Quick Note 042

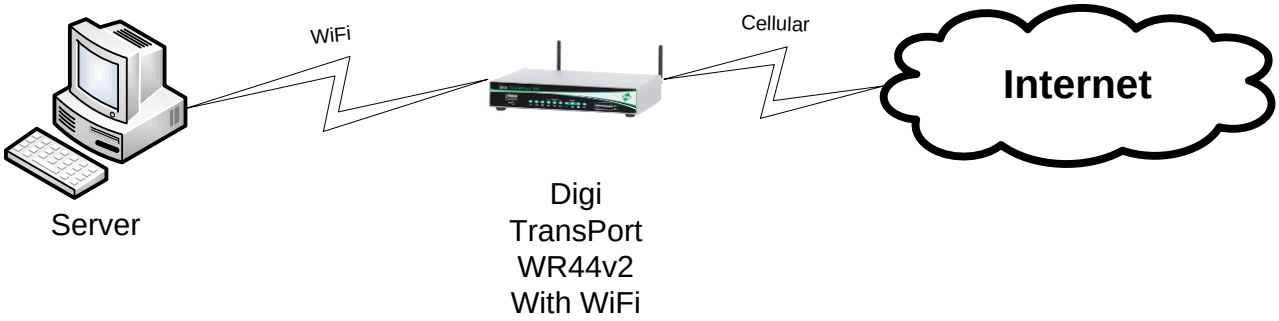
Hotspot feature for Wi-Fi clients on Digi TransPort.

Digi Support
June 2014

Contents

1 INTRODUCTION

1.1 Outline



This document describes how to configure a Digi TransPort as a Wi-Fi Hotspot Access Point to provide Wi-Fi clients with Internet access through Cellular.

1.2 Assumptions

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. It also assumes a basic ability to access and navigate a Digi TransPort router.

This application note applies only to:

Model: DIGI TransPort WR41/44 with the Wi-Fi option.

Firmware versions: 5169 and later

Configuration: This document assumes that the devices are set to their factory default configurations. Most configuration commands are shown only if they differ from the factory default.

Please note: This application note has been specifically rewritten for firmware release 5169 and later and will not work on earlier versions of firmware. Please contact tech.support@digi.com if your require assistance in upgrading the firmware of the TransPort router.

1.3 Corrections

Requests for corrections or amendments to this application note are welcome and should be addressed to: tech.support@digi.com
Requests for new application notes can be sent to the same address.

