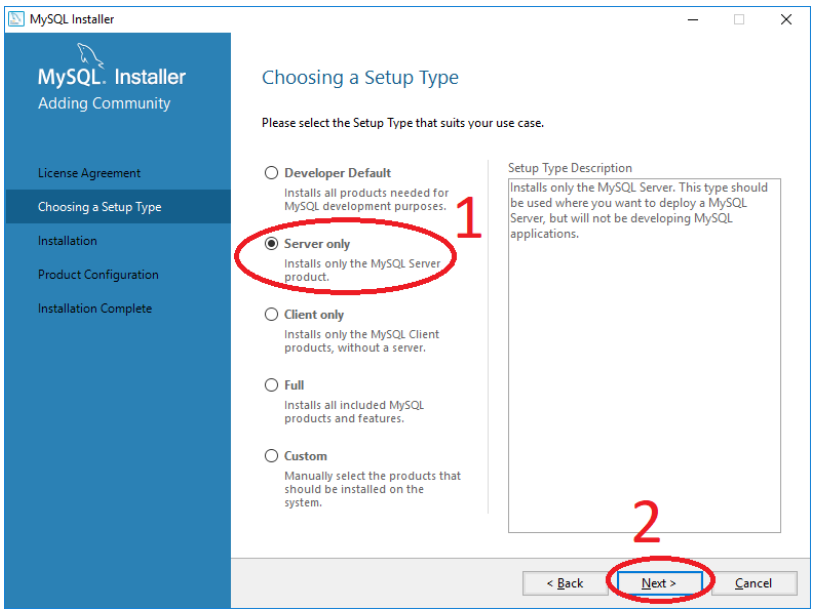
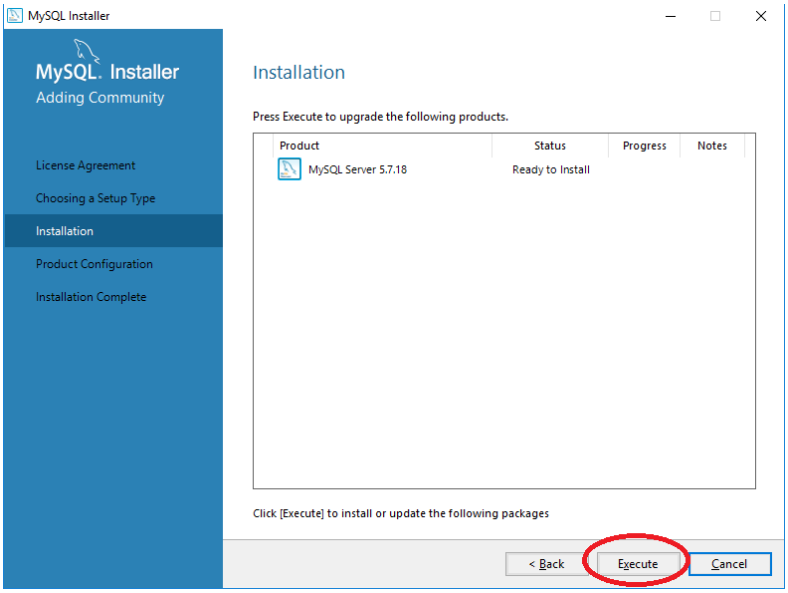


- Installation: click **Execute** to begin installation.



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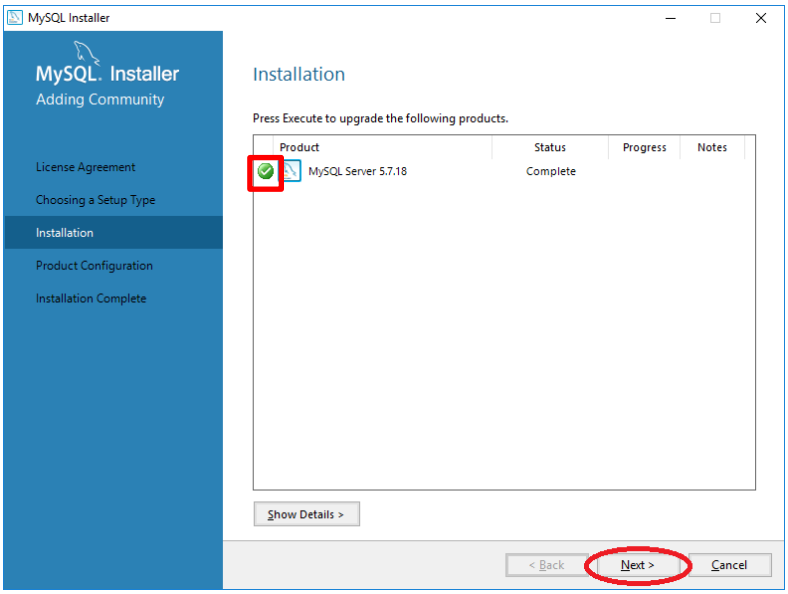
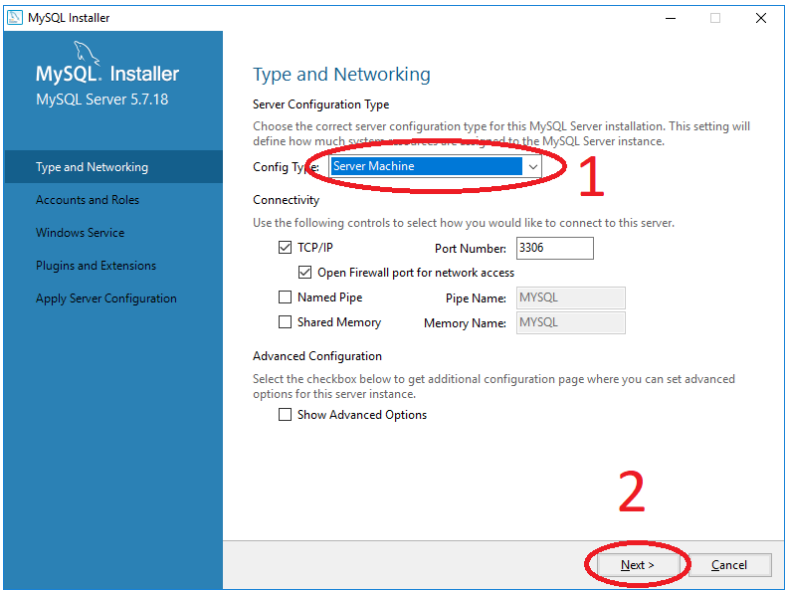
- When the installation is completed, a green check mark will appear. Click **Next** to begin configuring MySQL.



- "Type and Networking": set "Config Type" as "**Server Machine**" and keep other settings as shown below. Click **Next**.



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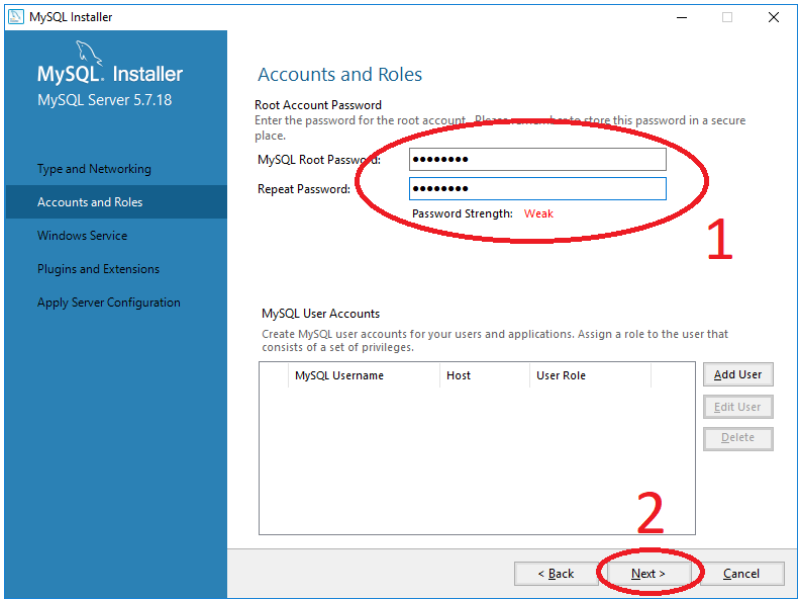
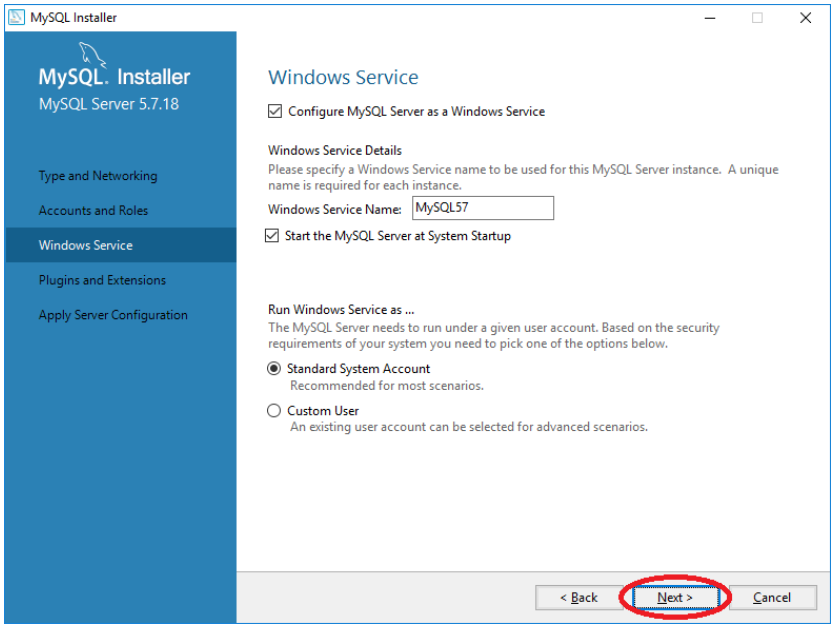
- "Accounts and Roles": create a MySQL Server Root Password. This password must contain ASCII printable characters (uppercase, lowercase, numbers, or special characters). This password should not contain special characters that require a language pack.
  Document this password and store it securely



- "Windows Service": ensure configuration matches the image below, then click **Next**.



