

# NR500 Series Industrial Cellular VPN Router

## Application Note 066

### VLAN Setting

**Version:** V1.0.0  
**Date:** Nov 2022  
**Status:** Confidential



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# 1. Introduction

## 1.1 Overview

This document contains information regarding the configuration and use of VLAN, normally we call it single arm routing.

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product, and of the requirements for their specific application.

## 1.2 Compatibility

This application note applies to:

**Models Shown:** NR500 series.

**Firmware Version:** 1.1.7(3b5122d) or newer

**Other Compatible Models:** None

## 1.3 Version

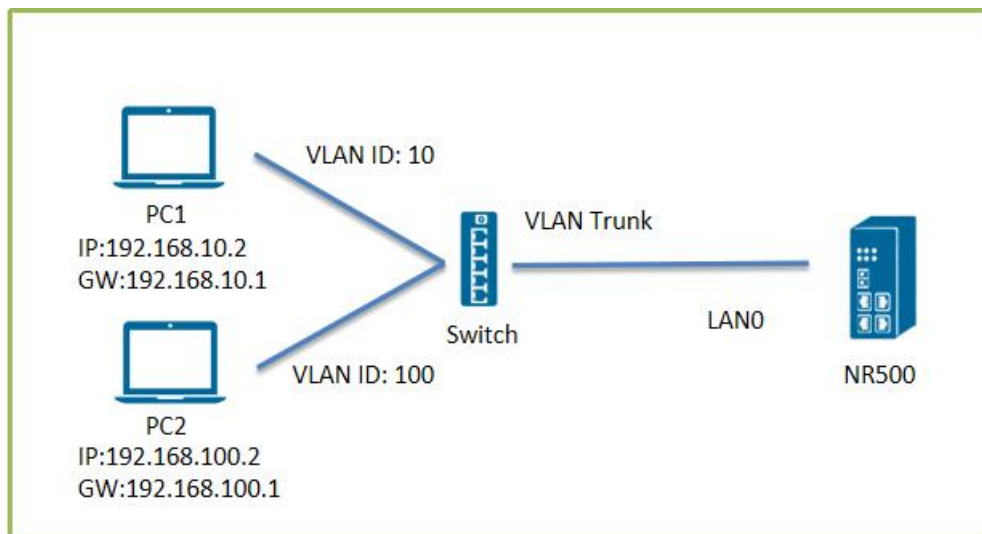
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2022/11/22	V1.0.0	1.1.7(3b5122d)	First released

## 1.4 Corrections

Appreciate for corrections or rectifications to this application note, and if any request for new application notes please email to: [support@navigateworx.com](mailto:support@navigateworx.com)

## 2. Topology



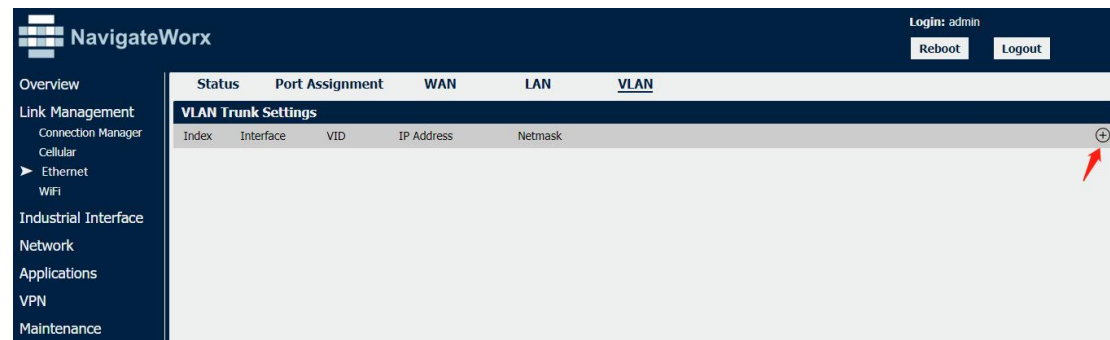
1. PC1 connect to Switch and PC1 under VLAN ID: 10 network. PC2 connect to Switch and PC2 under VLAN ID: 100 network.
2. NR500 connect to Switch with VLAN Trunk and make VLAN ID: 10(PC1) and VLAN ID: 100(PC2) be able be communicate each other.

Note: If the PCs(the end devices) under different VLANs, normally they cannot communicate each other. With the VLAN settings(single arm routing), we can implements communication between different VLANs.

## 3. Configuration

### 3.1 VLAN Configuration of NR500

1. Go to **Link Management>Ethernet>VLAN**, Click the **add button** of VLAN Trunk settings.



2. Edit VLAN Trunk Settings to add a sub-interface on LAN0, setting VID to 10 and IP Address to 192.168.10.1 like below:

**Trunk Settings**

**VLAN Trunk Settings**

Index	<input type="text" value="1"/>
Interface	<input type="text" value="LAN0"/>
VID	<input type="text" value="10"/>
IP Address	<input type="text" value="192.168.10.1"/>
Netmask	<input type="text" value="255.255.255.0"/>

Note: "IP Address" should be on the same network segment as PC1, and the gateway of PC1 should be the address set by IP Address.

