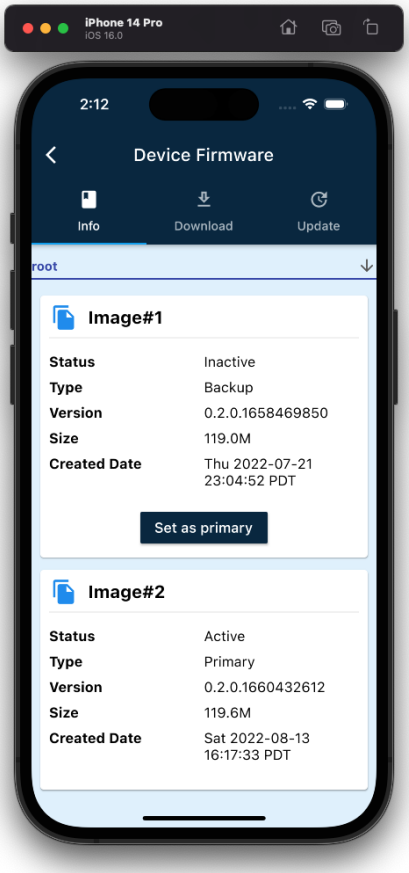


[CLI]
Firmware -> info

```
ssh admin@10.16.113.10
AVS(firmware)#

Help:
          info - Show the current firmware status
      download - Download the firmware file from the configured server
         write - Write the firmware file into image bank
       primary - Set the firmware image as primary
          file - Sub menu to manage the firmware file
        server - Sub menu to configure the firmware file servers
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(firmware)# info

Current firmware info:
```

Image number	Active	Primary	Version	Size	Checksum	Created time
1	Inactive	Backup	0.2.0.1658469850	119.0M	f0199c9f484d8b6340d6f170a0b73735	Thu 2022-07-21 23:04:52 PDT
2	Active	Primary	0.2.0.1660432612	119.6M	feb9b1487fc83929ba359525cbcb8462	Sat 2022-08-13 16:17:33 PDT

```
AVS(firmware)#

Help:
          info – Show the current firmware status
      download – Download the firmware file from the configured server
         write – Write the firmware file into image bank
       primary – Set the firmware image as primary
          file – Sub menu to manage the firmware file
        server – Sub menu to configure the firmware file servers
            .. – Navigate up one category
          exit – Exit Command line interface


AVS(firmware)# info


Current firmware info:
```

Image number	Active	Primary	Version	Size	Checksum	Created time
1	Inactive	Backup	0.2.0.1658469850	119.0M	f0199c9f484d8b6340d6f170a0b73735	Thu 2022-07-21 23:04:52 PDT
2	Active	Primary	0.2.0.1660432612	119.6M	feb9b1487fc83929ba359525cbcb8462	Sat 2022-08-13 16:17:33 PDT