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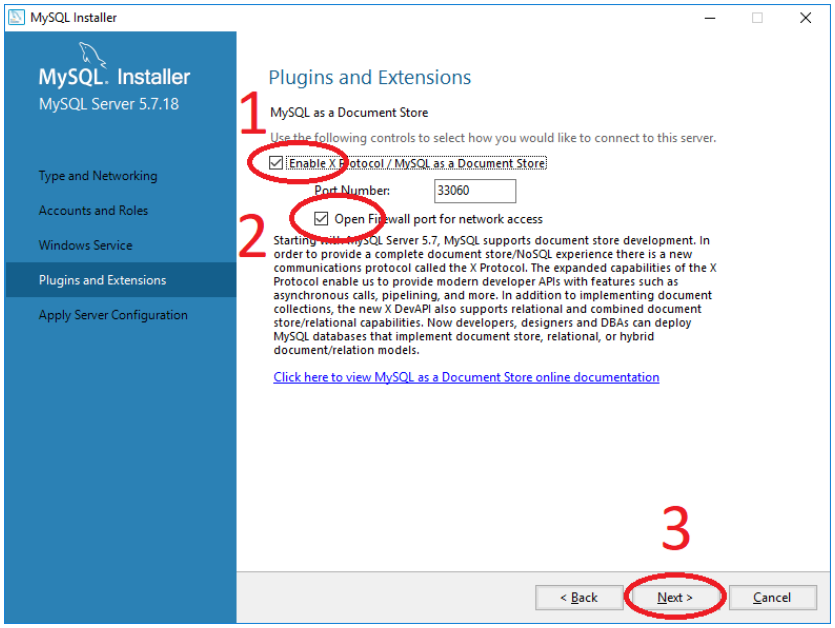
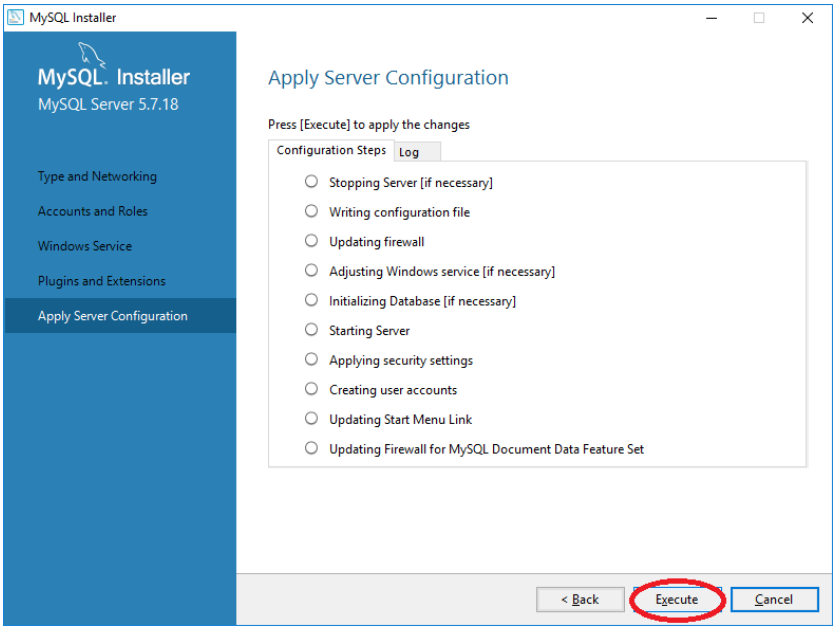
- "Plugins and Extensions": enable X Protocol and specify "Port Number" as 33060. Select "Open Firewall port for network access" and click **Next**.



- "Apply Server Configuration": click **Execute**. It will take some time for all configuration steps to finish; no action is required during configuration.



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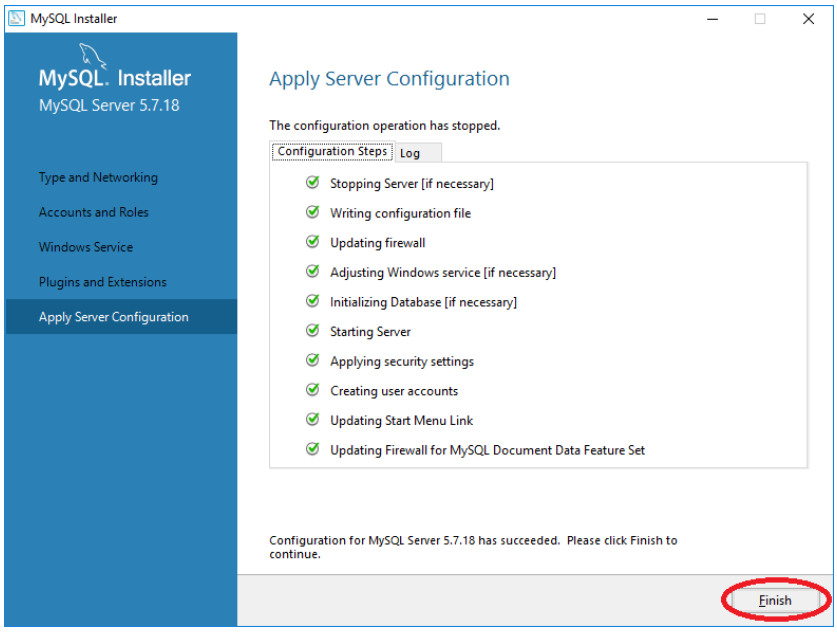
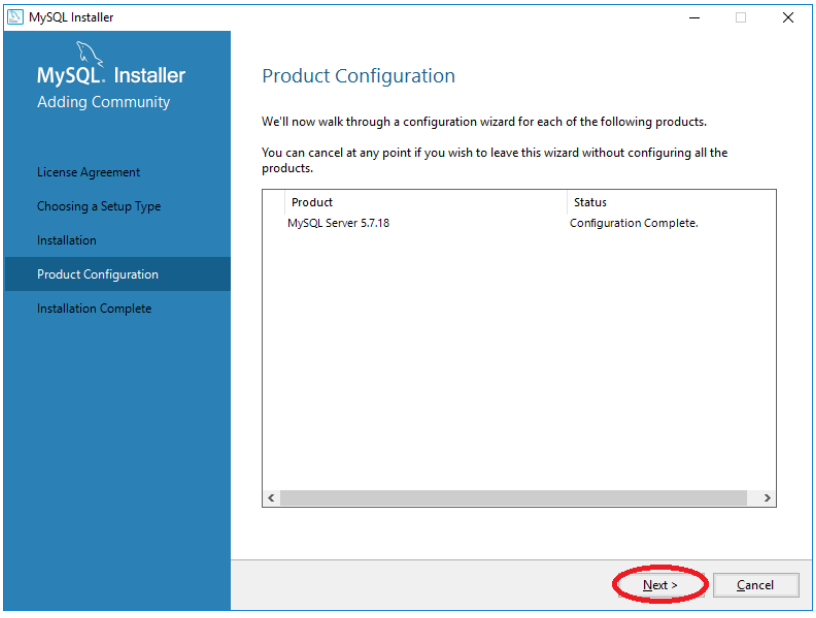
- Configuration is complete when all items are checked. Click **Finish**.



- "Product Configuration": MySQL configuration is complete. Click **Next**.



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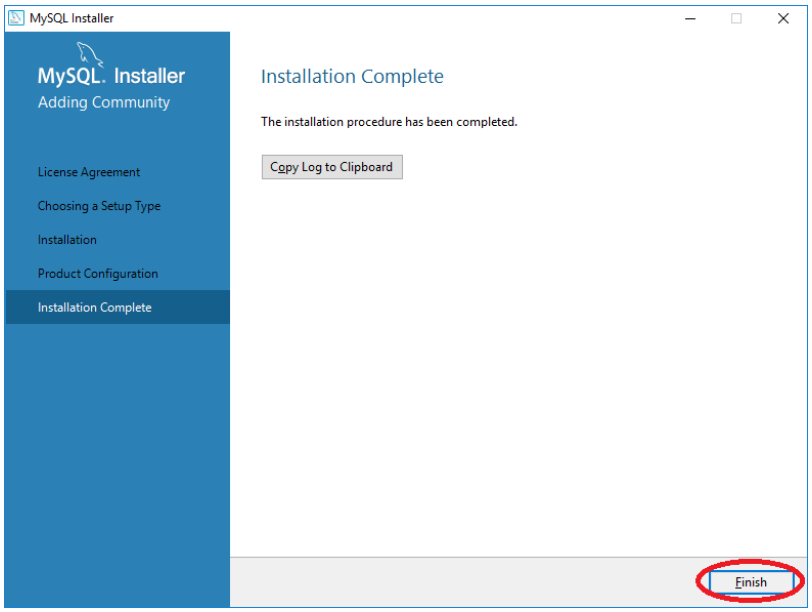
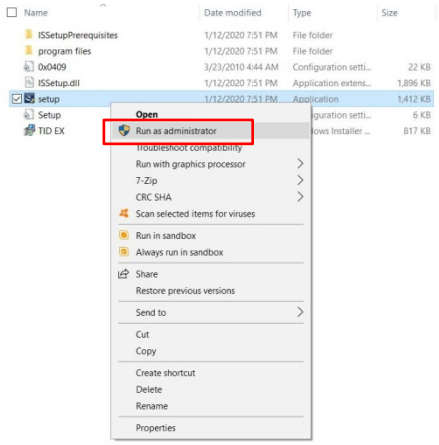
- "Installation Complete": click **Finish** to complete MySQL Server installation.



7. TID21 Installation and Configuration

After successful installation and configuration of MySQL Server, TID21 can now be installed.

