



CyFlex® Windows Reader

Version 6

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Developed by Transportation Laboratories

Version History

Version	Date	Revision Description
1	8/21/2017	Initial publication
2	8/23/2018	Format with SGS brand
3	4/7/2020	Retrofit to new template
4	12/8/2021	Revised <i>Section 5 Accessing a File from CyFlex</i> on page 10 to add hypertext linked cross-reference to cyflex.com usage help for <code>windows_reader</code> .
5	6/13/2022	Updated hypertext linked cross-reference to cyflex.com usage help for <code>windows_reader</code> in <i>Section 5 Accessing a File from CyFlex</i> on page 10
6	2/20/2024	Rebrand to TRP Laboratories

Document Conventions

This document uses the following typographic and syntax conventions.

- Commands, command options, file names or any user-entered input appear in Courier type. Variables appear in Courier italic type.
Example: Select the `cmdapp-relVersion-buildVersion.zip` file....
- User interface elements, such as field names, button names, menus, menu commands, and items in clickable dropdown lists, appear in Arial bold type.
Example: **Type**: Click **Select Type** to display drop-down menu options.
- Cross-references are designated in Arial italics.
Example: Refer to *Figure 1...*
- Click intra-document cross-references and page references to display the stated destination.
Example: Refer to *Section 1 Overview* on page 1.
The clickable cross-references in the preceding example are *1*, *Overview*, and on page 1.

CyFlex Documentation

CyFlex documentation is available at <https://cyflex.com/>. View **Help & Docs** topics or use the **Search** facility to find topics of interest.

Table of Contents

1	OVERVIEW	1
2	SHARING A WINDOWS FOLDER	2
3	ESTABLISHING A PHYSICAL CONNECTION	5
3.1	SPECIFICATION FILE	6
4	SETTING UP AN IP ADDRESS	7
4.1	VERIFYING A STATIC IP ADDRESS	9
5	ACCESSING A FILE FROM CYFLEX	10

List of Figures

FIGURE 1: SELECT FOLDER PROPERTIES.....	2
FIGURE 2: SELECT ADVANCE SHARING.....	3
FIGURE 3: SELECT SHARE THIS FOLDER.....	3
FIGURE 4: ALLOW FULL CONTROL.....	4
FIGURE 5: SAMPLE IFCONFIG OUTPUT.....	5
FIGURE 6: NETWORK AND SHARING CENTER.....	7
FIGURE 7: SELECT NETWORK PROPERTIES.....	8
FIGURE 8: INTERNET PROTOCOL VERSION 4 – PROPERTIES.....	8
FIGURE 9: ENTER PROVIDED IP ADDRESS.....	9

1 Overview

The CyFlex *Windows Reader* communicates between a Thermo Scientific FTIR Windows device and a CyFlex system. The CyFlex *Windows Reader* reads a file from Windows and transfers the data from the file into CyFlex variables on a Linux system. It does this by sharing a Windows folder file location and then reads it from the Linux System by using a Samba mount share. The file search frequency is configurable. Each time the file is found, it is removed to avoid excessive file size and ease obtaining the latest data.

The method to read a correctly formatted Windows file to the CyFlex system is:

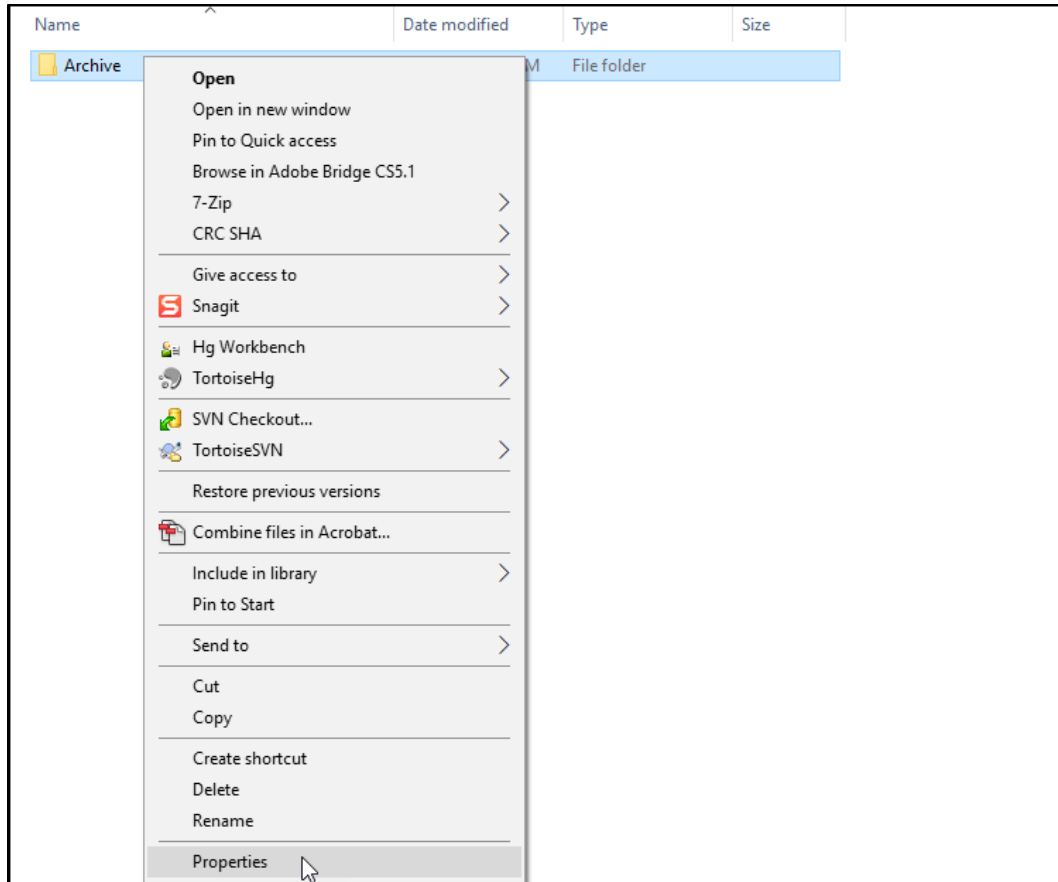
1. Share a Windows folder; refer to *Section 2 Sharing a Windows Folder* on page 2
2. Establish a physical connection; refer to *Section 3 Establishing a Physical Connection* on page 5
3. Set up an IP; refer to *Section 4 Setting Up an IP Address* on page 7
4. Access the Windows folder from CyFlex; refer to *Section 5 Accessing a File from CyFlex* on page 10

2 Sharing a Windows Folder

Execute the following steps:

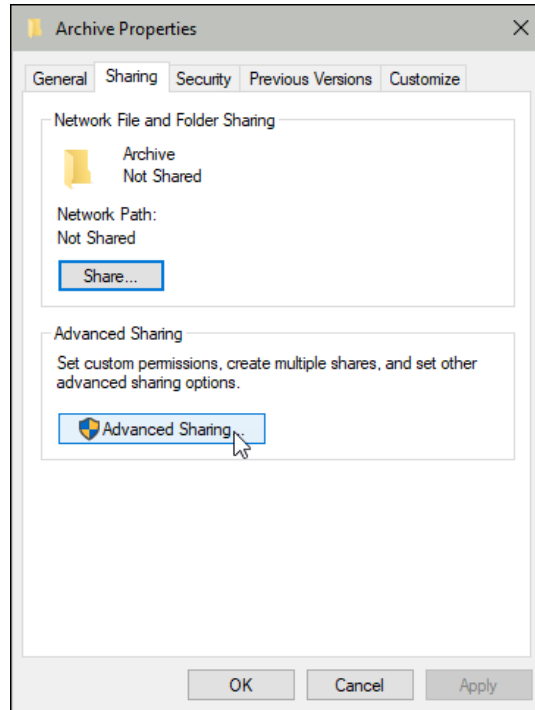
1. Use Windows/File Explorer to locate the folder to share.
2. Right-click the folder and then select **Properties** as in *Figure 1*.

