



SQL Web Reporter Installation Guide

Visual Click Software, Inc.

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Prerequisites

Below are the prerequisites for the CPTRAX SQL Web Reporter.

- Microsoft Windows Server 2008R2/2012/2016 Fully Updated
- PowerShell v4.0+
- Microsoft SQL Server 2008+ or SQL Server Express 2008+
- CPTRAX Server Agent Configured for SQL Server Transfer
- Internet Information Services 7+ (IIS) & PHP 5.3.28+
- Active Directory Group for Access to SQL Web Reporter Created
- Domain Name Service (DNS) Configured

Install Microsoft SQL Server

Microsoft SQL Server or SQL Server Express is required to store data collected by the CPTRAX Server Agent(s). The CPTRAX SQL Web Reporter will query the Microsoft SQL Server or SQL Server Express and show the data in a format that is easy to digest. There are instructions provided by Microsoft for the installation:

1. Microsoft SQL Server
 - a. <https://docs.microsoft.com/en-us/sql/database-engine/install-windows/install-sql-server>
2. Microsoft SQL Express Server
 - a. [https://technet.microsoft.com/en-us/library/ms143722\(v=sql.90\).aspx](https://technet.microsoft.com/en-us/library/ms143722(v=sql.90).aspx)

Configure CPTRAX Server Agent for SQL Server Transfer

The CPTRAX SQL Web Reporter queries the SQL Server for data collected by the CPTRAX Server Agent(s). For detailed instructions on configuring the CPTRAX Server Agent to transfer data to the SQL Server, please see the [CPTRAX Administrator's Guide](#) page 73.

IIS Installation

Install Internet Information Services and PHP via PowerShell

NOTE: If installing IIS and SQL Instance on separate servers, please see [APPENDIX B: Configuring Permissions when IIS and SQL are on separate servers](#) after completing the installation.

Internet Information Services (IIS) is required to host the website for the CPTRAX SQL Web Reporter. This section provides instructions for installing IIS and PHP from the Visual Click Software, Inc provided PowerShell script:

1. Copy this directory C:\Program Files (x86)\Visual Click Software, Inc\CPTRAX\SQL Web Reporter\ to any location on the server where IIS will be installed.
2. Run PowerShell as an administrator, change directory to the SQL Web Reporter directory copied over in step 1.
3. Set Powershell Execution Policy
 - a. Enter the command: Set-ExecutionPolicy Unrestricted
 - b. Enter Y for Yes.
 - c. Once the CPTRAX SQL Web Reporter install is completed you can change the execution policy back with this command: Set-ExecutionPolicy Restricted
4. Execute CPTRAX Web Server Installation.ps1
 - a. Server 2008/2008R2 only. If you receive a warning regarding installing Microsoft Visual C++ 2008 Redistributable Package (x86) select 'Run' to continue the installation.

Configure IIS and SQL to use Active Directory Group for Authentication

It is possible to use an Active Directory group to limit access to the IIS web site and the CPTRAX_for_Windows database on the SQL Server. It is recommended to use the same group to keep it simple to authorize access to the CPTRAX SQL Web Reporter.

Set the Active Directory Group in IIS

1. Open Internet Information Services Manager.
2. Expand IIS Node and 'Sites' on the left and select the CPTRAXWEB site.
3. On the right double click Authorization Rules.
4. On the right under 'Actions' select 'Add Allow rule...'.
5. Select the radio button 'Specified roles or user groups:'
6. Enter the name of the group, example: DOMAIN\CPTRAXWEB
7. Select the other Authorization Rule 'Allow All Users' and select 'Remove' on the right under 'Actions'.
8. Access to the CPTRAXWEB site is now limited to the DOMAIN\CPTRAXWEB group.

Add the Active Directory Group to the SQL Server

1. Open Microsoft SQL Server Management Studio and login.
2. Expand the SQL Instance Name.
3. Expand Security.
4. Right click on 'Logins' and select 'New Login'.
5. In the top right select the 'Search...' button
6. Select 'Object Types...' in the top right
7. Check the box next to 'Groups'
8. Type in the name of your group we will use CPTRAXWEB, then select Check Names.

- a. It should automatically change to DOMAIN\CPTRAXWEB underlined. Select OK.
9. Leave all other settings here default.
10. On the left under 'Select a page', select 'Server Roles'.
11. The only server role necessary is 'public', make sure it is checked and select OK.
12. On the left under 'Select a page', select 'User Mapping'
13. Check the box under the 'Map' column next to the CPTRAX_for_Windows database.
14. At the bottom of this screen, check the box next to the db_datareader Database role.
15. Members of the DOMAIN\CPTRAXWEB Active Directory group now have permissions to read the CPTRAX_for_Windows database.