- In the folder \ TID21_1.01.77.18_Installation_FD\TID21_v1.01.77.18\, launch ***setup.exe*** by right-clicking the icon and selecting **Run as administrator**. Click **Yes** if presented with a User Account Control message.



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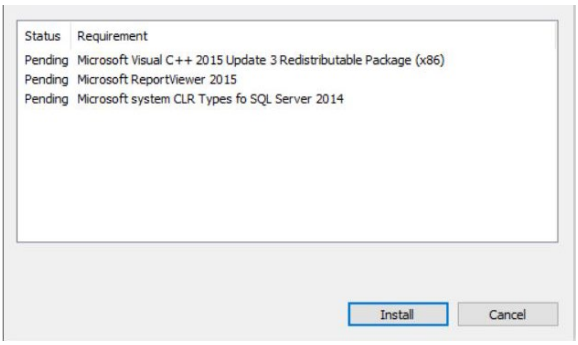
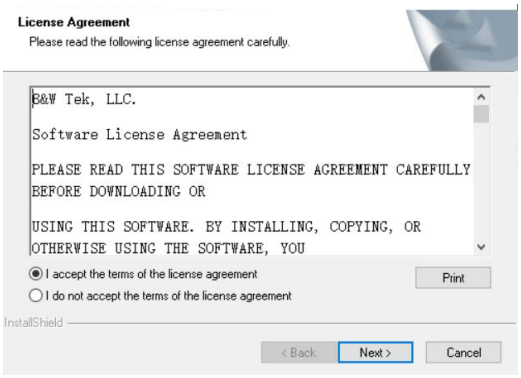
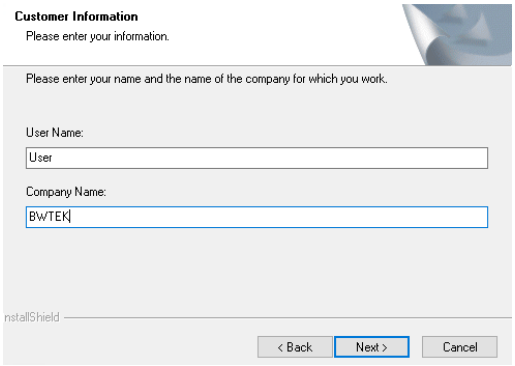
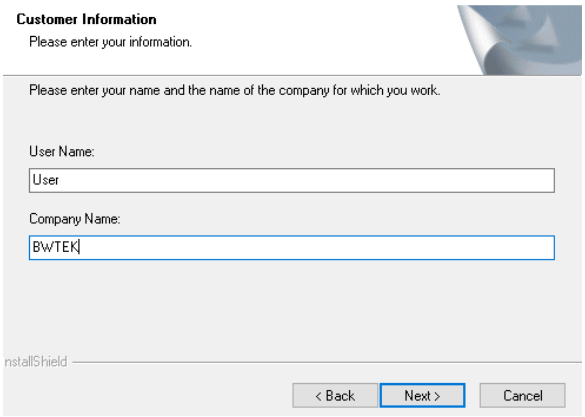
- The installer will automatically check whether you have installed the necessary prerequisites for setup. Click **Install** and reboot your computer if required.



- Read and accept the end-user license agreement. Complete your User Name and Company Name information. Choose Complete setup and the default installation location: C:\Program Files (x86)\BWTEK\TID21\. Click **Next.**







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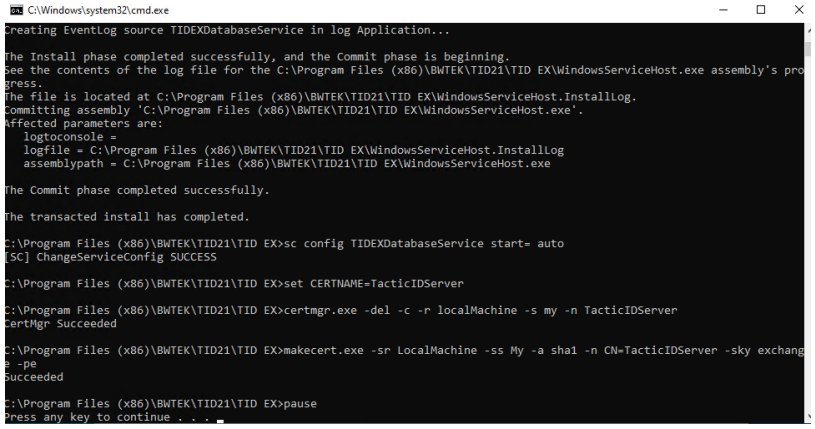
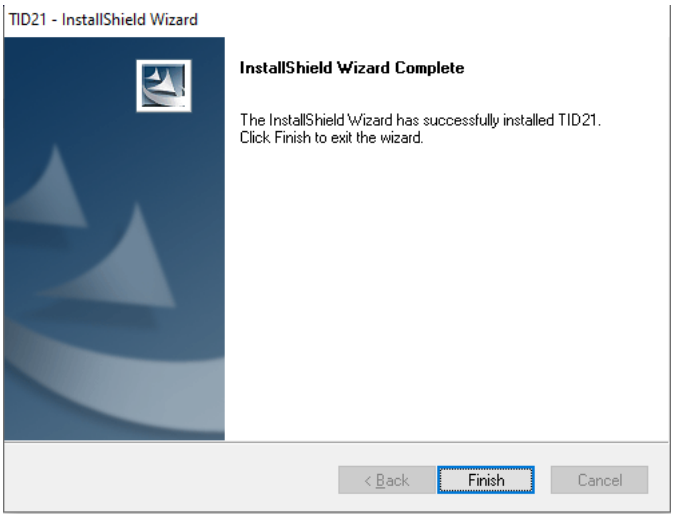
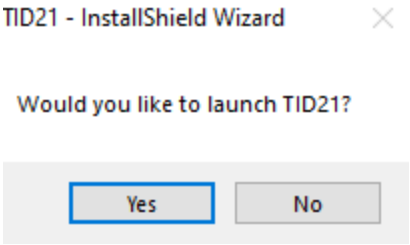
- During the installation, the following screen may appear and installation may pause temporarily. Press **any key** to continue.



- When the installation is done, click **Finish.**



- The message shown below will appear. For first-time installation, click **No** to exit; if this is a software upgrade, click **Yes** to finish.



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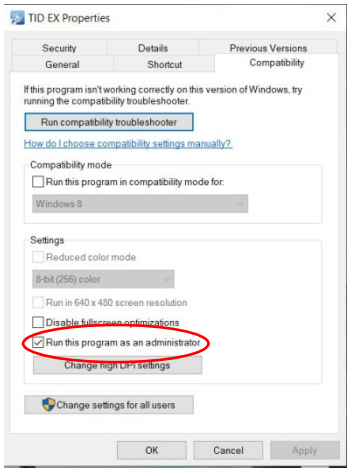
- Installation of TID21 software is complete. The icon for **TID21** will appear on the Desktop. Right click **TID21** and left click on **Properties**. Under the **Compatibility** tab, check **Run this program as an administrator**. Click **Apply** and then **OK**. If this option is already enabled, click **OK** to exit.



- Launch **TID21** from the Desktop; the TID21 login screen will appear. Choose the appropriate device to go to the login screen and configure the database before use.

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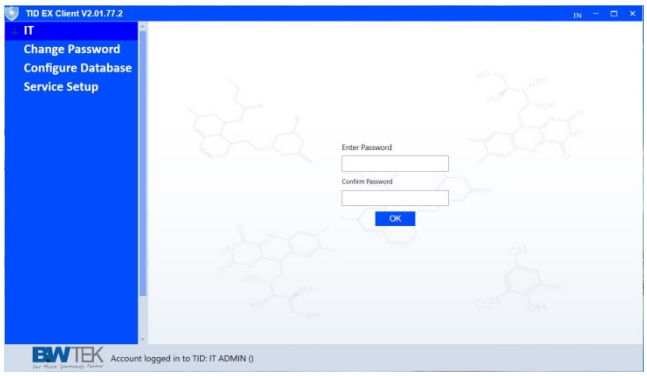
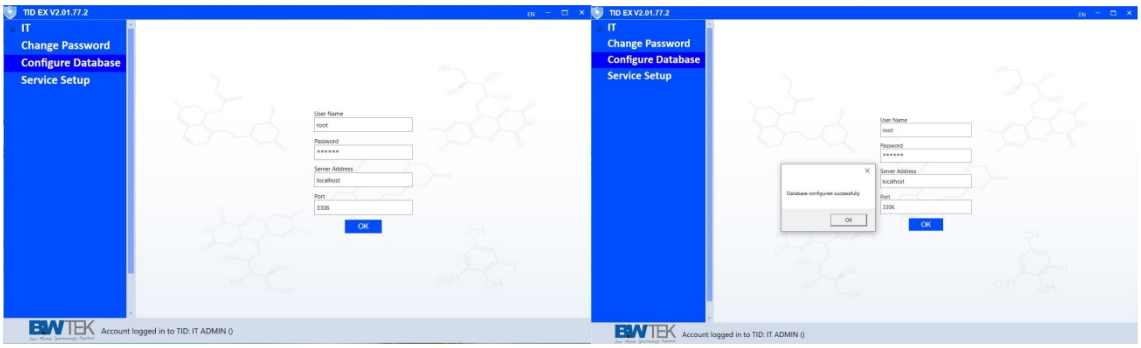
- Enter username “IT ADMIN” with default password “999999”; click **Login** to continue. A device SN is not required to log in as “IT ADMIN.”



- “Configure Database”: If this is the first time configuring TID21 on this computer, configure the database as follows. Otherwise, skip this step and continue to “Service Setup.”
  Configure the database as shown below, using the password created for MySQL Server in the previous section. Click **OK** to save the configuration. A message “Database configured successfully” will appear. Click **OK** to finish.
  User Name: root
  Password: the MySQL password you setup previously
  Server Address: localhost
  Port: 3306



If a failure occurs in database configuration, contact B&W Tek support.