Figure 1: Select Folder Properties



3. Select the **Sharing** tab and then select **Advanced Sharing** as in *Figure 2*.

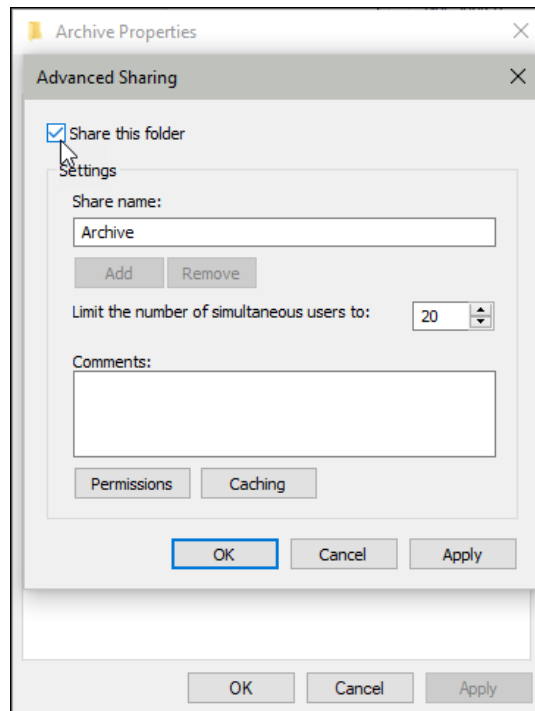
Figure 2: Select Advance Sharing



Select **OK** to display **Advanced Sharing**.

4. Select/check **Share this Folder** as in Figure 3.

Figure 3: Select Share this Folder

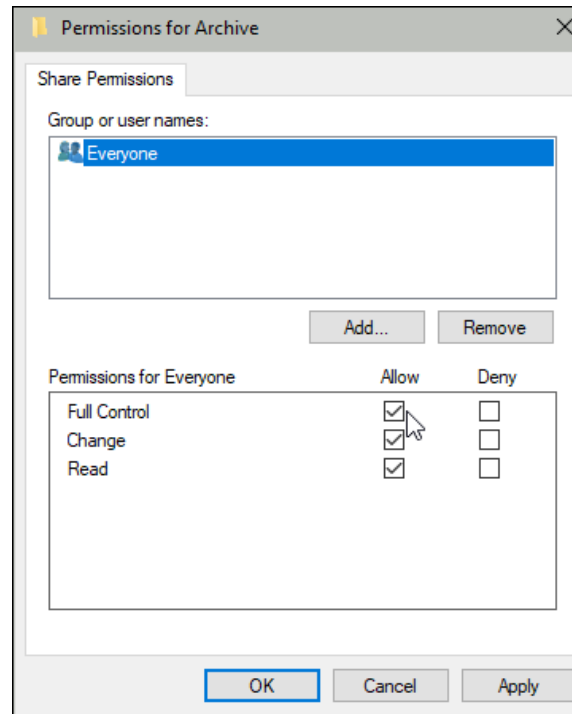


Select **OK** to display the **Permissions for...** screen.

5. Select **Permissions**. Select the following on the **Permissions for...** screen:
 - a. Select the **Group or user names** to share with.
 - b. Under **Permissions for Everyone** select **Full Control** in the **Allow** column

Figure 4 shows completed selections.

Figure 4: Allow Full Control



6. Select **Apply**.
7. Select **OK** to redisplay **Advanced Sharing** as in Figure 3 on page 3.
8. Select **OK** to redisplay **Properties** as in Figure 1 on page 2.
9. The folder and its contents are now shareable.