3. Click Save>Save>Apply.

4. Click the **add button** to add a second sub-interface on LAN0, setting VID to 100 and IP Address to 192.168.100.1 like below:

### Trunk Settings

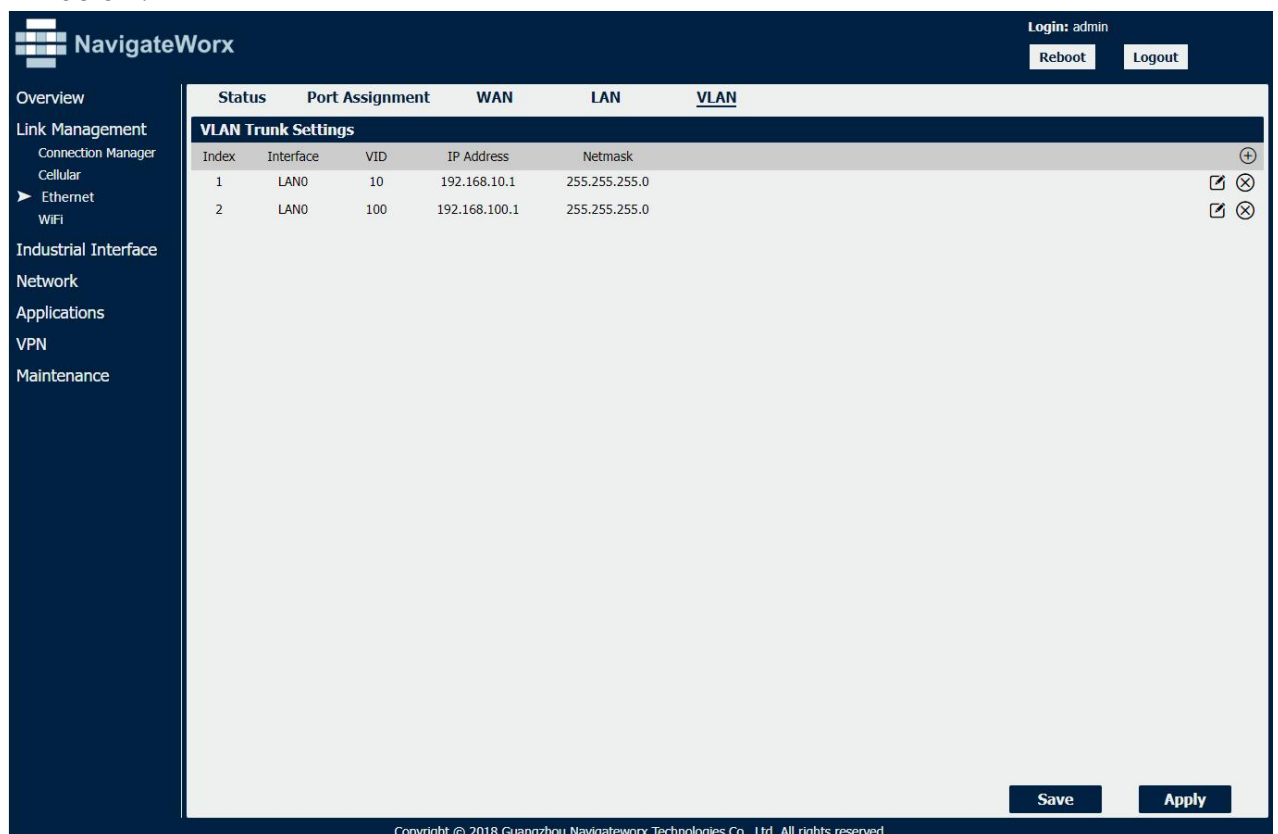
#### VLAN Trunk Settings

Index	<input type="text" value="2"/>
Interface	<input type="text" value="LAN0"/>
VID	<input type="text" value="100"/>
IP Address	<input type="text" value="192.168.100.1"/>
Netmask	<input type="text" value="255.255.255.0"/>

Note: "IP Address" should be on the same network segment as PC2, and the gateway of PC2 should be the address set by IP Address.

5. Click Save.

6. After save, we can check that two sub-interfaces on LAN0 have been set like below:



The screenshot shows the main dashboard of the NavigateWorx device. On the left is a navigation menu with categories like Overview, Link Management, Industrial Interface, Network, Applications, VPN, and Maintenance. The main content area displays a table titled "VLAN Trunk Settings".