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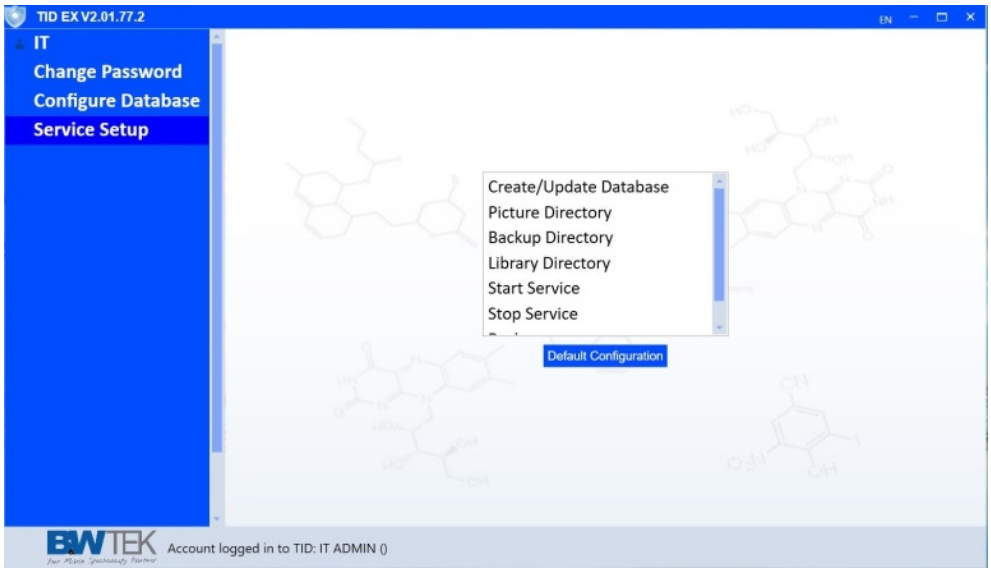
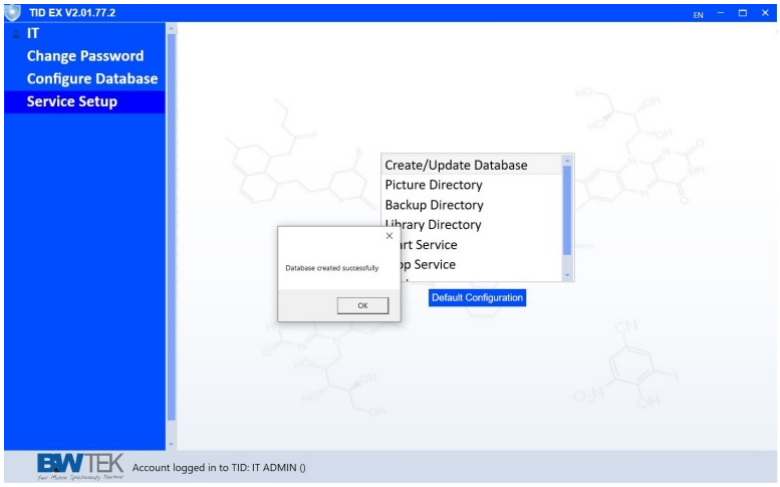
- "Service Setup": this screen lists functions related to database service setup and configuration.



  - Select **Create/Update Database**: (the database creation process may take some time). When complete, a message like the one below will appear. Click **OK** to finish.



If a failure occurs in database creation, contact B&W Tek support.

  - Select **Stop Service**. A message that reads "Would you like to stop service?" appears. Click **OK. Wait until the message "Services stopped successfully" show up.**

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- Select **Start Service**. A message that reads "Would you like to start service?" appears. Click **OK. Wait until the message "Services started successfully" show up.**

- Exit the IT Configuration window by clicking **X** on the top right.
- **Optional:** Search via the Start menu for "Services." In the services list, find "TID 21 Database Service" (for TacticID Mobile users) and "TID EX Database Services" (for TacticID-1064/ST users) and confirm it is running and the Startup Type is shown as Automatic. If not, change it to Automatic.

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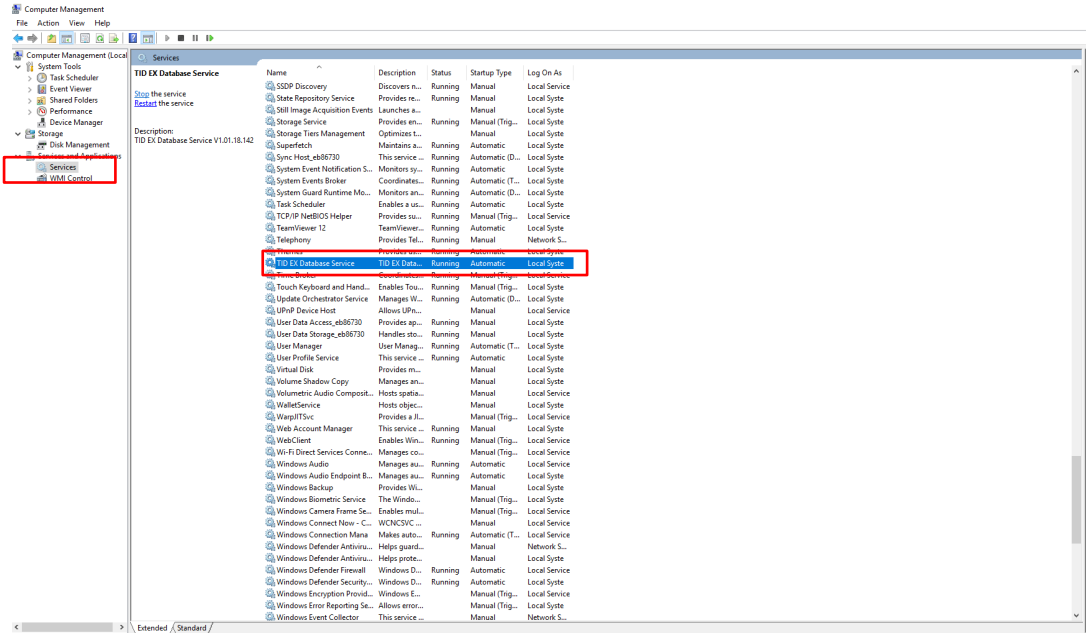

8. Device USB Driver Installation (for TacticID-1064/ST devices only)

For TacticID Mobile users, this step can be skipped.

If USB connection is used to connect the TacticID 1064/ST device and TID21 on the PC, the device driver may need to be installed on PC. Generally, the device driver will be installed on PC automatically once the connection is established between the device and the PC using the USB cable shipped with the system. The following steps will guide the users to check whether or not the device driver installation is completed.

1. Power on the TacticID-1064/ST device;
2. Insert one end of the USB cable into the MicroUSB port of the TacticID-1064/ST device and insert the other end into a USB port on the PC;
3. A message “a device is plugged in and may need further configuration” may appear. Wait until the driver is installed automatically on the 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.

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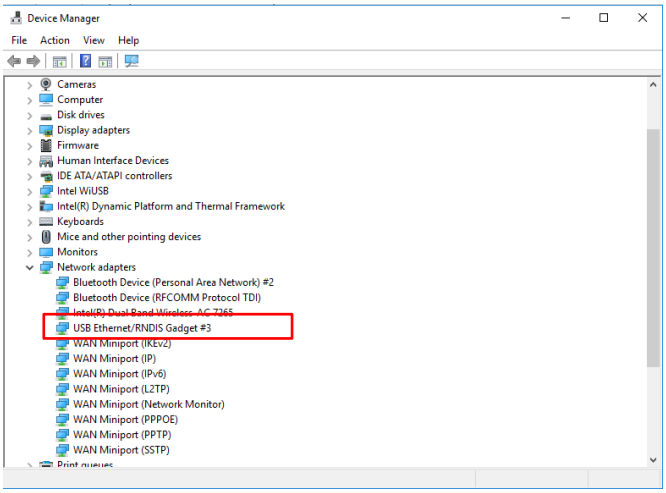
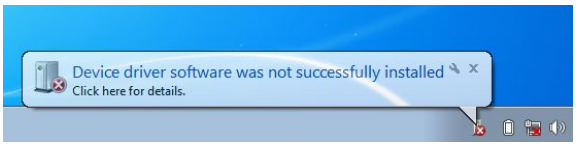


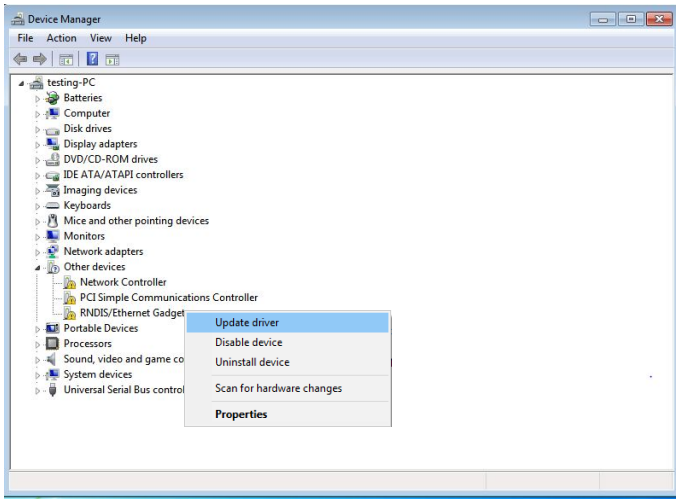
6. Manual driver installation:

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

If the USB driver cannot be installed automatically, perform operation steps 1-3 listed above to make the physical connection of the TacticID Mobile to the PC.



a. In the Windows search bar, type “Device Manager” and find the malfunctioning USB device “RNDIS/Ethernet Gadget”. Right click this device and select **Update Driver**.