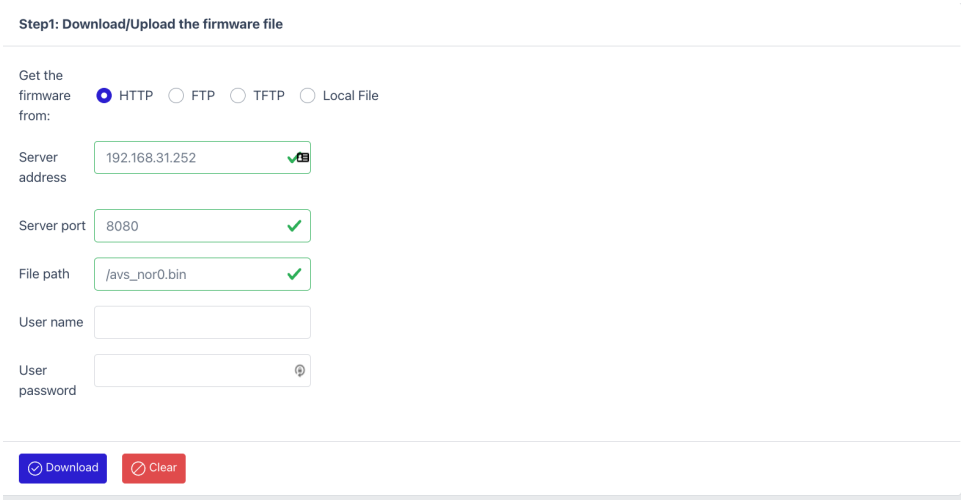
```
AVS(firmware)# primary 1
```

Upload/Download the firmware file to the device

There are two mechanisms you can get the firmware image file to be loaded into your WaveTunnel device. You can set up the Http,FTP or TFPF server and put the image file on it. Then, you can download the image file from the server through WEB GUI, Mobile App or CLI to your device. Or you can directly upload the firmware image file from your local laptop through the WEB GUI to the device.

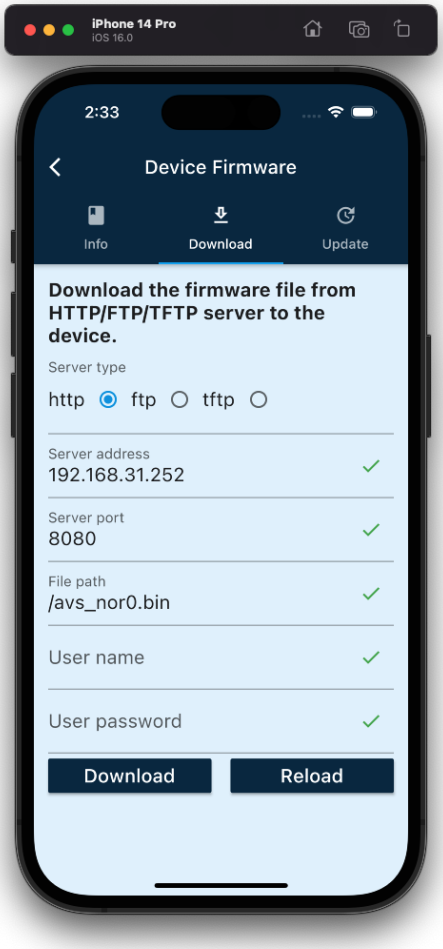
For the download mechanism, you need to put the server address, server port , the file path of the image file, user name(optional),password(optional) before starting the download operation.

[WEB GUI]
Operation -> Firmware Update -> Step 1
Input the server setting and click download button



Select the firmware image file from your local laptop and then click “upload” button.

[Mobile App]
Settings -> Firmware -> Download
Input the server setting and click download button



[CLI]
Firmware - > Server

Input the server configurations in this category.

```
ssh admin@10.16.113.10
AVS(firmware-server)#

Help:
            ll - List the firmware server setting
           set - Set the attribute of the firmware file servers
          save - Save the changed attributes of the file servers
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(firmware-server)# ll

Firmware file server settings
```

Description	Attribute Name	Current Value
Server type	serverType	HTTP
HTTP server address	httpServer	192.168.31.252
HTTP server port	httpPort	8080
HTTP remote image path	httpPath	/avs_nor0.bin
HTTP server user name	httpUser	
HTTP server user password	httpPassword	
FTP server address	ftpServer	192.168.31.252
FTP server port	ftpPort	21
FTP remote image path	ftpPath	/avs_nor0.bin
FTP server user name	ftpUser	
FTP server user password	ftpPassword	
TFTP server address	tftpServer	192.168.31.252
TFTP server port	tftpPort	69
TFTP remote image path	tftpPath	/avs_nor0.bin

Firmware -> download

Input the “download” command to download the file

```
ssh admin@10.16.113.10
AVS(firmware-server)# ..
AVS(firmware)# ll
Unknown Command: ll

Help:
          info - Show the current firmware status
      download - Download the firmware file from the configured server
         write - Write the firmware file into image bank
       primary - Set the firmware image as primary
          file - Sub menu to manage the firmware file
        server - Sub menu to configure the firmware file servers


AVS(firmware)# download
```