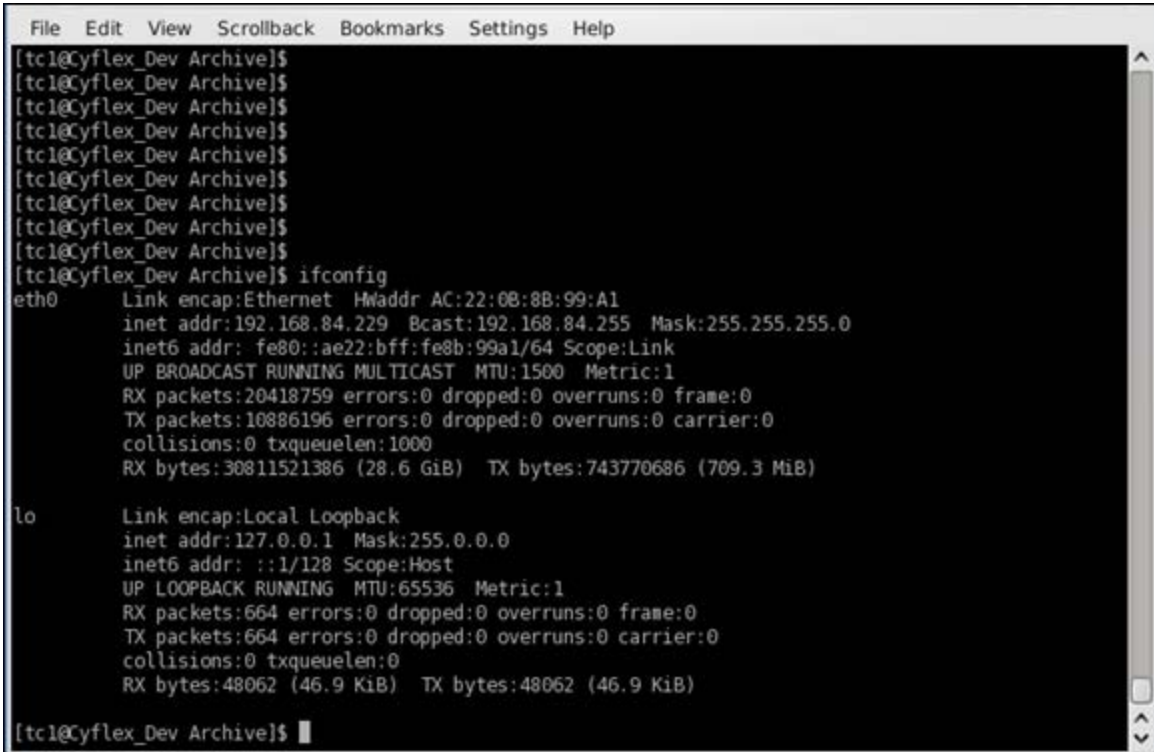
3 Establishing a Physical Connection

The Ethernet connection must be on the correct network card on the CyFlex system and Windows to communicate properly. If there are multiple Ethernet ports, the primary ones should be used for both system. For CyFlex, find the primary Ethernet card and port with the following command:

```
ifconfig
```

Figure 5 shows sample `ifconfig` output.

Figure 5: Sample ifconfig Output



```

File Edit View Scrollback Bookmarks Settings Help
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$
[tc1@Cyflex_Dev Archive]$ ifconfig
eth0      Link encap:Ethernet  Hwaddr AC:22:08:8B:99:A1
          inet addr:192.168.84.229  Bcast:192.168.84.255  Mask:255.255.255.0
          inet6 addr: fe80::ae22:bff:fe8b:99a1/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:20418759  errors:0  dropped:0  overruns:0  frame:0
          TX packets:10886196  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:30811521386 (28.6 GiB)  TX bytes:743770686 (709.3 MiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128  Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:664  errors:0  dropped:0  overruns:0  frame:0
          TX packets:664  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:0
          RX bytes:48062 (46.9 KiB)  TX bytes:48062 (46.9 KiB)

[tc1@Cyflex_Dev Archive]$

```

Normally **eth0** is the primary connection for the CyFlex system. If there is not already an Ethernet switch being used by the CyFlex system, consider providing one to make sure there are no interruptions to the current network. Typically, there is only one Ethernet port for Windows, but if there are more, any of them should work.

3.1 Specification File

After connecting to the intended network, the Windows must have a valid IP address.

