NMEA Relay Service

Installation and IT Admin Guide

Contents

Introduction

This is the NMEA Relay Service Installation and IT Admin Guide. This guide is intended for use by technical staff such as a company IT department.

The NMEA Relay service is an application designed to consume, process and make available historical and real-time GPS positions to other applications through UDP broadcasting and a RESTful API. It is designed to be installed in addition to other applications.

Most set-up is performed from within the application after installation. It is recommended that this is done by IT staff using remote access software such as TeamViewer.

System Requirements

See the 'Installation' section for further details.

Server PC

- Windows PC with Windows versions 8, 10 or 11
- Hardware capable of accepting serial connections (i.e. RS232)
- 4 GB RAM. 10GB hard disk space
- Standard network to connect the clients and server
- .NET Desktop Runtime 6.0 (x86 version)
- ASP.NET Core Runtime 6.0 (x86 version)

GPS Device

- Capable of outputting NMEA data over a serial connection.

Installation Procedure

> **NOTE**
>
> Installation of the software requires Administrative permissions on the PC.

Generally the NMEA Relay service should be installed before any other applications that rely on its functionality. The service is installed as a Windows Service. (Using a web server such as IIS is not required or supported.)

Perform the following steps on the PC you will use as the server:

Step 1: Install Prerequisites – ASP.NET Core Runtime and .NET Desktop Runtime

Install the following prerequisites if they are not already installed on the PC:

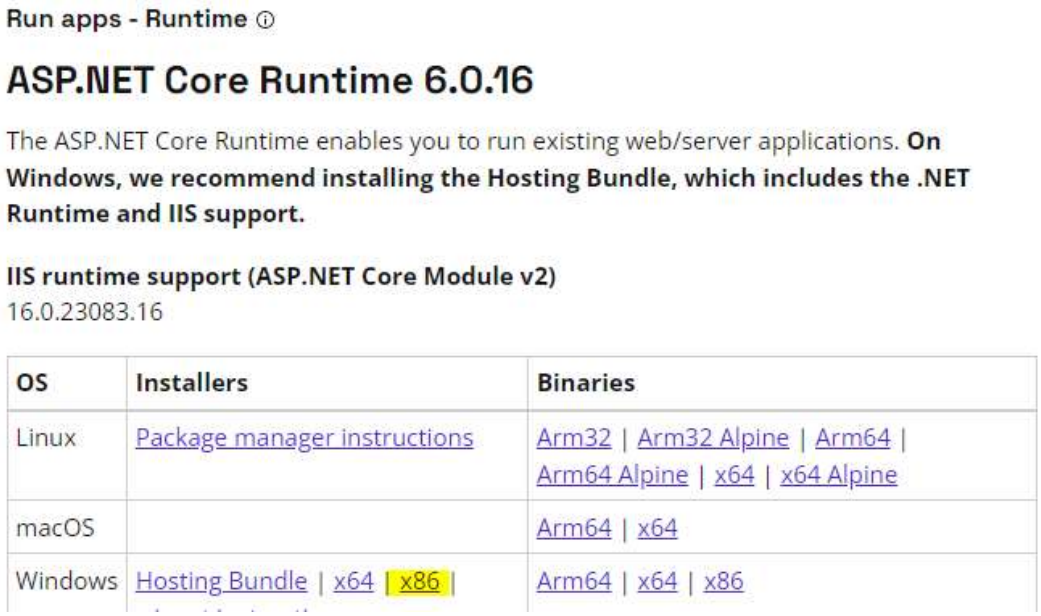
- **ASP.NET Core Runtime 6.0** (Windows **x86**)
- **.NET Desktop Runtime 6.0** (Windows **x86**)

The prerequisites are usually supplied along with the NMEA Relay Service release. However it is recommended that the latest versions available from Microsoft are used, as these may contain security updates.

The latest 6.0.x versions can be downloaded from this web page:

https://dotnet.microsoft.com/download/dotnet/6.0

See the image below – the correct links are highlighted.