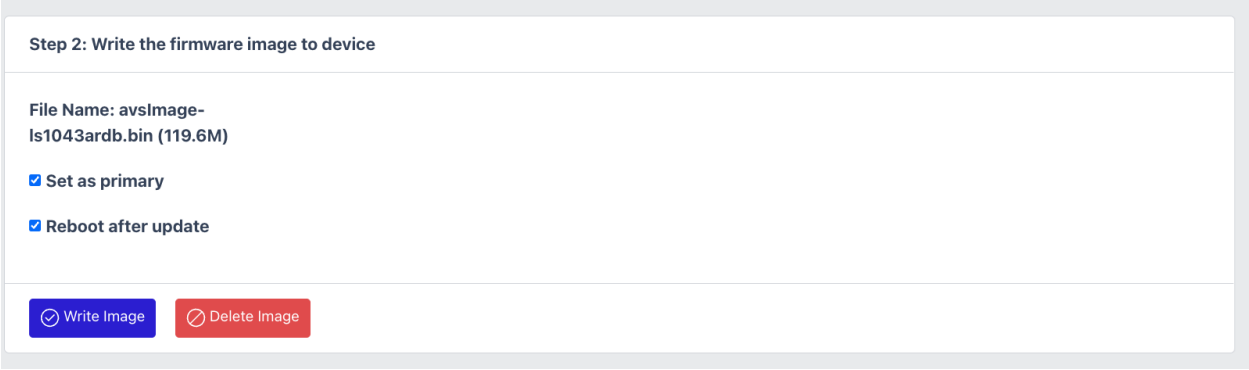
Update the firmware

Once the firmware image file is downloaded or uploaded to the WaveTunnel device. You can see the image file name on the page. Clicking the “Write image” button to update the firmware to the WaveTunnel device. Clicking the “Delete image” button to discard the uploaded image.

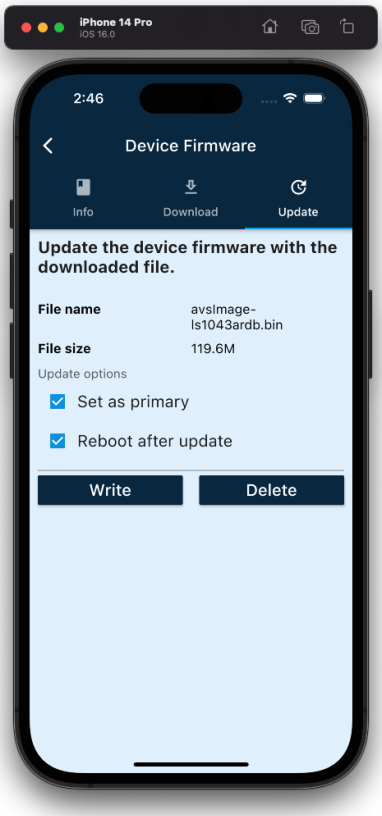
There are two options on the update page.

[Set as primary] => The updated image will set to primary after system reboot
[Reboot after update] => The WaveTunnel will be rebooted automatically after the firmware update operation. Un-selected it to delay the reboot if you want to do it later. But the image will only take effect after the system reboot with the primary flag set.

