How to: Connect Field Maps (Windows 11) to an external GPS receiver

Summary

Bluetooth and serial connections are not currently supported for apps using Windows Subsystem for Android (WSA), which is used to run ArcGIS Field Maps on Windows 11 devices. This article provides a workaround for connecting Field Maps to a receiver with Bluetooth or USB and using a third-party app and TCP/IP as a location provider.

You'll first pair or connect the GNSS receiver with the Windows device. Then, you'll use the third-party app to access the location and output it to a TCP/IP port. Field Maps can then access the location using TCP/IP as a location provider.

Note: You cannot use TCP/IP as a location provider if the device is actively connected to a VPN.

Requirements

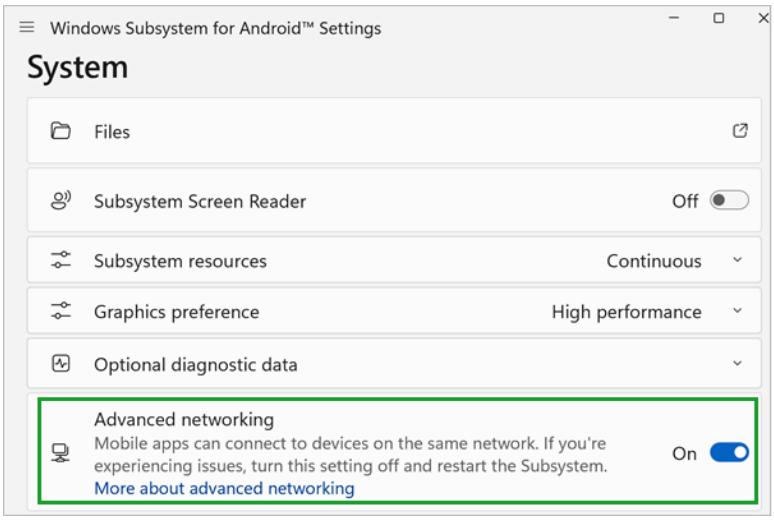
- ArcGIS Field Maps installed on Windows 11
- A GNSS receiver utility app that supports TCP server or another third-party app, such as GPSGate Splitter

Workaround

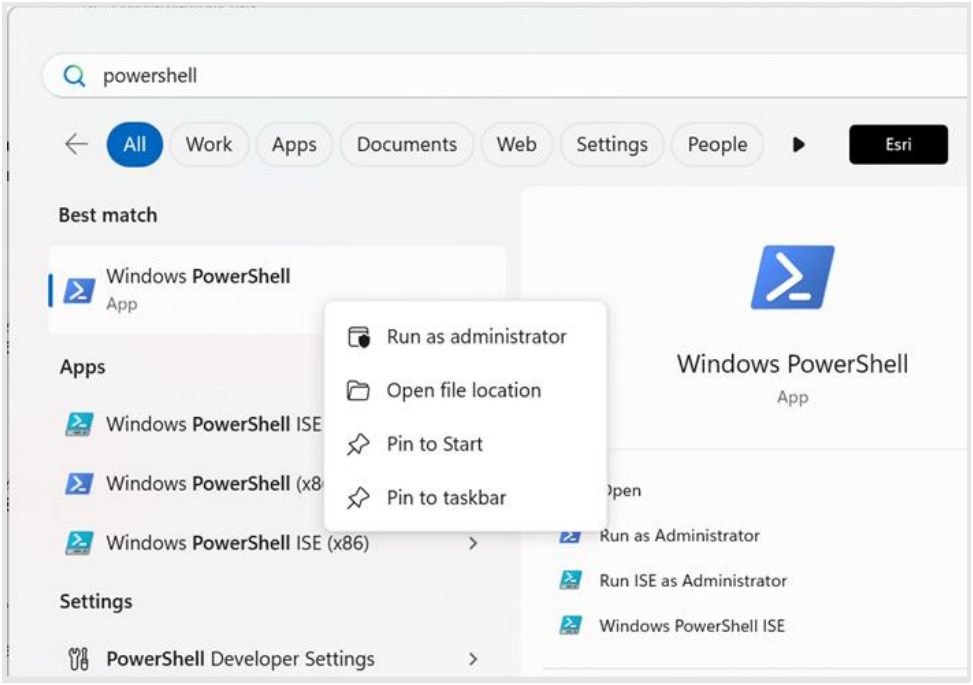
1. Pair the Windows device with the GNSS receiver if using Bluetooth or connect it with a USB cable if using a serial connection.
2. Using a third-party app that supports TCP server, access the location from the paired GNSS receiver and output it to a TCP/IP port.

   For Field Maps to access this location, LocalHost loopack IP (internet protocol) support is required. The following steps walk through how to enable this on Windows.