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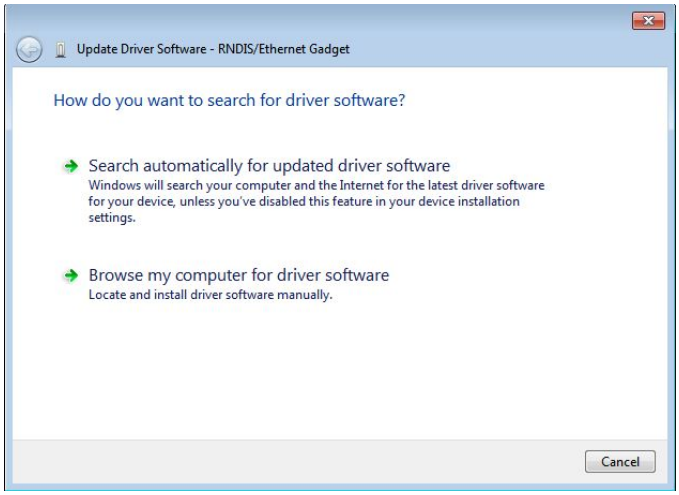
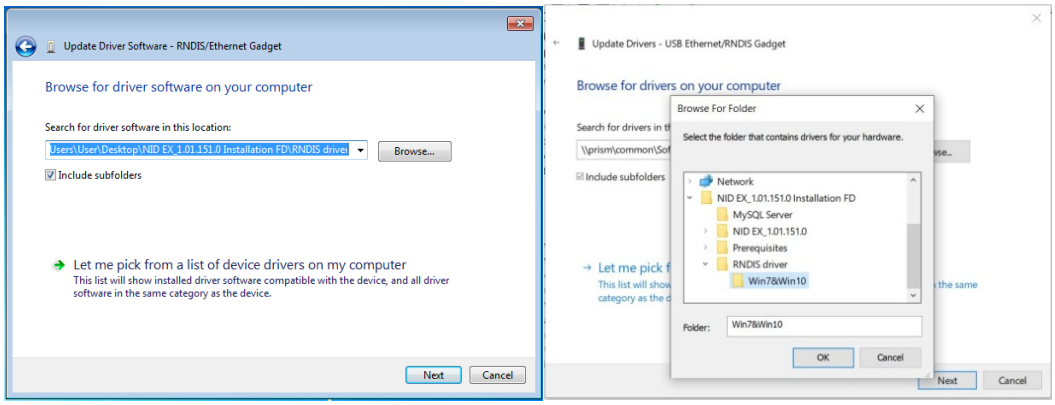
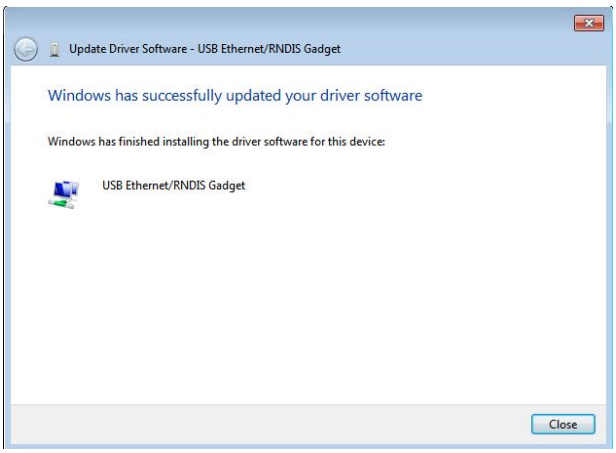
b. Select **Browse my computer for driver software**;



c. Click “Browse” and navigate to the folder of “RNDIS driver” in the TID21 installation folder:



d. Click **Next** and then wait until the driver is installed successfully onto the computer:



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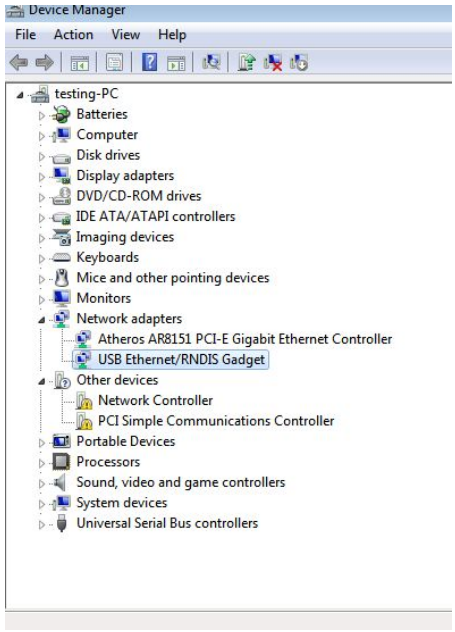
e. Go back to Device Manager to confirm the “USB Ethernet/RNDIS Gadget driver” is installed and running properly:



9. Firewall Configuration

Note: Please present this document to your IT administrator. Use the procedures to check or set firewall configuration only when a connection cannot be established between TacticID Mobile/TacticID-1064/ST device and TID21.

This procedure is to ensure proper communication can be established between the TacticID series device and TID21 on the PC. Certain network traffic rules and Windows Firewall settings may need to be applied. **Third Party Antivirus or Firewall** software (such as McAfee, Norton Endpoint, Avast etc.) may block or conflict with communication between the device and software. Consult your IT Department regarding firewall configuration.

- Communication Port Requirement

  The TacticID Mobile and TacticID-1064 series product uses several specific network ports to establish communication between database services on 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 applications, may block or conflict with communication between the device and software. The specific ports used are:

MySQL Server:
- TCP: 3306, 33060

TacticID Mobile:
- TCP: 22101, 22102, 12501, 8735

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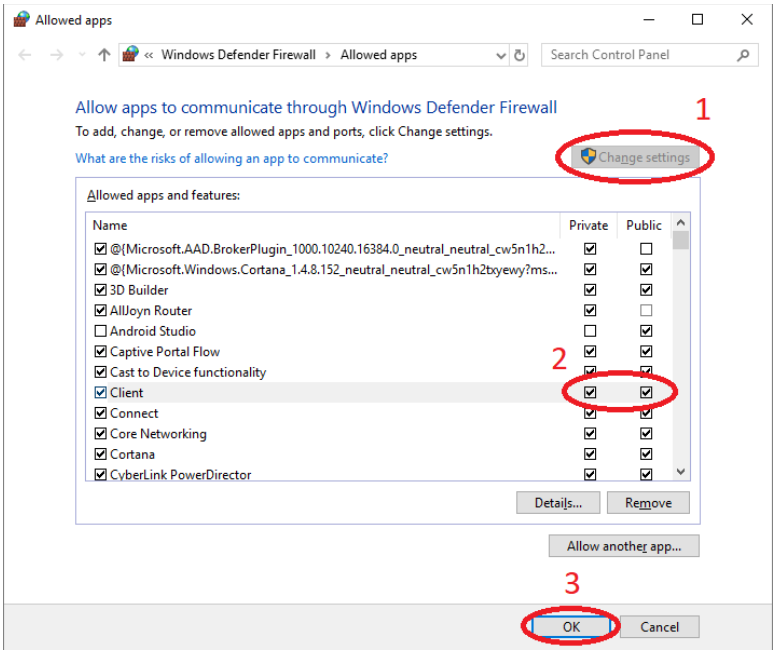
- UDP: 12502, 12503

TacticID-1064/TacticID-1064ST:

- TCP: 12301, 8733
- UDP: 12302, 12303

- Allow Programs through Windows Firewall
  1. Open Windows Firewall from the Control Panel. Click on **Allow a program or feature through Windows Firewall.**

  2. Click on **Change settings** and find **Client**. Enable both Home/Work (Private) and Public categories, and check the checkbox. Click **OK** to exit. (You might see multiples of them that belongs to TID21)



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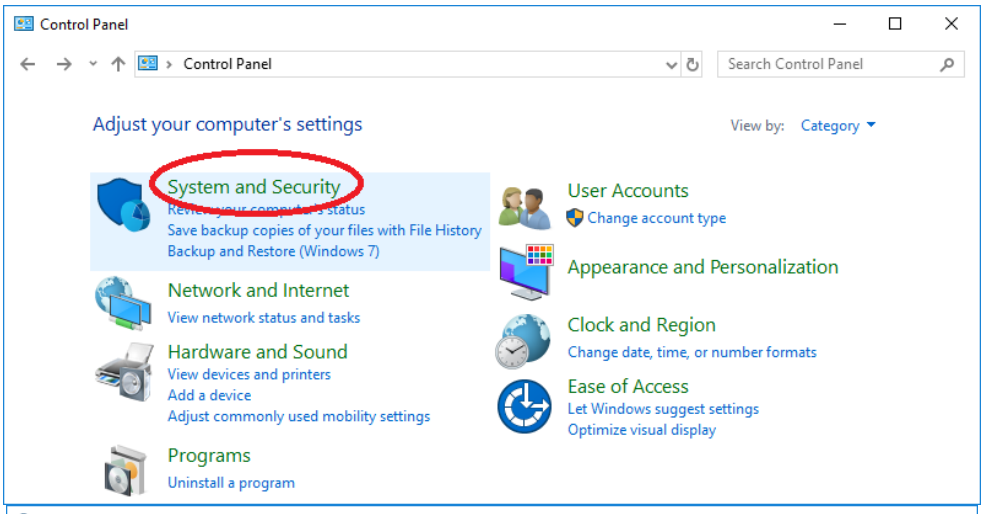
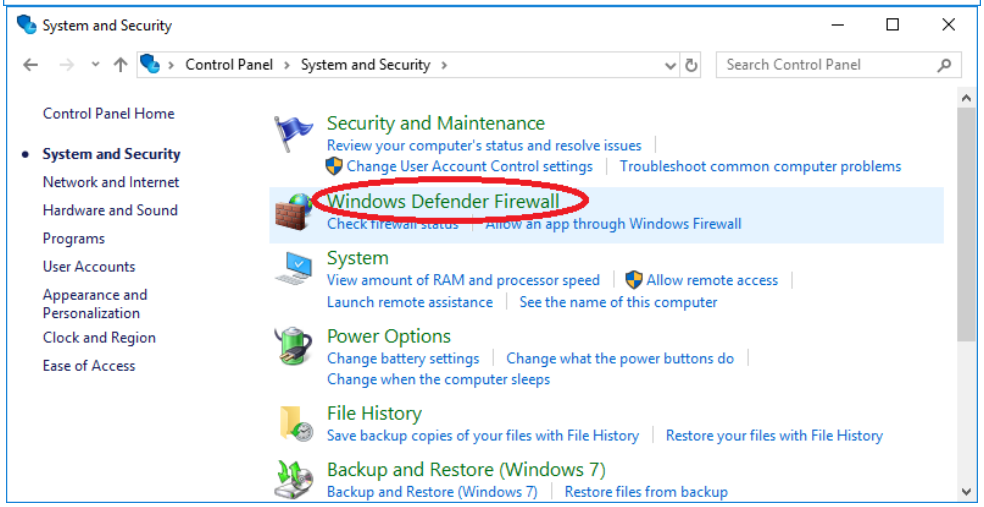
NOTE: In a scenario where "Client.exe" is not listed, the program will need to be added manually. Click on **Allow another app**. Find the program in the following directory: "C:\Program Files (x86)\BWTEK\TID21\TID Client.exe" (for TacticID Mobile) and "C:\Program Files (x86)\BWTEK\TID21\TID EX\TID Client.exe" (for TacticID-1064/ST). Then click on **Add** and follow step 2 above.