[WEB GUI]
Operation -> Firmware Update -> Step 2



[Mobile App]
Settings -> Firmware -> Update



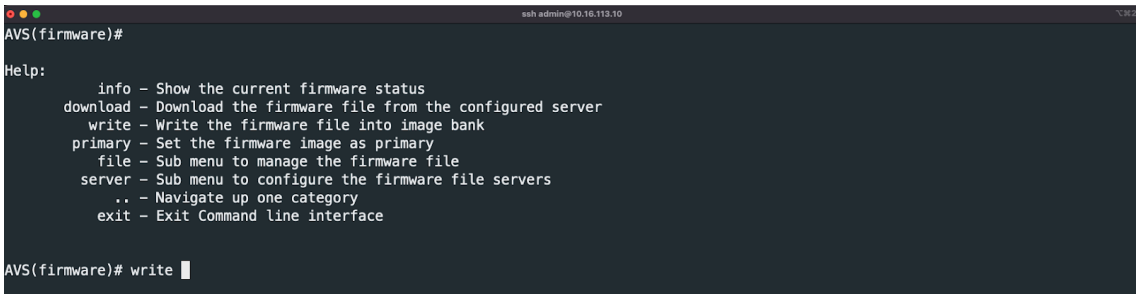
[CLI]
Firmware -> File -> Info

To check if the firmware image file is existed or not.

```
AVS(firmware)#

Help:
          info - Show the current firmware status
      download - Download the firmware file from the configured server
         write - Write the firmware file into image bank
       primary - Set the firmware image as primary
          file - Sub menu to manage the firmware file
        server - Sub menu to configure the firmware file servers
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(firmware)# file
AVS(firmware-file)#

Help:
          info - Show information of the downloaded firmware file
        verify - Verify the the downloaded firmware file
        delete - Delete the downloaded firmware file
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(firmware-file)# info

Available firmware image file:

| Name                  | Size   |
|-----------------------|--------|
| avsImage-ls1043ardb.bin | 119.6M |

AVS(firmware-file)#
```

Firmware - > Write

Type “write” command to trigger the firmware update operation.



Configure the WaveTunnel device

Once the Wave tunnel connections are established,you should not change the setting in most scenarios. But if you do need to modify the configuration,here are the pages for you to do it.