3. In the WSA Settings app, enable the **Advanced networking** setting.



4. Configure Hyper-V firewall with PowerShell to allow Field Maps to connect to the third-party app via loopback IP.
    a. From the **Start Menu**, type **PowerShell**, and then right click **Windows PowerShell**. Select **Run as an administrator**:



    b. Run the following commands as an administrator:

Command 1

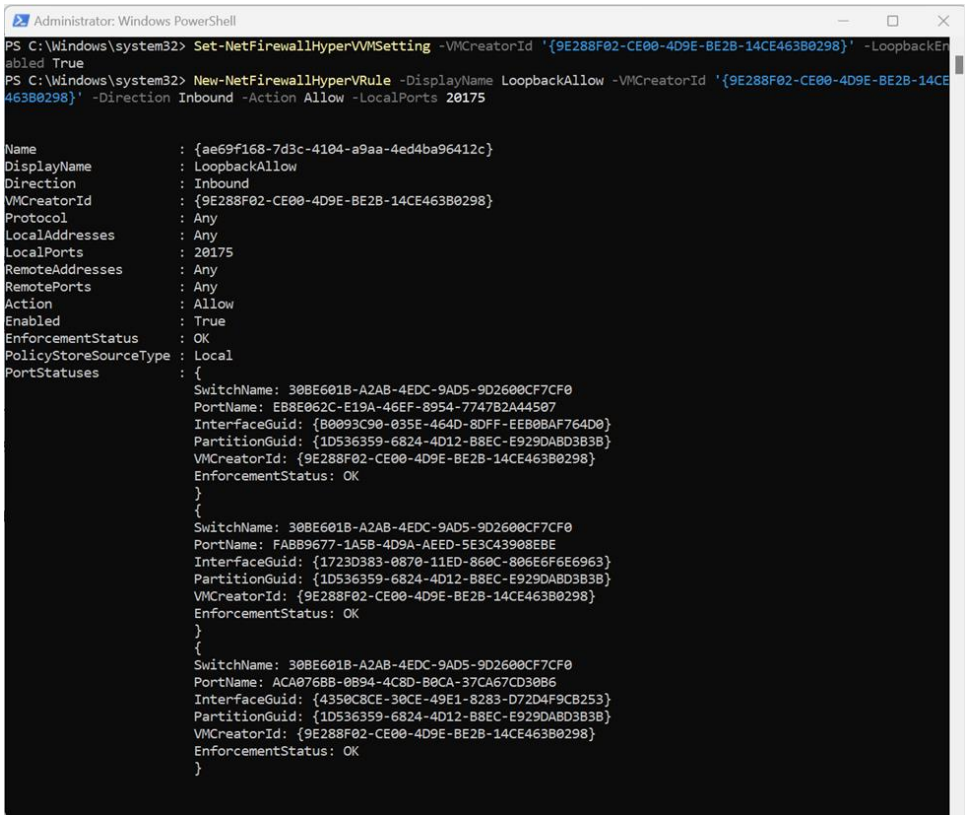
```
Set-NetFirewallHyperVVMSetting -VMCreatorId '{9E288F02-CE00-4D9E-BE2B-14CE463B0298}' -LoopbackEnabled True
```

Command 2

Note: Update **<port_number>** to the port number provided from the third-party app.

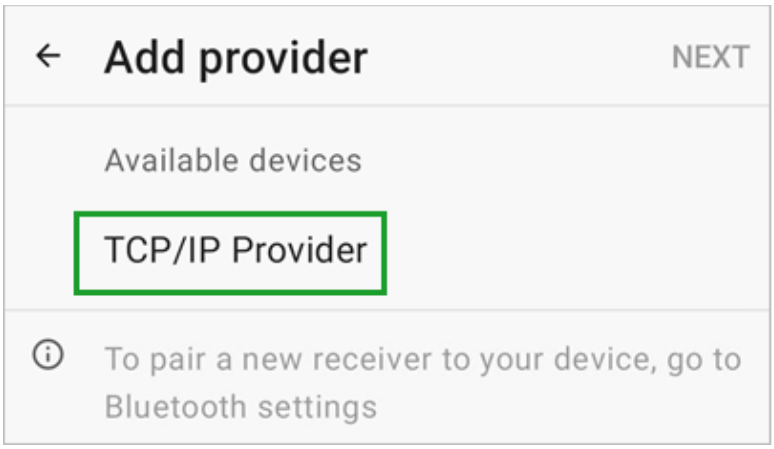
```
New-NetFirewallHyperVRule -DisplayName LoopbackAllow –VMCreatorId
'{9E288F02-CE00-4D9E-BE2B-14CE463B0298}' -Direction Inbound –Action
Allow -LocalPorts <port_number>
```

After these commands are run, loopback IP is enabled and you're ready to use the GNSS location in Field Maps.



5. Open and sign in to Field Maps.
6. From the **Maps** list, tap **Profile** .
7. In the **Location** section, tap **Provider**.
8. Tap **Add provider**.

   The **TCP/IP Provider** option appears.



9. Tap **TCP/IP Provider** and then tap **Next**.
10. Provide a receiver name.
11. In the **Port number** text box, enter the port number provided by the third-party app.
12. If needed, add an antenna height.
13. Tap **Done** and ensure the TCP/IP provider is the selected location provider for Field Maps.

You're ready to use the location provided by the GNSS receiver with ArcGIS Field Maps.

Additional notes if you're using GPSGate Splitter

- The app requires a license key after the trial period.
- When setting the location input, you can either use the COM port exposed from the GNSS receiver or a virtual COM port generated from the receiver utility app.
- When setting the location output, select the TCP Server option and add a port number. The TCP port number in Field Maps must match the port number provided here.