2 VERSION

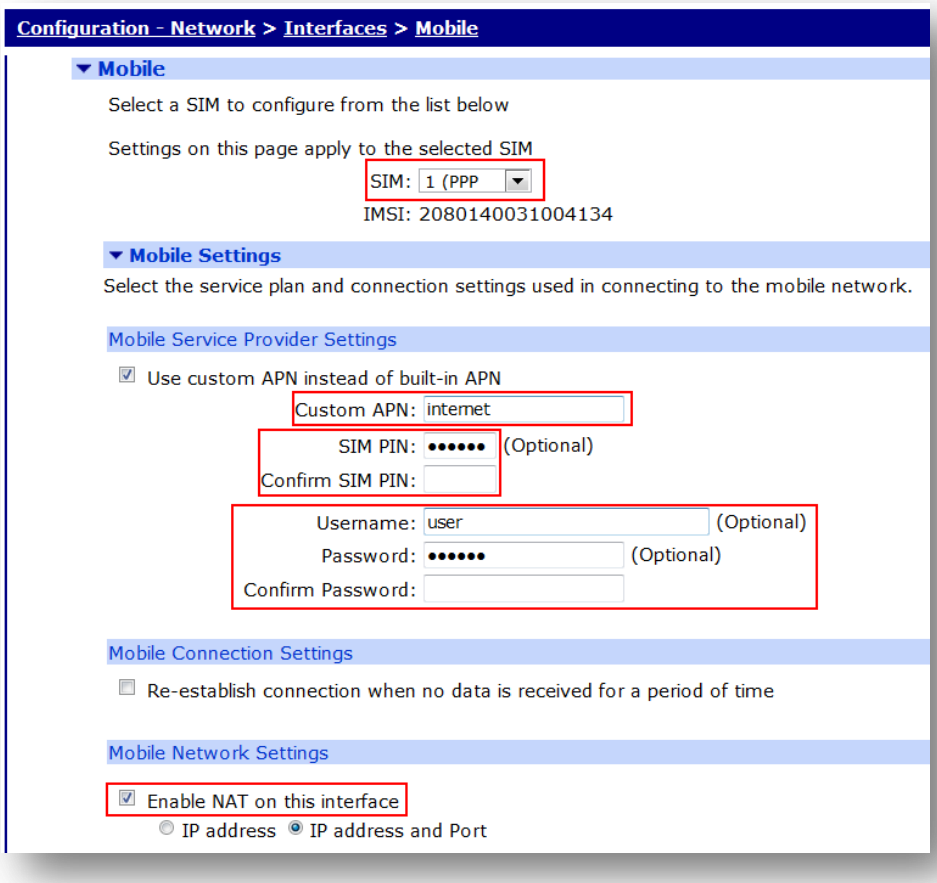
Version Number	Status
1.0	Published

3 CONFIGURATION

3.1 Mobile Interface Configuration

Configuration – Network > Interfaces > Mobile > Mobile Settings

Configure the Mobile settings for the SIM card to provide cellular connection to the Digi TransPort and allow Wi-Fi clients to have internet access through it.



Parameter	Setting	Description
SIM	1(PPP1)	SIM card slot where the SIM card is inserted
APN	Internet	APN associated with the SIM card
SIM PIN	****	SIM PIN if there is one configured, else, leave blank.
Confirm SIM PIN	****	Confirm the SIM PIN if there is one configured, else, leave blank.
Username	User	Username for the configured APN. If not required, leave blank.
Password	****	Password for configured APN username. If not required, leave blank.
Confirm Password	****	Confirm password for configured APN

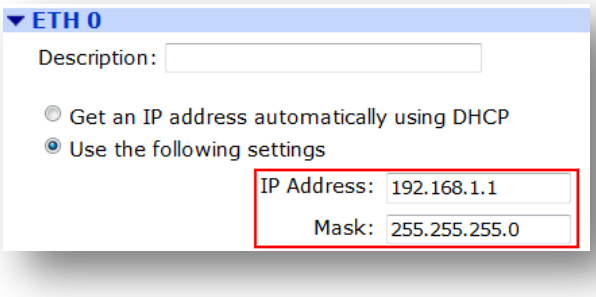
		username. If not required, leave blank.
Enable NAT on this Interface	Checked	Enable NAT on the PPP1 interface (IP Address is sufficient for most configuration)

Click **Apply** and **Save** to save the settings.

3.2 Ethernet Interface Configuration

3.2.1 ETH 0 Configuration

Configuration – Network > Interfaces > Ethernet > ETH 0

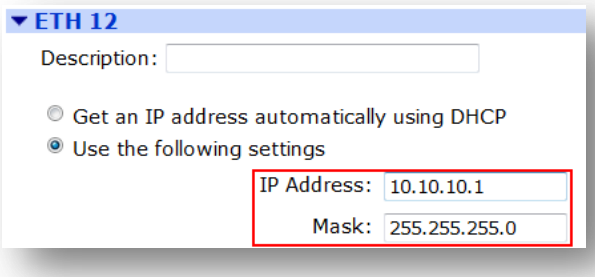


Parameter	Setting	Description
IP Address	192.168.1.1	IP Address of the Router's ETH 0 interface
Mask	255.255.255.0	Subnet Mask of the Router's ETH 0 interface

3.2.2 ETH 12 Logical Interface Configuration

Logical Interface Ethernet 12 will be used for Wi-Fi clients.