Update the WaveTunnel Configurations

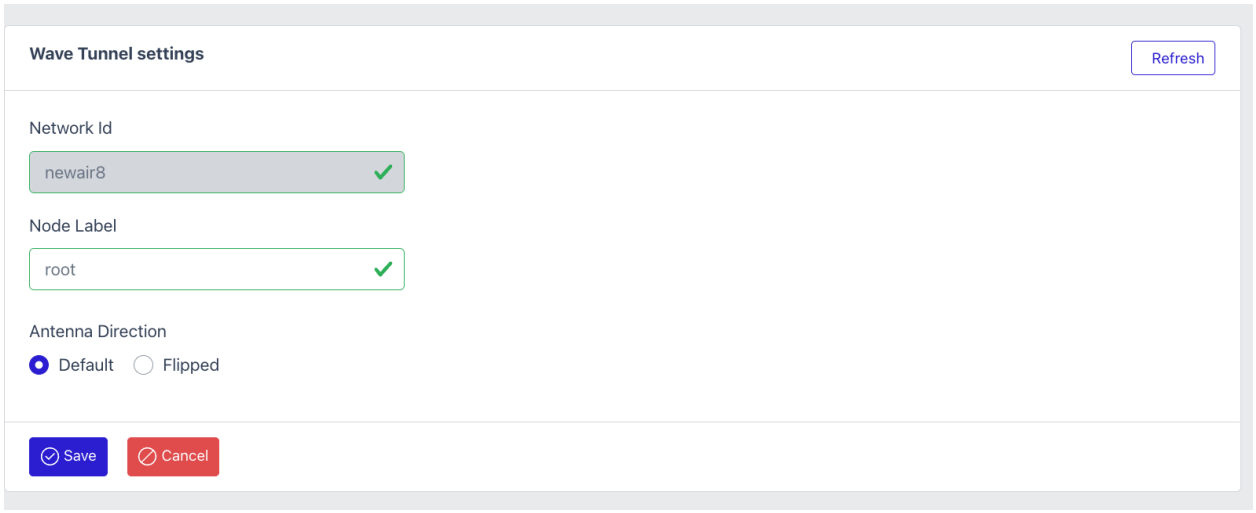
General WaveTunnel settings

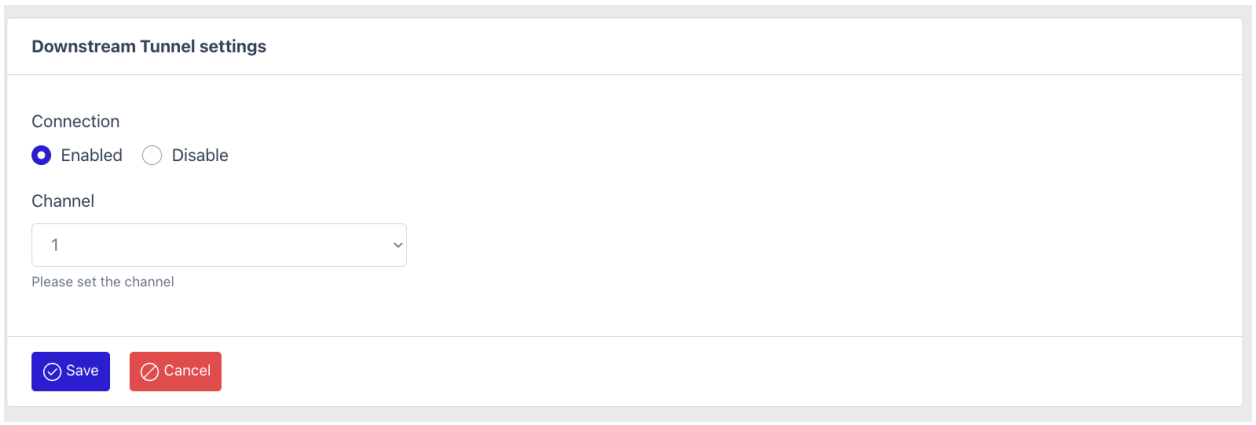
The General Node settings,you can change the label and the antenna direction. For the antenna direction, you will need to adjust the position of the nodes after you make the changes. We suggest you not change it if there is no strong requirement.

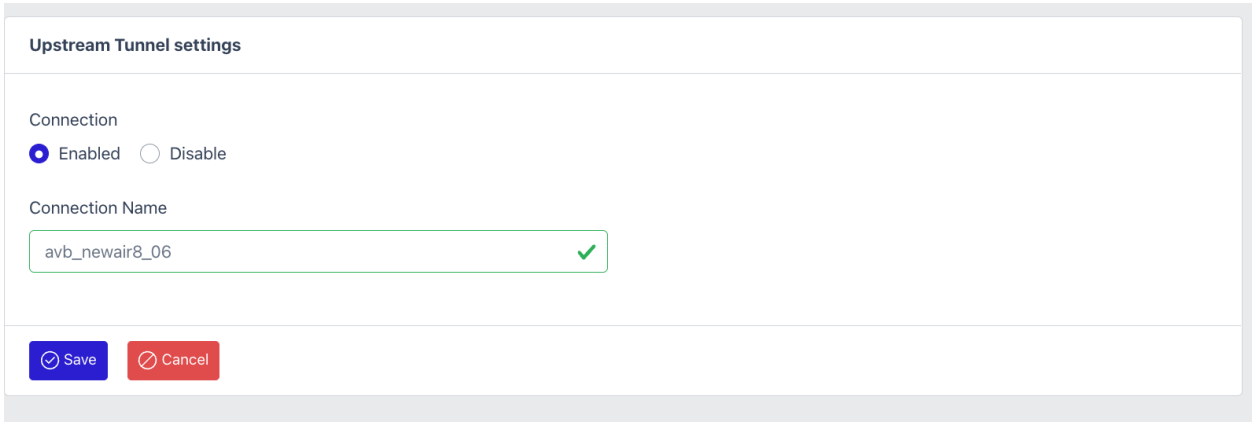
The Downstream tunnel settings.
You can enable/disable the downstream connection or change the channel value. If you disable the connection,it will cause the connection to be lost in the network. We suggest disable only when there is no downstream node connected. For the channel setting,please ensure the channel setting is not identical to the neighboring device.

The Upstream tunnel settings.
You can enable/disable the upstream connection or change the connection name. If you disable the connection,it will cause the connection to be lost in the network. We suggest disable only when there is no upstream node connected or you want to switch the upstream connection to another device.

