



How To Start Talking to an Outstation over a Network

Introduction

For new users not familiar with DNP3 or DNP3 test tools, this document describes how to make a basic connection to a TCP/IP capable outstation and to see active communication and point data. There are three things you must know before you start:

1. **The IP address of the outstation.** This must be on the same subnet as the processor running the CDOAN-DNP3 application
2. **The DNP3 address of the outstation.** This is a 2-octet value in the range of 0 to 65519. You should be able to find this address in the outstation documentation. It may be configurable. In messages sent from the master (CDOAN-DNP3) to the outstation, this is called the destination address. If you cannot find the address, try '1'. While this may not be correct, it is the most common value.
3. The DNP3 address that the outstation associated with the master. Again, this is a 2-octet address that should be in the outstation documentation and may be configurable. Some outstations require a specific address. Other outstations do not care. In messages sent from the master (CDOAN-DNP3) to the outstation, this is called the source address. If you cannot find the address, try '0'. While this may not be correct, it is the most common value.

Setup

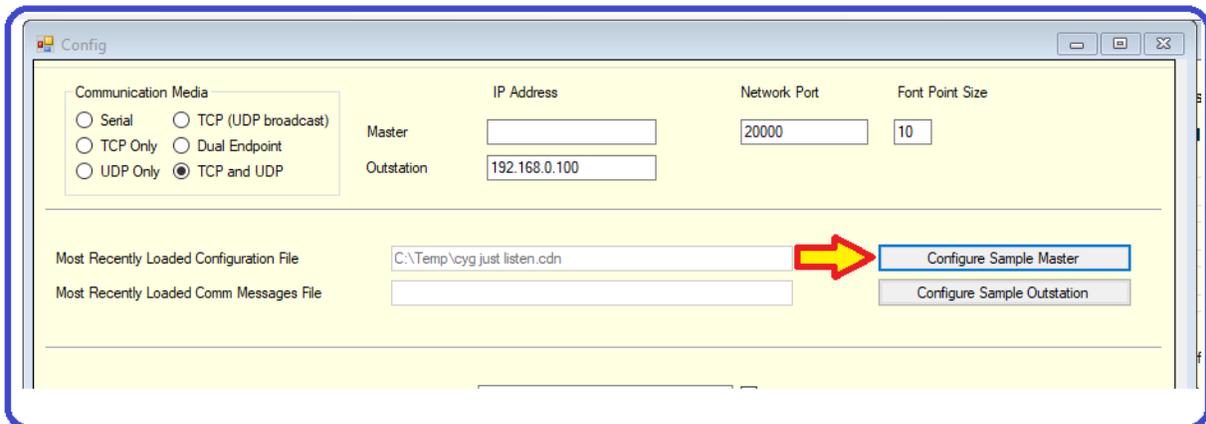
Once you have this information, start CDOAN-DNP3. In the initial view, enter the IP address of the outstation as described in point 1.



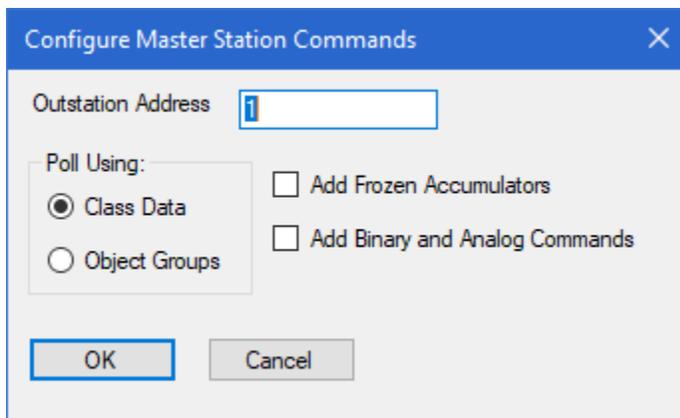


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Then select “Configure Sample Master”



This generates the following menu:

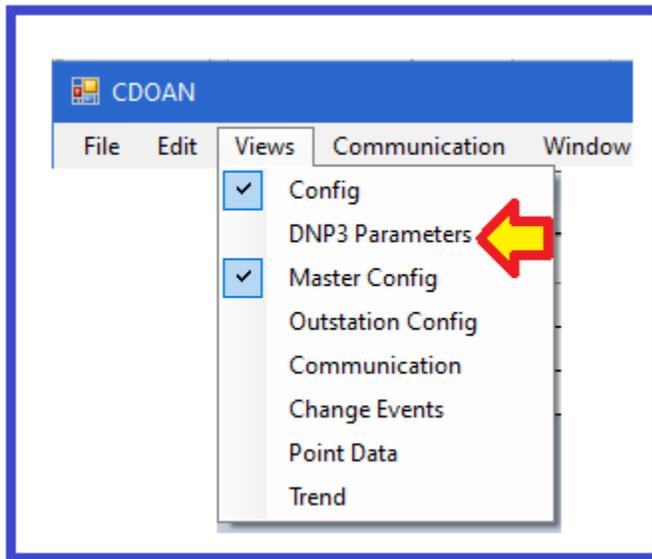


Enter the outstation address described in point 2 in the Introduction section. Then select **OK**.