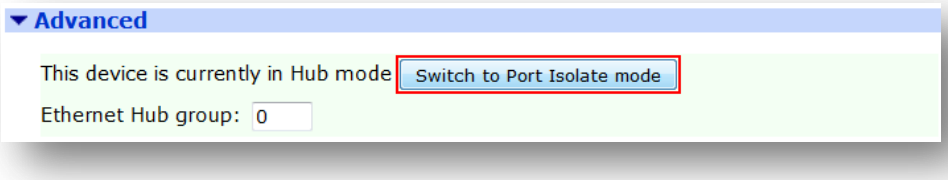
Configuration – Network > Interfaces > Ethernet > ETH 12



Parameter	Setting	Description
IP Address	10.10.10.1	IP Address of the Router's ETH 12 logical interface
Mask	255.255.255.0	Subnet Mask of the Router's ETH 12 logical interface

Configuration – Network > Interfaces > Ethernet > ETH 12 > Advanced

Configure the port to « **Port Isolate mode** »



Parameter	Setting	Description
Switch to Port Isolate mode	Click	In Port Isolate mode the router will only respond to its Ethernet IP address on physical port. This port will be bridged to the Wi-Fi instance.

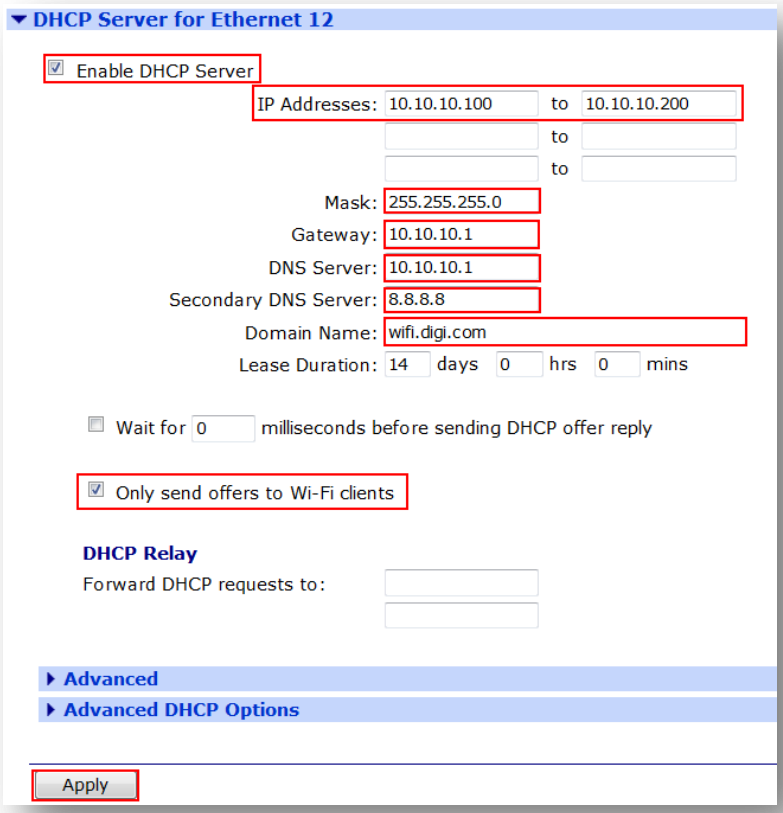
Click **Apply** and **Save** to save the settings.

You must reboot for this change to take effect

3.3 DHCP "Wi-Fi Only" Configuration for ETH 12

In this example, the Digi TransPort router will have a dedicated DHCP server for Wi-Fi clients only.