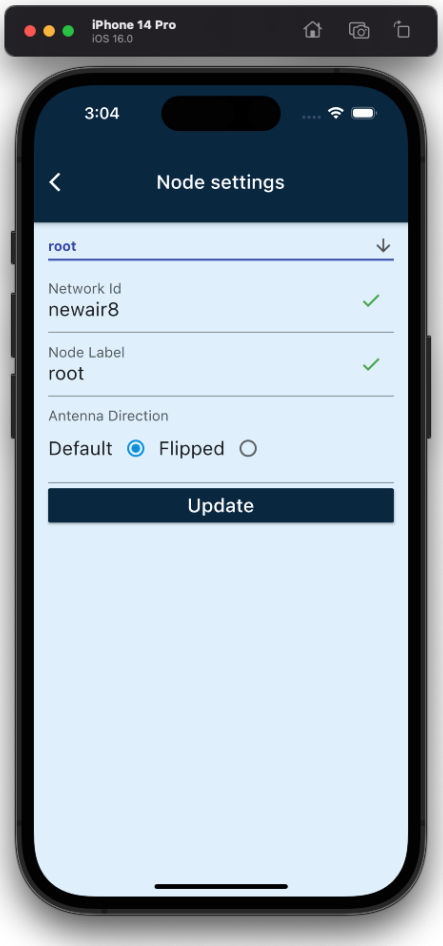
[WEB GUI]
Configuration -> Network -> Wave Tunnel



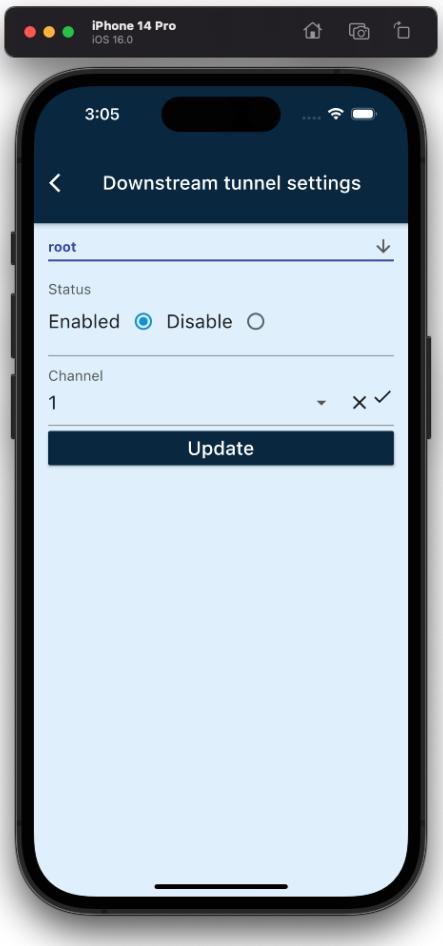




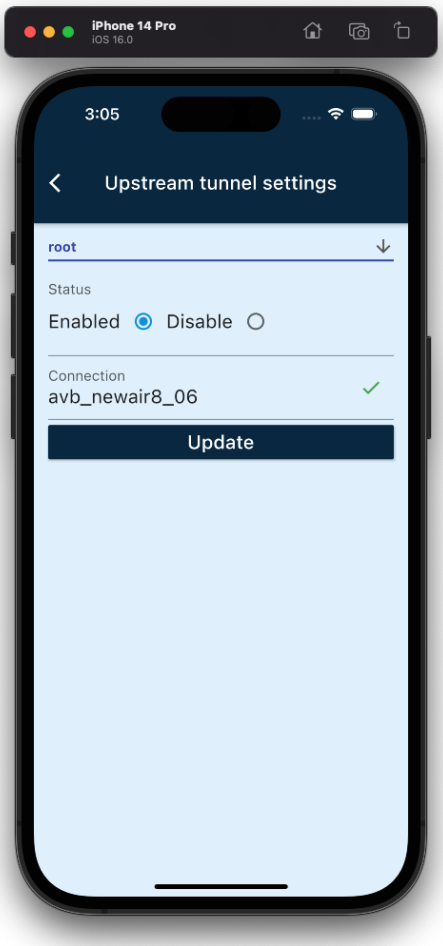
[Mobile App]
Settings -> Wave Tunnel settings