Refer to the following example specification file.

```
#Windows Reader specfile.

#The Register name for CyFlex
@REGISTERED_NAME
Windows_reader

#The path and file of for the data to read
@FILE_NAME
/mnt/Archive/test_data

#Creates the variables and assigns the values from the file.
#Sample Windows file:
# 23.54 45.67 6.2
#the First variable we specify would be 23.54, the second would be
45.67, and so on
@CYFLEX_VAR_FORMAT
opc1 opc2 opc3

#The rest of the keywords are optional

#specifies the cyflex variable units, same format as the
@CYFLEX_VAR_FORMAT keyword
#default is all none
@UNITS_FORMAT
Celsius vp none

#Specifies how long to wait before looking if new file is there
#default is 30 seconds
@SET_POLLING_INTERVAL
40

#specifies how many defects it will detect before warning the user of
a problem
#default is 5
@MAX_FAILURES
3
```

4 Setting Up an IP Address

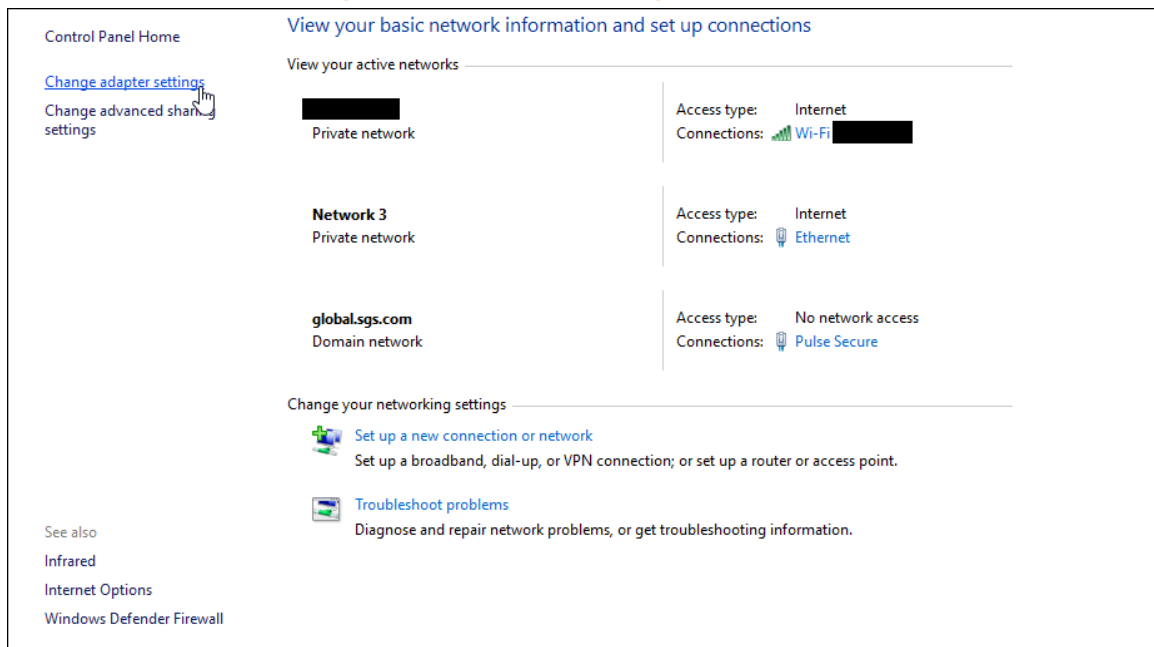
After the physical network connection is setup, Windows must have a valid IP address to communicate. Contact the responsible IT department, to obtain a static IP address.

Refer to the `ifconfig` command output as in *Figure 5* on page 5 to determine valid IP addresses. It should be a similar IP to the output of that command. For example, the IP address from the reference `ifconfig` output was 192.168.84.229. The windows IP should be something similar to 192.168.84.XXX or even 192.168.XXX.XXX depending on server setup. The XXXs are for any number between 1 and 255. The IT Department should have a list of known IPs that are free and useable.