Domain Name Service Configuration

Domain Name Service configuration is necessary to allow the end user to type a common name into the address bar on a Web Browser and reach the CPTRAX SQL Web Reporter Web Site.

1. Log into a Domain Controller or other Windows Server where the Domain Name Service is installed.
2. Open Server Manager -> Tools Menu -> DNS
3. Expand the server name.
4. Expand Forward Lookup Zones.
5. Expand the domain name.
6. Create New Alias (CNAME)
 - a. Right Click on the Domain Name.
 - b. Select New Alias (CNAME)...

- i. Enter Alias Name: Enter the value you entered during installation. (This will be url for users `http://CPTRAXWEB`)
 - ii. Enter the Fully Qualified Domain Name or Browse to the Target Host. In this case the target is the server where you installed Internet Information Services (IIS).
 - 1. Example: `demofs2016.demo.local`
7. User(s) should be able to enter the URL (Example: [HTTP://CPTRAXWEB](http://CPTRAXWEB)) and arrive at the CPTRAX SQL Web Reporter Site. Keep in mind it could take a few minutes for this change to replicate to all Domain Controllers / Domain Name Service instances. Different users may be using different servers.

APPENDIXES

APPENDIX A: Install Internet Information Services (IIS) and PHP Manually

Internet Information Services (IIS) is required to host the website for the CPTRAX SQL Web Reporter. If you would prefer to install IIS and PHP manually there are instructions provided by Microsoft:

[https://technet.microsoft.com/en-us/library/hh994592\(v=ws.11\).aspx#Install_PHP](https://technet.microsoft.com/en-us/library/hh994592(v=ws.11).aspx#Install_PHP)

PHP Version 5.3.28+

APPENDIX B: Configure IIS Authentication when IIS and SQL Server are on separate servers.

By default when Internet Information Services (IIS) and Microsoft SQL are installed on separate servers IIS will use the NT Authority\Anonymous User account to access the SQL database remotely. There are several ways to solve this problem, this section provides instructions on limiting SQL Web Reporter access by Active Directory Group Membership.

NOTE: It is highly encouraged that you utilize SSL with Basic Authentication as it transfers credentials in plain text. CPTRAXWEB is an internal site that does not require information to be passed outside the company network, but enabling SSL would be a best practice. See [APPENDIX C: Configure IIS for SSL / HTTPS](#)

First we will enable Basic Authentication and Disable Windows Authentication.

1. Open Internet Information Services Manager
2. On the left expand the IIS node and then 'Sites' to find the CPTRAXWEB site and select it.

3. On the right double click on “Authentication”.
4. Right click on “Basic Authentication” and select “Enable”. Notice the Alert in the top right mentioning the lack of SSL enabled if you haven’t enabled it. It is highly encouraged you use SSL with Basic Authentication.
5. Right click on “Windows Authentication” and select “Disable”.
Windows Authentication will only be useful if IIS is installed on the same server as SQL Server.

APPENDIX C: Configure IIS for SSL / HTTPS

If you are using Basic Authentication or just prefer to have the connection secure you can take advantage of SSL / HTTPS with IIS. This section will walk you through the setup for SSL / HTTPS. You will require a certificate in order to take advantage of SSL. It is possible to pay for a third party verified SSL certificate through an organization like Verisign, it is also possible to create your own self signed certificates with the tools built into IIS. Once you have an SSL certificate in IIS, you can follow the instructions below to configure the binding and force the server to use SSL.

1. Open the Internet Information Services Manager.
2. Expand the IIS Node on the left and then expand ‘Sites’ to right click on CPTRAXWEB and select ‘Edit Bindings...’.
3. Select ‘Add...’ in the top right.
4. For the ‘Type’ drop down should be set to ‘https’. Leave IP address and Port at defaults unless you are familiar with these settings and want to change it.
5. Host Name field can be the same as the URL you selected during the PowerShell install (CPTRAXWEB was the example we used). If you use a different host name make sure you follow the [Domain Name Service Configuration](#) steps for the new host name.

6. In the bottom left select the SSL certificate from the drop down menu if you have already imported it into SSL. If you have not you can use the 'Select...' button to select it and import it.
7. Select 'OK' and 'Close'.
8. Double click 'SSL Settings' on the right.
9. Check the box next to 'Require SSL' and select 'Apply' on the right under 'Actions'. IIS is not configured to use and require the use of SSL.