Settings -> Downstream Tunnel settings



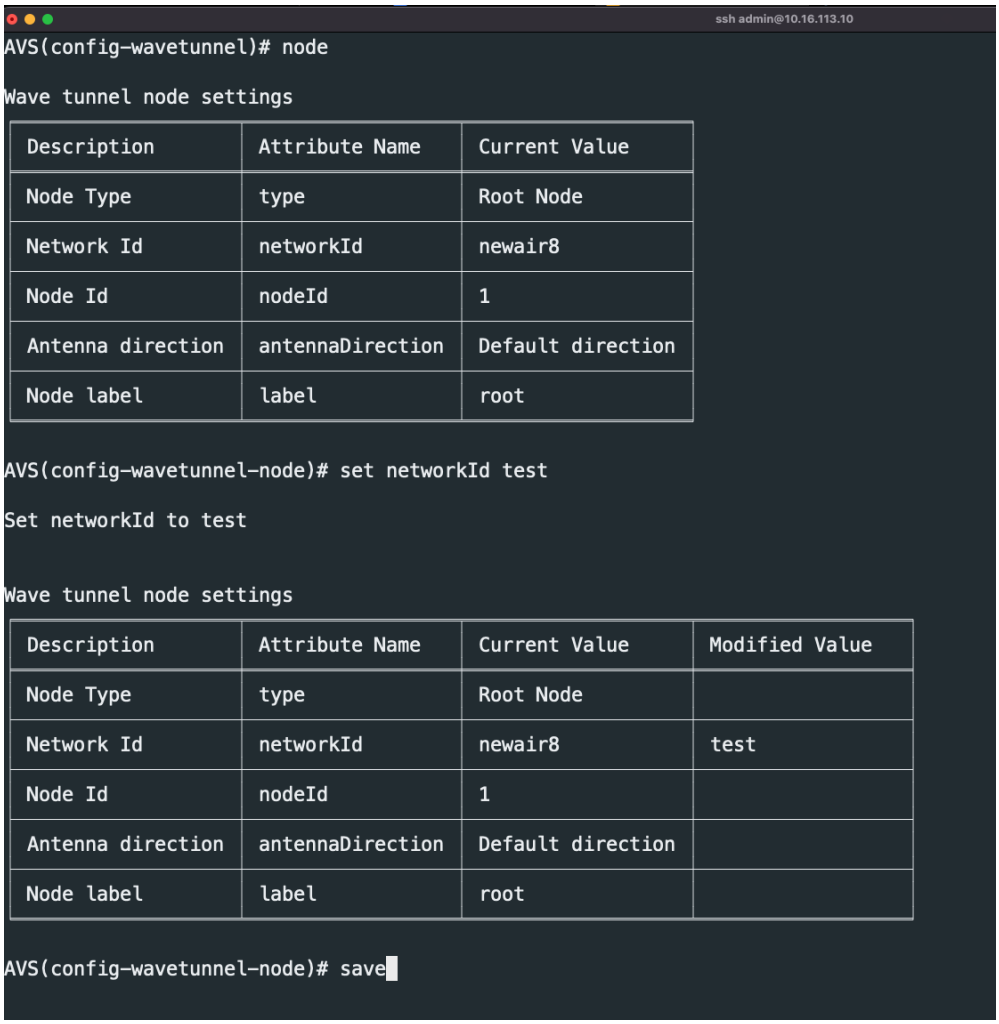
Settings -> Upstream Tunnel settings



[CLI]
Config -> wavetunnel

```
AVS(config)#

Help:
        device - Sub menu to configure the device settings
      ethernet - Sub menu to configure the ethernet settings
    wavetunnel - Sub menu to configure the wave tunnel settings
          wifi - Sub menu to configure the management WIFI settings
       persist - Save the running configuration permanently
      autoSave - Set if persist the running configuraitons automatically
          user - Sub menu to configure the User settings
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(config)# wavetunnel
AVS(config-wavetunnel)#

Help:
    downstream - Configure the downstream wave tunnel settings
          node - Configure the wave tunnel node settings
      upstream - Configure the upstream wave tunnel settings
            .. - Navigate up one category
          exit - Exit Command line interface


AVS(config-wavetunnel)#
```

Config -> wavetunnel -> node



Config -> wavetunnel -> downstream