After obtaining a valid static IP address, execute the following steps change the Windows IP:

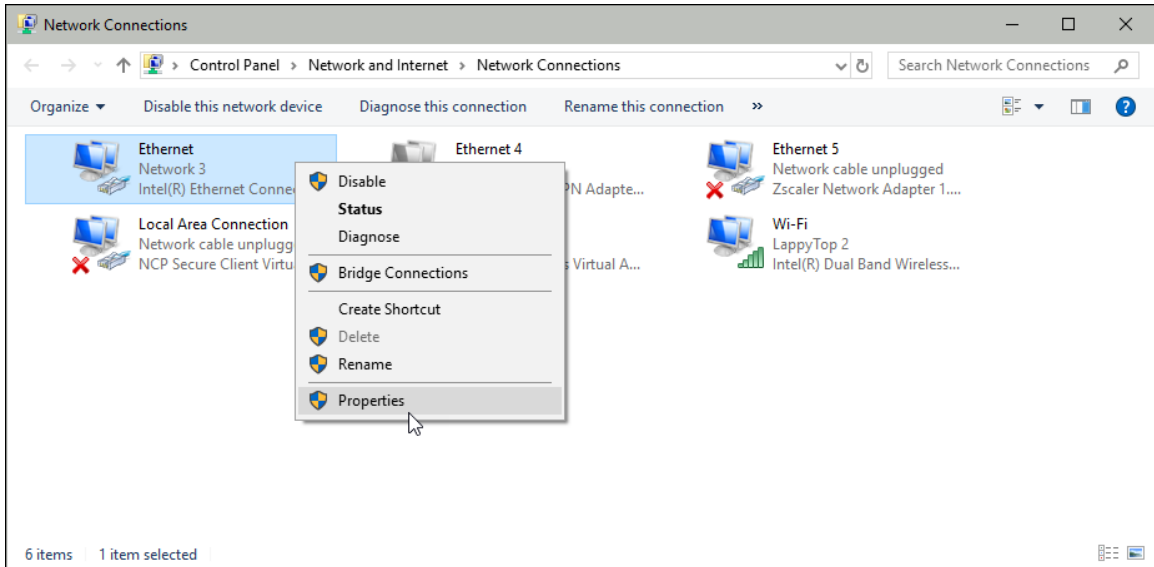
1. Open **Network and Sharing Center** from the **Control Panel** and then select **Change Adapter Settings**. *Figure 6* shows a Windows 10 version.

Figure 6: Network and Sharing Center



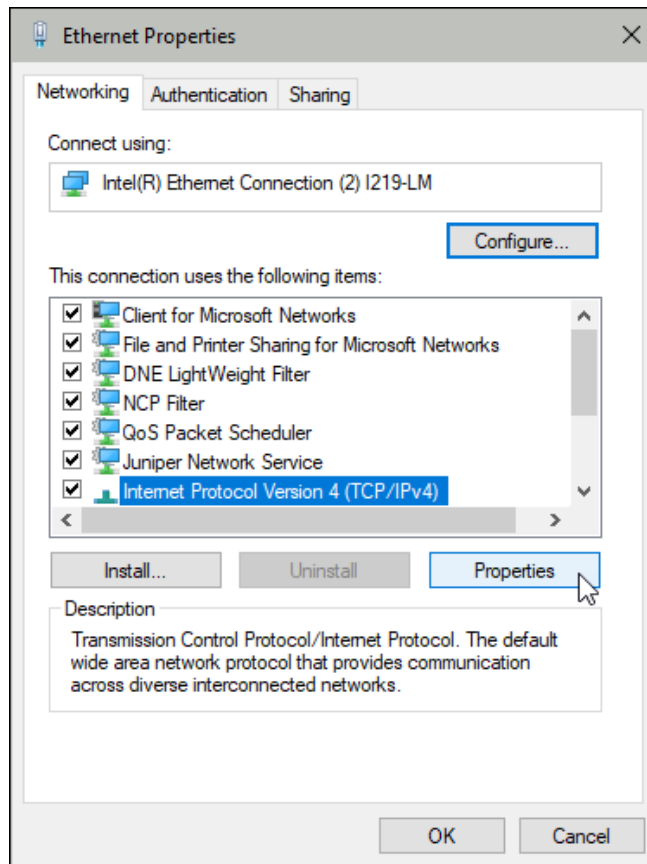
- Right click on the current network and then select **Properties** as in *Figure 7*.