Configuration – Network > DHCP Server > Logical Ethernet Interfaces > DHCP Server for Ethernet 12



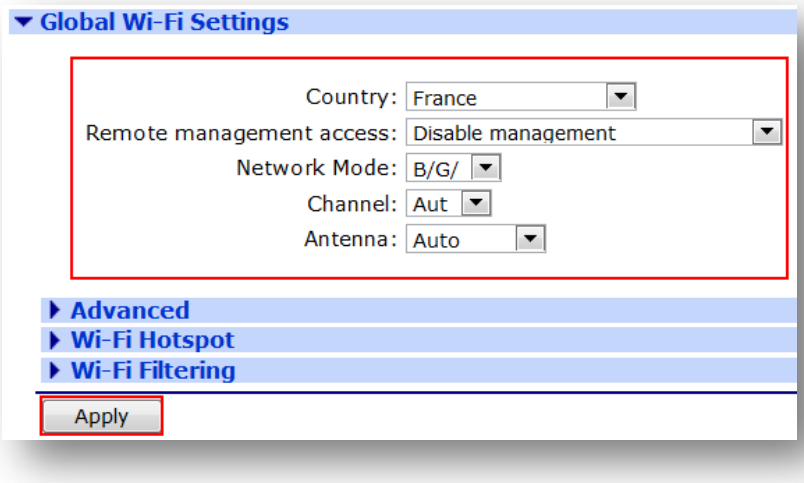
Parameter	Setting	Description
Enable DHCP Server	Checked	Enable DHCP Server for this interface
IP Addresses	10.10.10.100 – 10.10.10.200	Start and End of DHCP Range
Mask	255.255.255.0	DHCP Server Subnet mask for this interface. This must match the settings of Ethernet 12
Gateway	10.10.10.1	Gateway address. This must match ETH 12 address
DNS Server	10.10.10.1	Primary DNS Server, by default the TransPort will act as a DNS Server. This must match ETH 12 Address.
Secondary DNS Server	8.8.8.8	Set a Secondary DNS Server if required (in this example, Google's public DNS Server)
Domain Name	*	Set the domain name to be used by the

		Wi-Fi clients.
Only send offers to Wi-Fi clients	Checked	Select this option to only send DHCP offers on this interface to Wi-Fi clients.

3.4 Wi-Fi Interface Configuration

3.4.1 Wi-Fi Global Settings Configuration

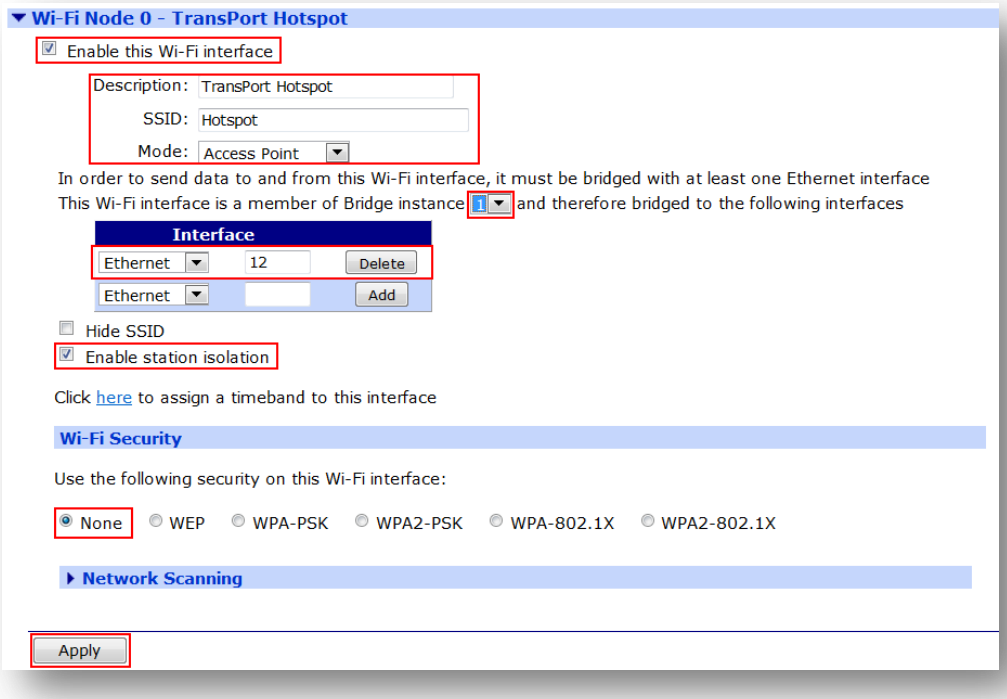
Configuration – Network > Interfaces > Wi-Fi > Global Wi-Fi Settings