- Windows Firewall Rule Configuration
  1. Navigate to "Control Panel" (Category View) -> "System and Security" -> "Windows Defender Firewall" -> "Advanced settings" -> "Inbound Rules" -> "New Rule."





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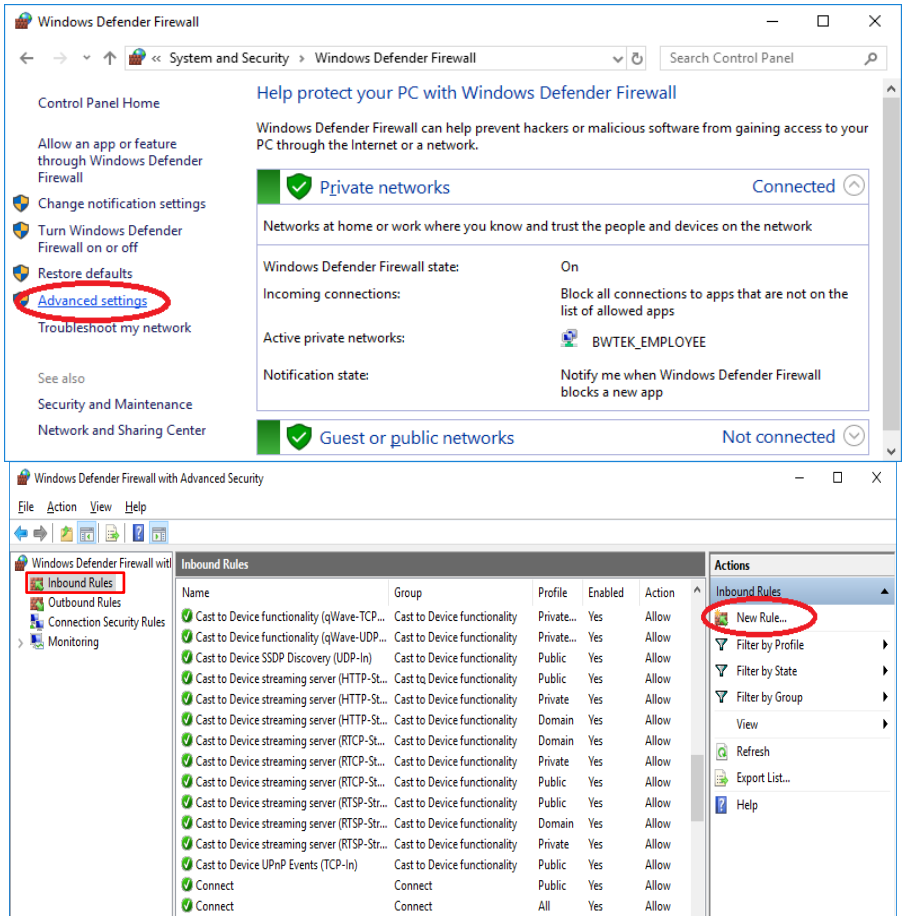
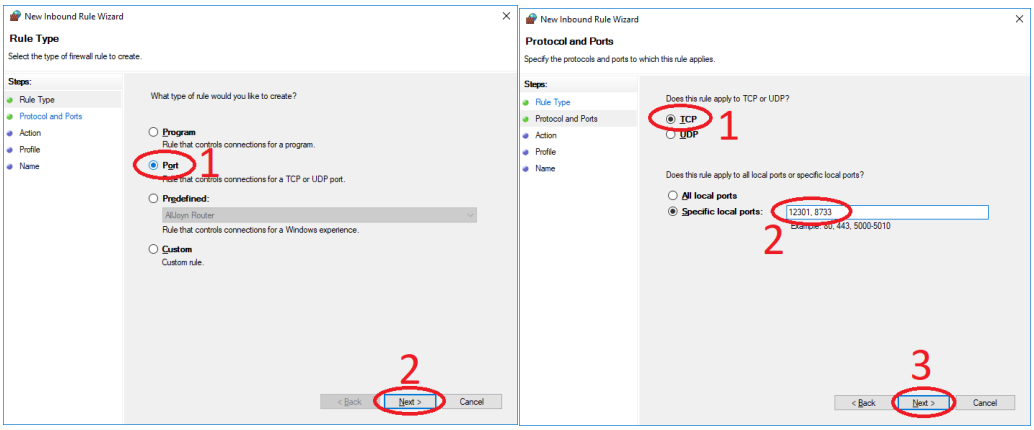


2. “Rule Type”: choose “Port” and click **Next**.

- “Protocol and Ports”: choose “TCP.” In “Specific local ports,” enter the proper communication port (TacticID Mobile: 22101, 22102, 12501, 8735. TacticID-1064: 12301, 8733) and click **Next**.



3. “Action”: choose “Allow the connection” and click **Next**.
   “Profile”: check “Domain,” “Private,” “Public” and click **Next**.

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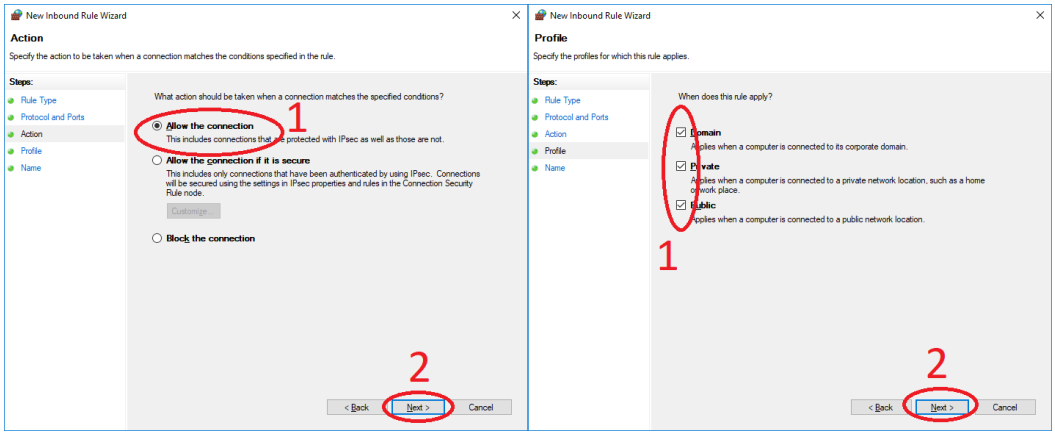
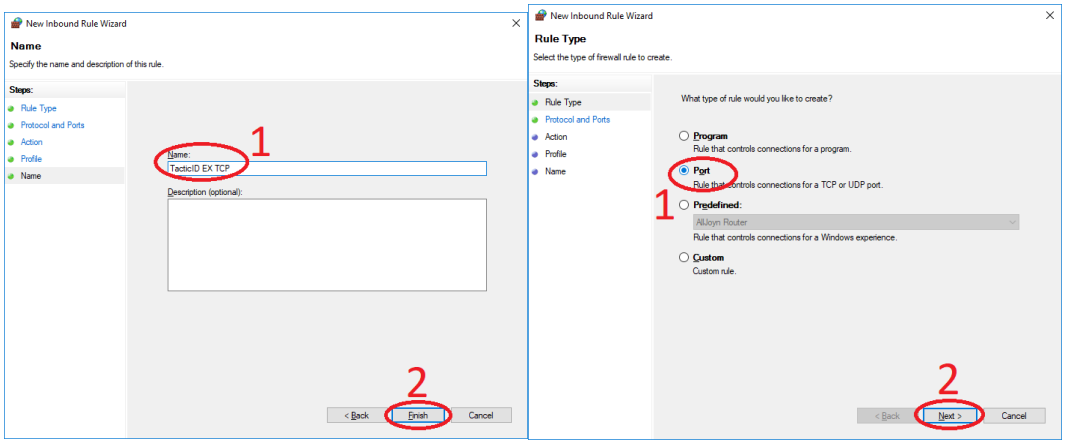


4. "Name": enter "TID21 TCP" (for TacticID Mobile) or "TID EX TCP" (for TacticID-1064/ST) and click **Finish.**
5. Create a second "New Rule."



"Rule Type": select "Port" and click **Next**.