Figure 7: Select Network Properties



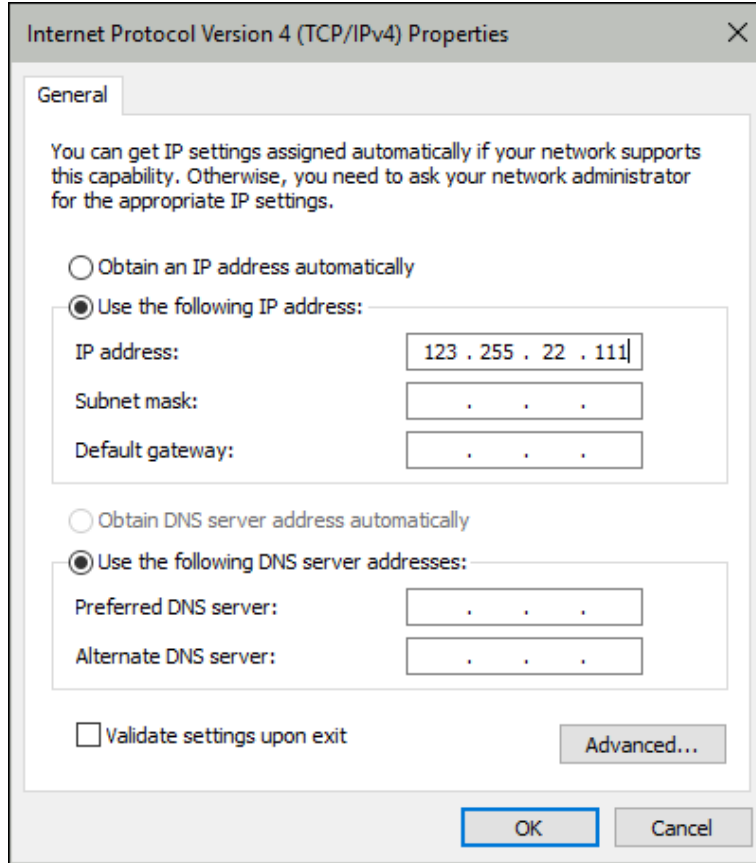
- Select **Internet Protocol Version 4 (TCP/IPv4)** and then select **Properties** as in *Figure 8*.

Figure 8: Internet Protocol Version 4 – Properties



4. Select **Use the following IP address** and enter the provided IP address as in *Figure 9*. If a Subnet mask was also provided, enter that as well. If not provided, use 255 for the first 2 entries, then 0 for the last 2 entries.

Figure 9: Enter Provided IP Address



5. Select **OK** to save.

Note:

If IT did not provide a static IP address, use the `ping` command to find one:

1. Get the IP from the CyFlex system, like 192.168.84.229.
2. On the CyFlex system, start trying to ping a similar IP such as 192.168.84.230.
 - o If it says host unreachable, then that IP is free to use.
 - o If it returns data, then it is in use. Try a different IP to “ping” until finding a free one.

When a free address is determined, follow the steps above to setup Windows.

4.1 Verifying a Static IP Address

Verify that Windows and CyFlex are properly connected by using the `ping` command as described in the preceding note.

5 Accessing a File from CyFlex

Execute the following steps to access the Windows file from CyFlex:

1. Verify the CyFlex system can see the folder on the network.
 - a. Start a web browser (Konqueror, Firefox, etc.)
 - b. In the URL, type: `smb://username@IPaddress`
 - c. The folder will be visible if the connection is intact and Windows is correctly setup.

2. Use the following commands to mount the folder with full access to that folder on CyFlex:

```
sudo mkdir /mnt/'folder_name'          Ex: sudo mkdir  
/mnt/Archive
```

```
sudo mount -t cifs //IPaddress/'Folder_on_windows'  
/mnt/'folder_name' -o user='windows_user'
```

3. Run the Windows Reader with the following command:

```
windows_reader /specs/windows.spec
```

where `/specs/windows.spec` is a specification file

Refer to cyflex.com usage help for [windows_reader](#) for supplemental information.