Parameter	Setting	Description
Country	<Chose>	Select the Country where the device is used
Remote management access	Disable management	Do not allow Wi-Fi clients to log into the device and manage it
Network Mode	B/G/N	Chose which network mode to use
Channel	Auto	Let the router chose the best channel to use
Antenna	Auto	Use both Antennas for Wi-Fi

3.4.2 Wi-Fi Node 0 Configuration

Configuration – Network > Interfaces > Wi-Fi > Wi-Fi Node 0

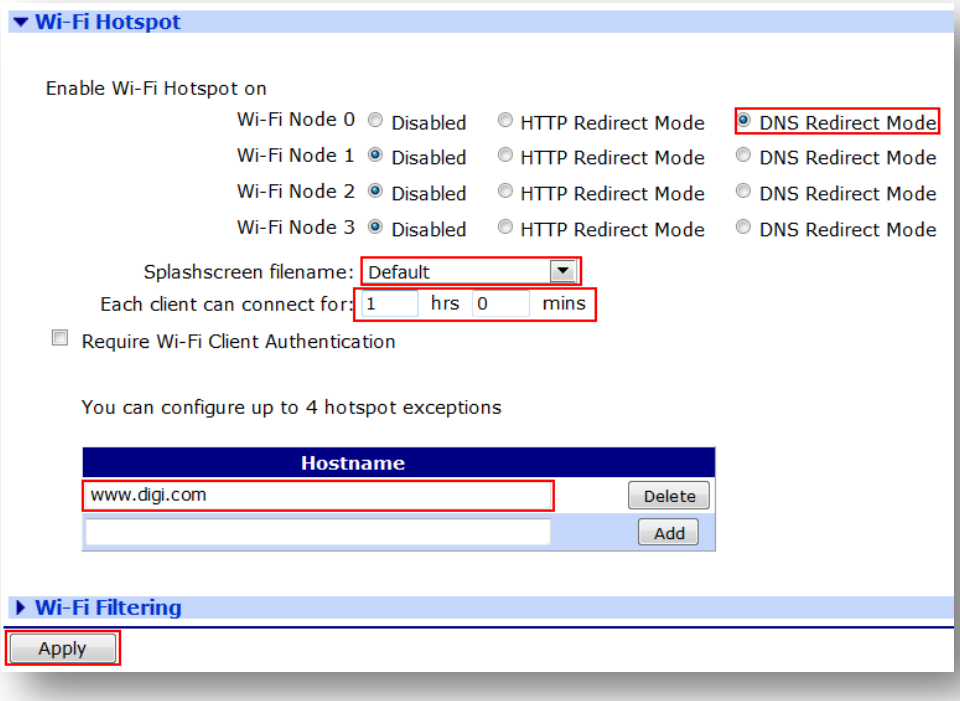


Parameter	Setting	Description
Enable this Wi-Fi interface	Checked	Enable Wi-Fi Node 0 interface
Description	TransPort Hotspot	Enter a description for this interface
SSID	Hotspot	SSID used for the hotspot and for clients to connect
Mode	Access Point	Wi-Fi mode for this interface
This Wi-Fi interface is a member of Bridge instance	1	Select the Bridge Instance 1 which contains Ethernet 12
Interface	Ethernet 12	Bridge this Wi-Fi interface with Ethernet 12
Enable station isolation	Checked	Station isolation will prevent wi-fi clients connected on the hotspot to communicate and be isolated.
Wi-Fi Security	None	Open SSID with No Security (for testing purposes, we recommend using security such as WPA2 or Radius)

Click **Apply** and **Save** to save the settings.