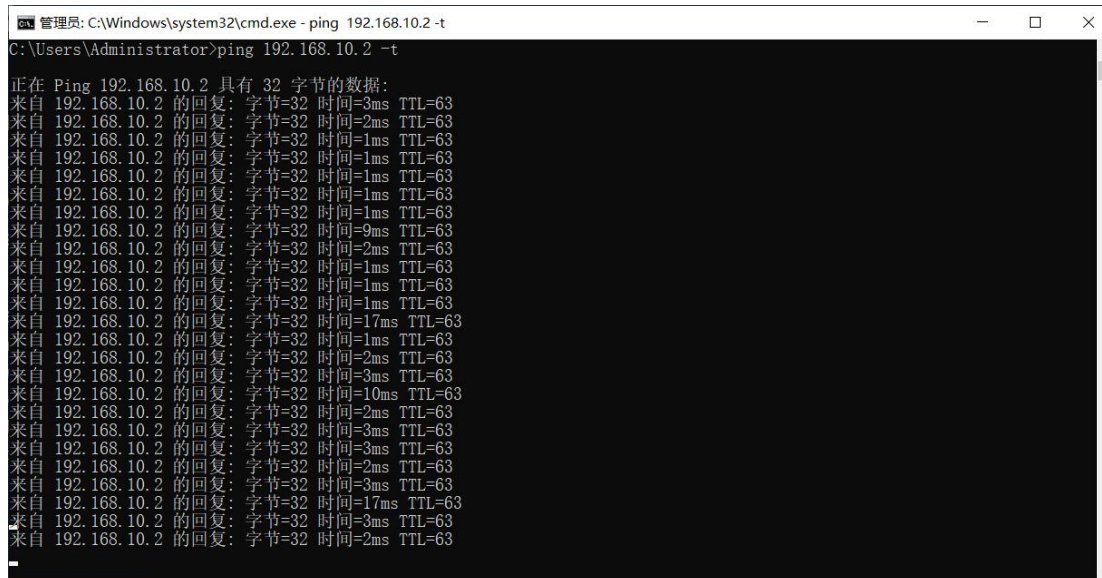
Status	Port Assignment	WAN	LAN	VLAN
<b>VLAN Trunk Settings</b>				
Index	Interface	VID	IP Address	Netmask
1	LAN0	10	192.168.10.1	255.255.255.0
2	LAN0	100	192.168.100.1	255.255.255.0

At the bottom right of the table area, there are "Save" and "Apply" buttons. The footer of the page contains the copyright information: "Copyright © 2018 Guangzhou Navigateworx Technologies Co., Ltd. All rights reserved."

7. Click save>Apply.

## 4. Testing

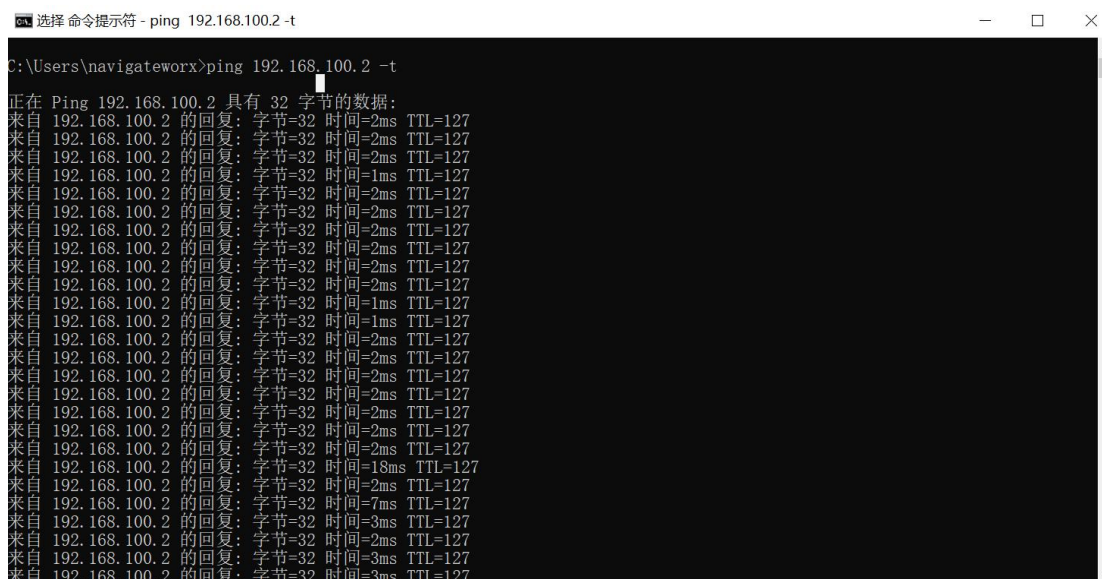
1. Ping from PC2 to PC1 and successfully.



```
管理员: C:\Windows\system32\cmd.exe - ping 192.168.10.2 -t
C:\Users\Administrator>ping 192.168.10.2 -t

正在 Ping 192.168.10.2 具有 32 字节的数据:
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=9ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=17ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=1ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=10ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=17ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=3ms TTL=63
来自 192.168.10.2 的回复: 字节=32 时间=2ms TTL=63
```

2. Ping from PC1 to PC2 and successfully.



```
选择 命令提示符 - ping 192.168.100.2 -t
C:\Users\navigateworx>ping 192.168.100.2 -t

正在 Ping 192.168.100.2 具有 32 字节的数据:
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=1ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=1ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=1ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=18ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=7ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=3ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=2ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=3ms TTL=127
来自 192.168.100.2 的回复: 字节=32 时间=3ms TTL=127
```

3. Test successfully.