6. "Protocol and Ports": choose "UDP." In "Specific local ports," enter the appropriate ports (TacticID Mobile: 12502, 12503. TacticID-1064: 12302, 12303) previously and Click **Next.**

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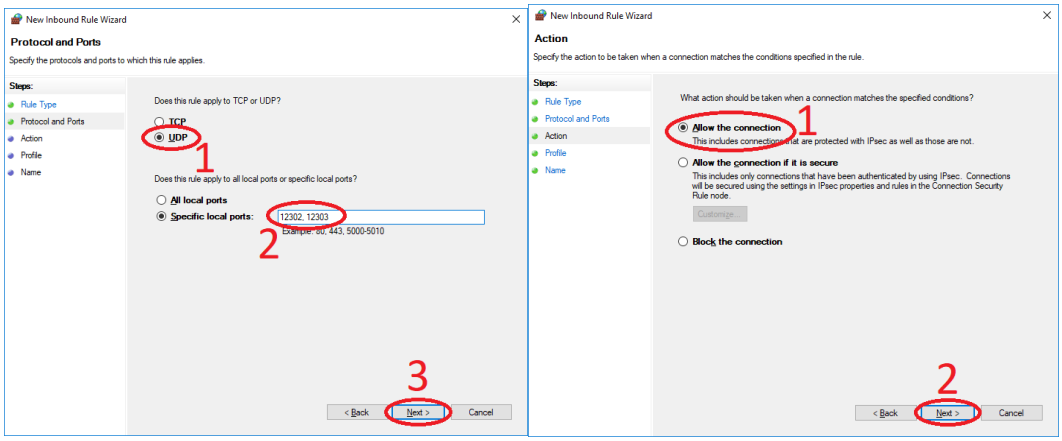
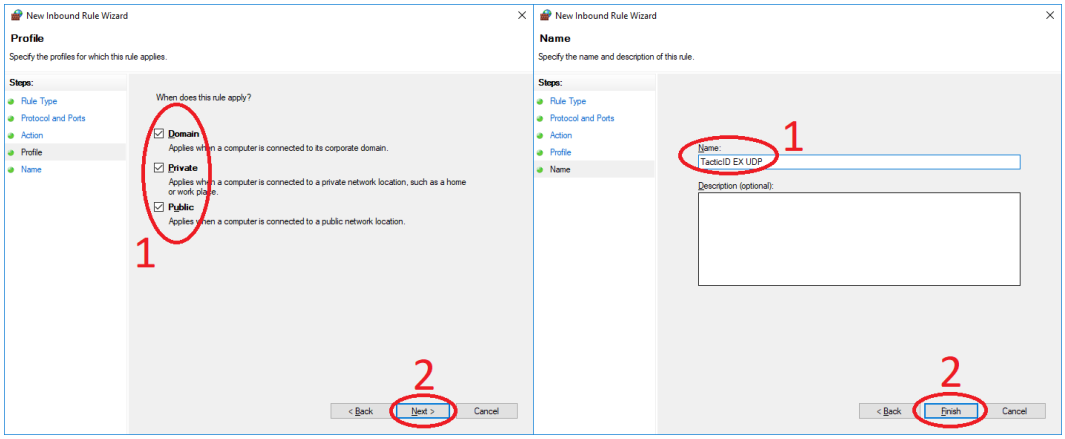


7. “Profile”: check “Domain,” “Private,” “Public” and click **Next**.
   “Name”: use name “TID21 UDP” (For TacticID Mobile) or “TIDEX UDP” (for TacticID-1064/ST) and click **Finish**.



10. TID21 Login

User must choose which device to use for TID21 before login. Choose the device name you will be using.

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TID21 allows for several different types of user accounts. For first time users who just completed the previous steps, an initial synchronization using the account “TID ADMIN” is required before use. All accounts that can be used with TID21 are:

- Username: IT ADMIN (including space)
  Default Password: 999999
  Allows user to perform IT management functions. “Device SN” can be blank.
- Username: TID ADMIN (including space)
  Default Password: 999999
  This is for first-time use, to activate the server database when MySQL database has never been synchronized. After first-time synchronization with a device, this account will be disabled. “Device SN” can be blank.
- “ADMIN” and all other device-created user accounts are accepted by TID21. These are not available until the first synchronization using “TID ADMIN” account is complete. User must select the correct “Device SN” in addition to the appropriate login credentials.

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11.IP address configuration (For TacticID-1064/ST only)

Make sure the device is powered on and connected via USB cable to the PC where TID21 is installed. Start TID21 and login using the “TID ADMIN” account for the first time, or another device account. After a successful login, the screen below should appear:

The “Check USB” button is activated when the device is detected. Click this button and the IP address of this connection will be configured automatically.

In some scenarios, due to IT restrictions, 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:

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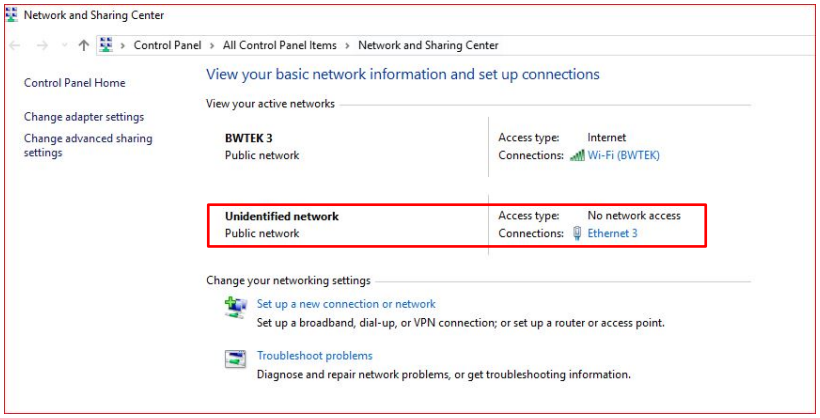
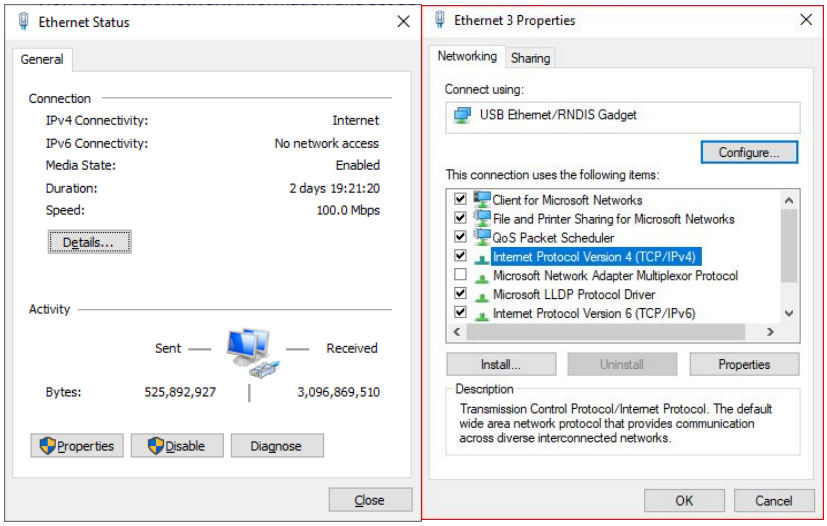
1. Go to the “Network and Sharing Center” in Windows 10 or equivalent program in Windows 7 or 8. Find the network connection which is associated with this device. Plug in the device while on this window to easily determine which connection to change. It should appear as an “Ethernet” connection:



2. Click the appropriate “Connections” link, for example “Ethernet 3” as shown above. Click “Properties” on the status window that appears.
   In the Properties window, select “Internet Protocol Version 4 (TCP/IPv4)” until highlighted and click “Properties” again:



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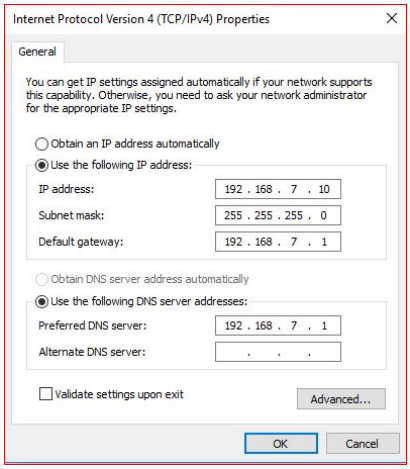
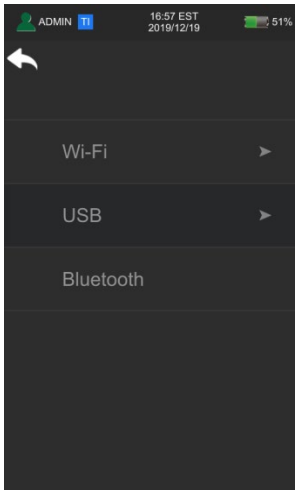
3. “Internet Protocol Version 4 (TCP/IPv4) Properties”: select “Use the following IP address” and configure as below:
   - IP address: 192.168.7.10 (increment the 4th digit if unavailable. Ex. 192.168.7.11)
   - Subnet mask: 255.255.255.0
   - Default gateway: 102.168.7.1
   - Preferred DNS server: 102.168.7.1
   - Alternate DNS server: keep blank



4. On the TacticID-1064/ST device, login with any account. Navigate to “Data Transfer” and select the USB on the left to cause the green check mark to appear. Do not navigate away from this screen or connection to device will not occur.



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5. The TacticID-1064/ST icon with the device SN will appear under “Device Group” in the TID21 interface. This means communication has been established successfully.
    - Note: If the icon does not appear under “Device Group”, double check the firewall settings and IP configuration, or call B&W Tek technical support for help.

6. Click the device under “Device Group” that you want to login to, and input the “User Name” and “Password” for this account. Click “Login” to connect to the device.
7. Connection and installation are complete.

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12.Appendix I: Microsoft Root Certificate Authority Update Instructions

The following information can be referenced in the event that .NET Framework 4.6.2 failed to install properly:

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.