Run apps - Runtime ⓘ

ASP.NET Core Runtime 6.0.16

The ASP.NET Core Runtime enables you to run existing web/server applications. **On Windows, we recommend installing the Hosting Bundle, which includes the .NET Runtime and IIS support.**

IIS runtime support (ASP.NET Core Module v2)
16.0.23083.16

OS	Installers	Binaries
Linux	Package manager instructions	Arm32 | Arm32 Alpine | Arm64 | Arm64 Alpine | x64 | x64 Alpine
macOS		Arm64 | x64
Windows	Hosting Bundle | x64 | x86 |	Arm64 | x64 | x86

.NET Desktop Runtime 6.0.16

The .NET Desktop Runtime enables you to run existing Windows desktop applications. **This release includes the .NET Runtime; you don't need to install it separately.**

OS	Installers	Binaries
Windows	Arm64 | x64 | x86 | winget instructions	

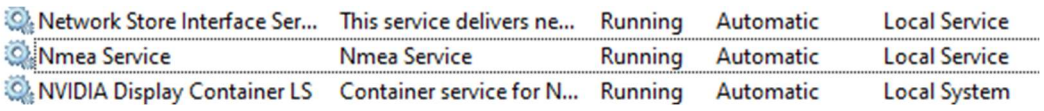
Do not download the x64 version even if the PC is 64 bit, as this will not work – the software is an x86 application.

The latest available versions of the ASP.NET Core Runtime and .NET Desktop Runtime should be used. At the time of writing this is 6.0.16

Step 2: Install the Service

Double-click the installer file **NmeaService.Setup.msi** to begin the installation, then wait for it to finish.

The NMEA Relay Service runs as a Windows service. Type **Services** in the Windows start menu, then run the resulting program, to view the list of installed services. '**Nmea Service**' will be displayed in the list when successfully installed:



The service runs automatically after install. Confirm it is running by looking at the 'status' column.

Right-clicking on the service in this window will give the options to stop, start or restart the application server. This may be required in certain support scenarios.

The service stores data and application logging files at the location **C:\ProgramData\Chersoft\NmeaService** (assuming 'C:' is the main drive letter). This includes the GPS tracking history data file. These files will not be removed automatically when the application is uninstalled.

Step 3: Review server ports and configure firewall rules

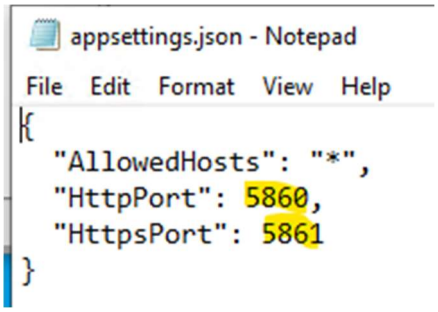
By default the Service hosts its API and configuration web site on ports **5860** (non-SSL) and **5861** (SSL)**,** and broadcasts UDP on port **10110**.

Any firewalls should be adjusted to allow connections to these ports over the local network.

If you need to change the port numbers due to conflicts or IT policy, this can be done by editing a configuration file. First stop the '**Nmea Service'** Windows service. Then open the following file in a text editor:

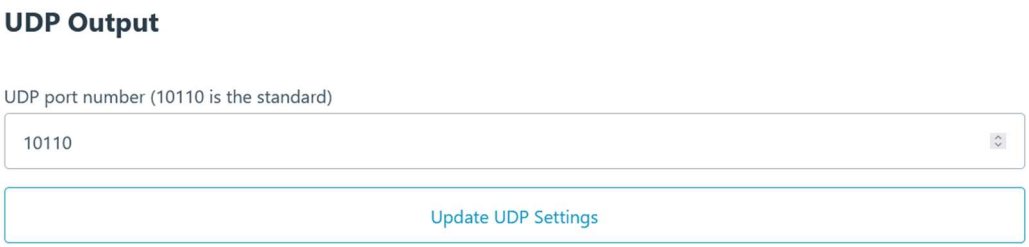
`C:\Program Files (x86)\Chersoft\Nmea Service\`**`appsettings.json`**

Edit the highlighted values as required:



Save the file and restart the Service.

The UDP output is configure through the application dashboard.



Step 4: Note the server address

Take note of the name of the server PC. Also note the HTTPS port number if it was changed from the default. This address information must be entered when configuring client applications to connect to the service.

To obtain the PC name, click the Windows Start button and type "PC name", then click on "View your PC name":

The name will be listed under "Device name".

System Date and Time

The system clock of all computers – both clients and servers - must be set to the correct date and time. The specific time zone is not important as long as the correct UTC time can be obtained.

Dashboard overview and configuration

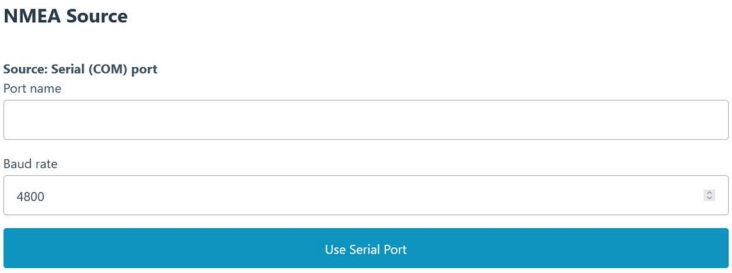
Runtime configuration is done primarily through the service's web dashboard, assuming there have been no modification to port settings detailed in step 2 of the installation, the dashboard will be accessible via http://localhost:5860 and https://localhost:5861.