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Next, request the DNP3 Parameters view.



Enter the master address as described in point 3 in the Introduction section.



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DNP3 Parameters

General

Time Base
 Local UTC Confirm User Data
 Unsolicited
 Use Serial Time Sync For LAN and WAN
Keep Alive Timer (0 to disable)

Master Settings

Request Variation/General
 Any Flags No Flags
 Time Relative Time

Request Variation/Numeric Objects
 Any 16-bit 32-bit Float

Source/Destination Addresses
Of Master 
Of Outstation

Delay between Select and Operate

Broadcast Address
 FFFF FFFE FFFD

Outstation Settings

	Input Objects			Events			
	Static	Send In Class 0	Format	With Time	Enabled	With Time	Class
Binary	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="1"/>
Counter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> 16-bit <input type="radio"/> 32-bit		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
Frozen	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="3"/>
Analog	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> 16-bit <input type="radio"/> 32-bit <input type="radio"/> Float		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="2"/>

Output Objects

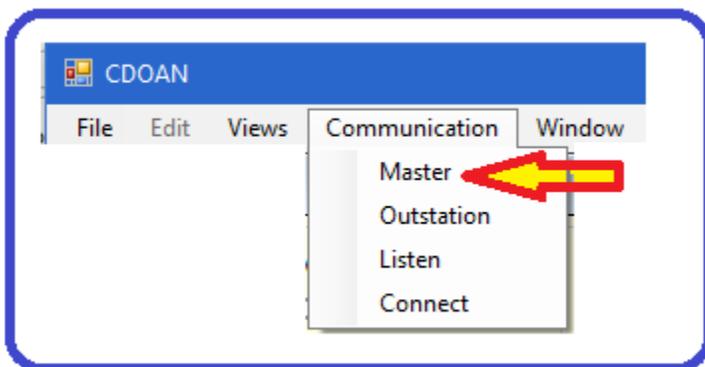
	Allow SBO	Allow Direct	Select/Operate Timeout
Binary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="5"/>
Analog	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Send Reset Link At Startup Analog Deadband

Subset Level Compliance
 No Restrictions Level 1 Level 2 Level 3 Single Frame

Ready to Go

You are now ready to start communicating. Select Communication and Master.

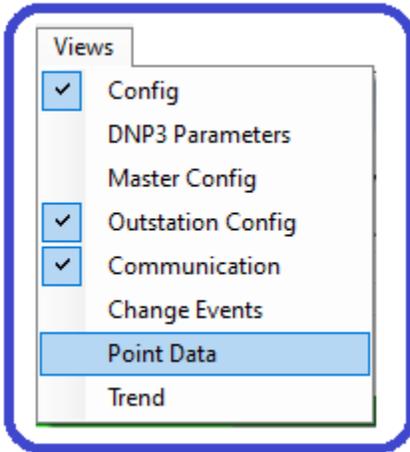


If all goes OK, you should see communication like that below:



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You can also see individual point values on the Point Data view.



A screenshot of a window titled 'Point Data' showing a table of point values. The table has columns for Adrs, Type, Index, Name, Value, Time, and Flags. The data is as follows:

Adrs	Type	Index	Name	Value	Time	Flags
1	Binary Input	0		0		No flag (Online implied)
1	Binary Input	1		1	03-Sep-2021 22:47:30.156	Online
1	Binary Input	2		0		No flag (Online implied)
1	Binary Input	3		0		No flag (Online implied)
1	Binary Input	4		0		No flag (Online implied)
1	Binary Input	5		0		No flag (Online implied)
1	Binary Input	6		0		No flag (Online implied)
1	Binary Input	7		0		No flag (Online implied)
1	Counter (Running)	0		0		No flag (Online implied)
1	Counter (Running)	1		0		No flag (Online implied)
1	Counter (Running)	2		0		No flag (Online implied)
1	Counter (Running)	3		0		No flag (Online implied)
1	Counter (Running)	4		0		No flag (Online implied)
1	Counter (Running)	5		0		No flag (Online implied)
1	Counter (Running)	6		0		No flag (Online implied)
1	Counter (Running)	7		0		No flag (Online implied)
1	Analog	0		0		No flag: (Online implied)
1	Analog	1		0		No flag: (Online implied)
1	Analog	2		0		No flag: (Online implied)
1	Analog	3		0		No flag: (Online implied)
1	Analog	4		0		No flag: (Online implied)