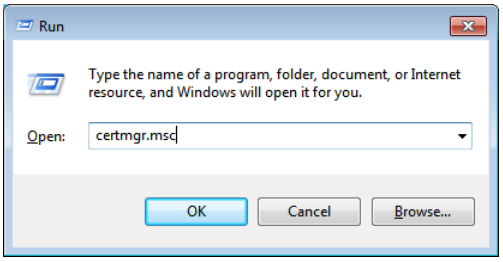
- docs.microsoft.com/en-us/

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/

To manually import the missing certificate:

Step 1:
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 on "**Trusted Root Certification Authorities,**" then "**All Tasks,**" then "**Import.**"

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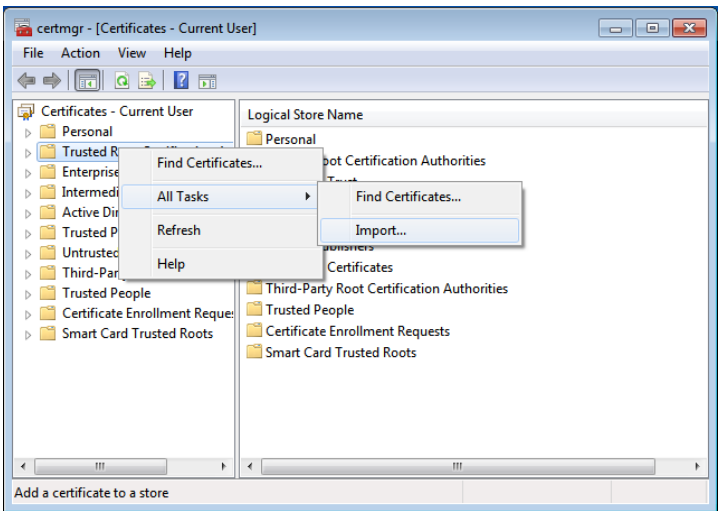
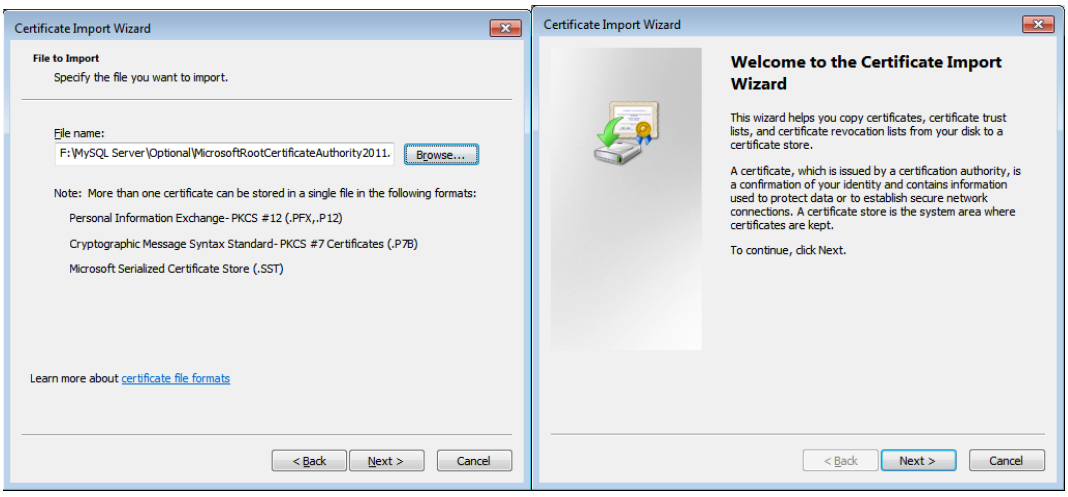


Step 3:

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. Click the **Next** button on all of the following pages. On the last page, click the **Finish** button. If a Security Warning message pops out to inform you that you are installing the "Microsoft Root Authority 2011", click the **Yes** button to complete the import.



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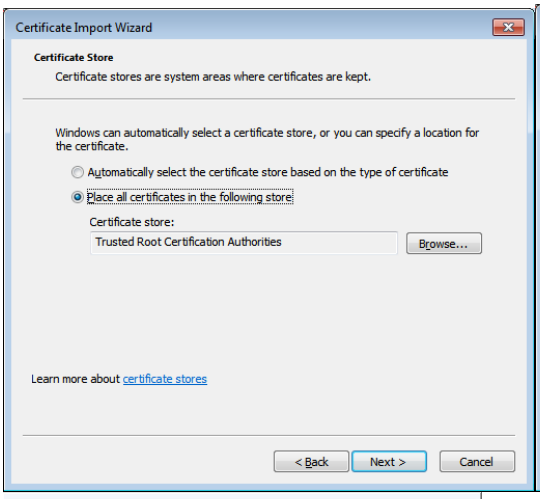

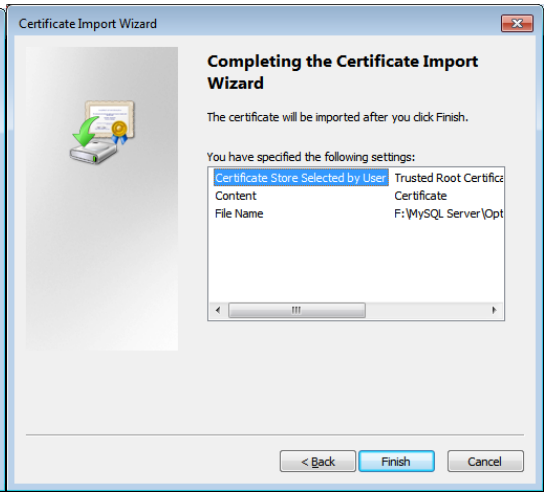

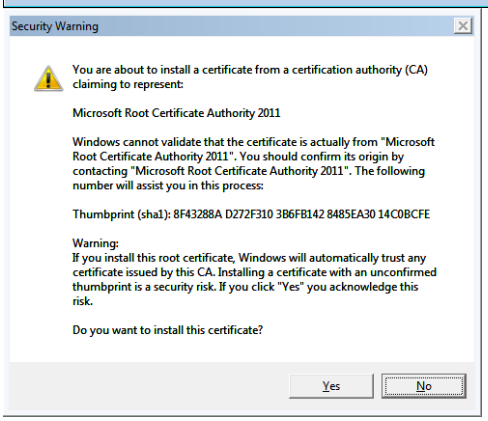

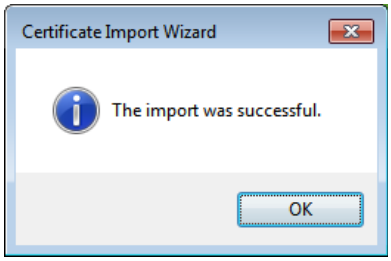

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13. Appendix II: Frequently Asked Questions

1.What if my TacticID-1064/ST 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 Prerequisites\kindle_rndis.inf_amd64-v1.0.0.1\kindle_rndis.inf_amd64. 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 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 the TID21 Database Service cannot start?

Solution:

Most of the time this is due to a port conflict between TID21 and other software preinstalled on the same computer. The list of ports used in by TID21 and all handheld devices is provided in section 9 of this document. Disable other services that have port conflicts. So far, the only known app with a port conflict is "HP JumpStart."

Additionally, to make sure the TID21 Database Services is automatically started when the PC reboot, under "Services", find the TID21 Database Services, and check the "Startup Type". If the "Startup Type" is not automatic, change it to Automatic under Services.

3. What if, after connecting the TacticID-1064/ST device to PC and logging in to both TOS and TID, the device SN does not show up under Device Group?

Solution:

a. On the device's "Data Transfer" screen, go to the configuration page (tap on the arrow) of the selected connection to see if it is disabled. If it is disabled, enable it.

b. Check if the device is plugged into a different USB port than before. If so, click "Check USB" again to re-configure the IP address setting, or check section 11 of this document if there are IT restrictions stopping the automatic configuration.

c. If the device is connected through Wi-Fi, check to ensure that both device and PC are on the same network.

d. Check firewall settings to ensure that TID21 traffic is allowed through the necessary ports (see section 9.)

e. If the MySQL service is running on another computer within the same network, make sure both computers have inbound/outbound rules set correctly.

4.What if I forget MySQL root password?

Solution:

This procedure requires IT assistance.

a. First, shut down the service "mysql57."

b. Go to C:\ProgramData\MySQL\MySQL Server 5.7; note that "ProgramData" is a hidden folder.

c. Look for the file "my.ini". Create a copy of "my.ini" as a backup in different folder. Open the original file and add the line "skip-grant-tables" below "[mysqld]", as shown below:

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

d. Start the service “mysql57.”
e. If done correctly, you should now be able to access the database.
f. Using cmd or PowerShell, run “mysql -u root –p” from the database directory to access the database. Typically, the database directory is located at C:\Program Files\MySQL\MySQL Server 5.7\bin.
g. Use the following query to update the password: “update mysql.user set authentication_string=password('NEW_PASSWORD') where user='root'”. Replace ‘NEW_PASSWORD’ with the new password you want to set.
h. Shut down the “mysql57” service again and remove the line ‘skip-grant-tables’ from “my.ini.” Save the file.
i. Start the service again and attempt to use your new password to login to your MySQL root account.

5. What if I’m having trouble connecting my TacticID device to TID21

Solution:

Typical connection issue arises if the user skipped steps in the installation guide or because of special firewall rules blocking the communication. The following troubleshooting checklist may require IT assistance:

Items to Check	Expected Result
The data connection is enabled on the device.	The device is at the Data Transfer screen and the proper connection method is checked.
USB cable	USB cables are directly connecting the device to the computer, without going through usb hubs. For TacticID Mobile, USB 2.0 port is used instead of USB 3.0 or higher.
Wi-Fi connection	The device and the PC are in the same network.
Firewall on your PC	Firewall ports and rules are setup according to Step 9. No additional anti-virus software running or blocking the TID21.
TID21 Services and MySQL Services	Go to Windows Start -> Services TID21 Database Services and MySQL services are running and in automatic mode.
TID21 software compatibility	TID21 software is compatible with the device software listed in the release notes.
USB connection	If a new USB port is used for TacticID-1064 series, click the check USB button, and wait until the device icon shows up again.

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