Once the dashboard has been reached the different configuration sections can be accessed via links at the top of the page.

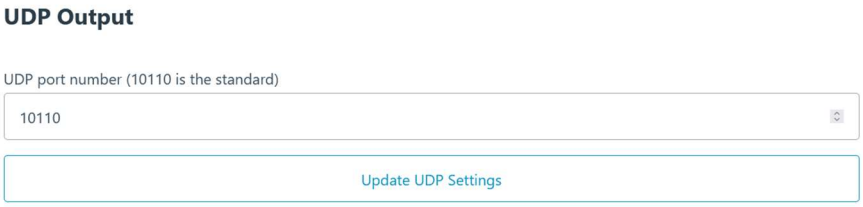
Relay Configuration

This section concerns the configuration of the NMEA Relay functionality.

For the NMEA Relay service to function, the serial COM port and baud rate for the GPS device must be configured here.

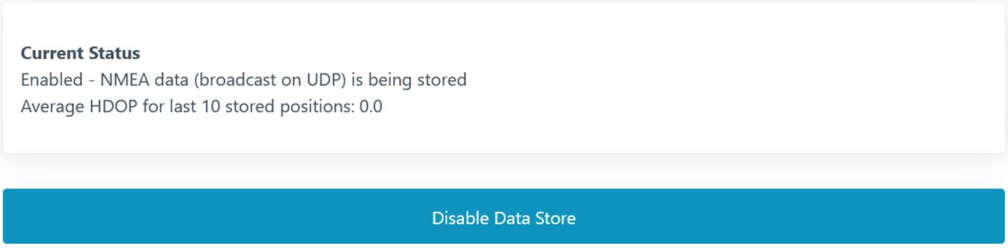


The UDP broadcast port is configurable here if it requires modification.



Data Store

This section allows for the configuration of the GPS data storage. When this setting is enabled captured GPS data will be stored in a local database file. This setting is required for the API to function correctly.



Support Requests

If you are reporting a software error, please also include the most recent application error log files from the client and server applications.

Include as many other details as you can, such as:

- Software version (listed on the Settings – Support tab in the client application)
- Windows operating system version
- What GPS Device is being used and it's status
- Whether the error occurred just once or every time you perform an action
- What action you were performing at the time the error occurred, and just before this
- Whether the error occurs on just one computer or several.

Locating Error Log Files

These are located on the server PC in a location similar to:

`C:\ProgramData\CherSoft\NmeaService\AppLogs`

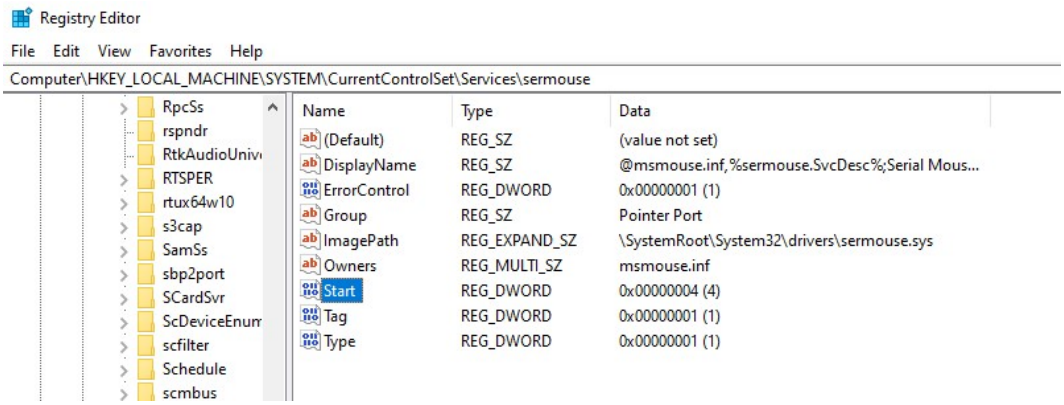
Erratic mouse movements after plugging in GPS

Windows can still decide a GPS is a mouse. This makes it hard to use the computer until the registry is changed to stop this.

Change the following registry key:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\sermouse

Set the value of "Start" to be 4



CHERSOFT, 19 April 2023.