3.4.3 Wi-Fi Hotspot Configuration

Configuration – Network > Interfaces > Wi-Fi > Global Wi-Fi Settings > Wi-Fi Hotspot



Parameter	Setting	Description
Enable Wi-Fi Hotspot on Wi-Fi Node 0	DNS Redirect Mode	**DNS Redirect Mode** will result in the Transport intercepting any DNS queries and return its own address instead of the real address. **HTTP Redirect Mode** will authorise DNS queries to external server but web requests will be redirected to the router hotspot page prior to allow general network access
Splashscreen filename	Default (hotspot.asp)	Splashscreen web page file name to be used when clients connects the first time
Each client can connect for	1 hrs	Time to allow clients to connect to before forcing a reconnection
Hostname	www.digi.com	Optional : Allow domains exceptions (up to 4) that you wish to provide unrestricted access to (Clients connected and visiting this domain will not be required to accept the terms or authenticate on the hotspot splash screen page)

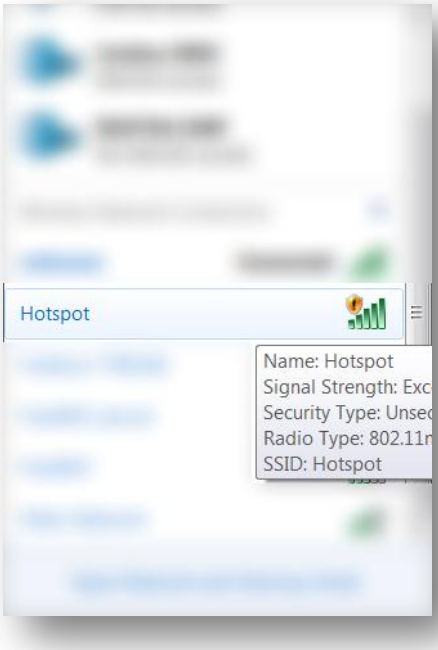
Click **Apply** and **Save** to save the settings.

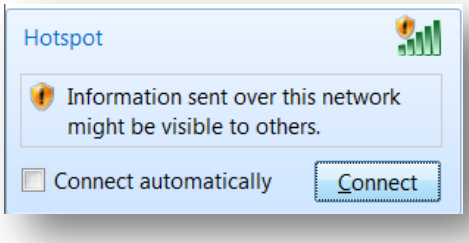
4 TESTING

4.1 Connecting to the Hotspot from a Computer

Under Windows 7/8, Click on the Wi-Fi icon in the task bar

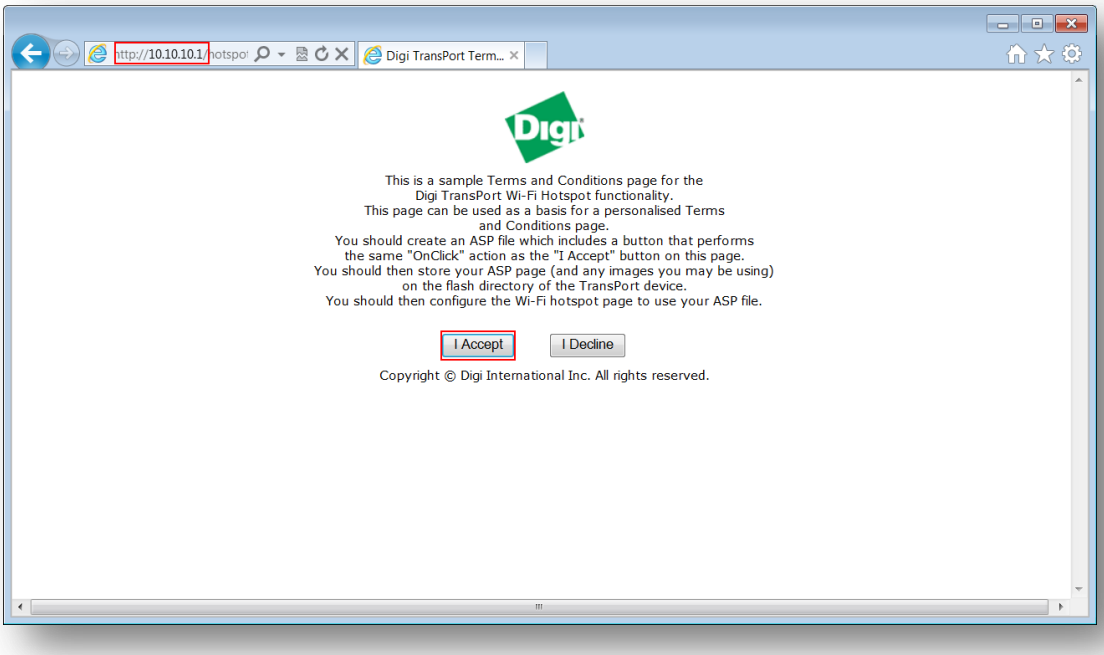
This should bring the Wireless network Connection menu. The “Hotspot” SSID should appear with “No Security”. Select it and click **Connect** to connect to the Hotspot.





Opening a web browser to one of the Hotspot's exceptions will display the page directly (like http://www.digi.com in our example)

However, opening a web browser to any other domain will prompt the user to accept terms and conditions from the standard hotspot.asp page. This page can be customized or replaced by another page of your choosing and selected like show in section 3.4.3



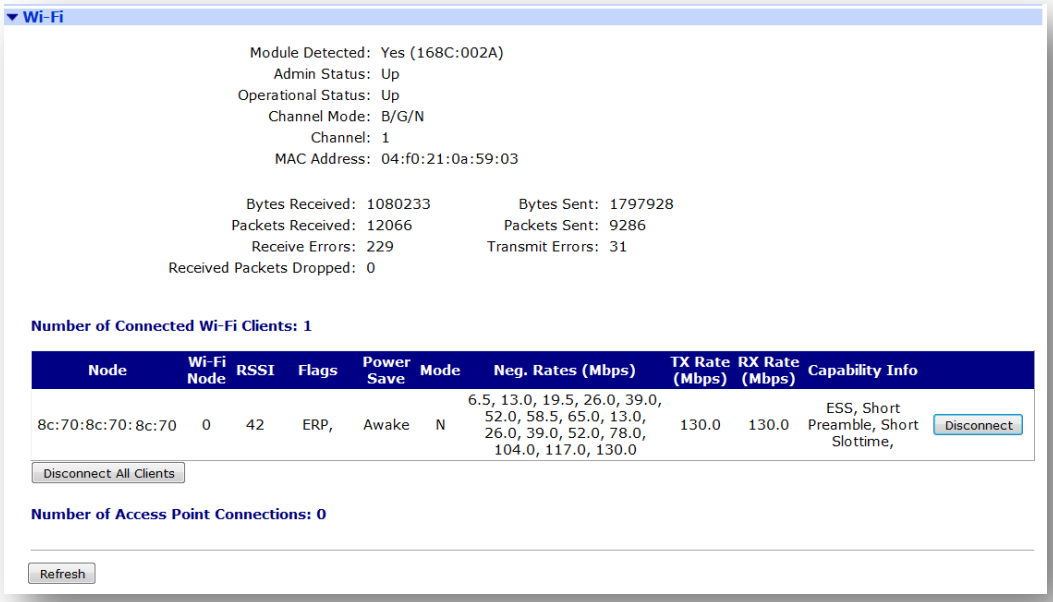
Upon clicking on **Accept**, the web page will redirect to the right site.

4.2 Checking Wi-Fi connection status

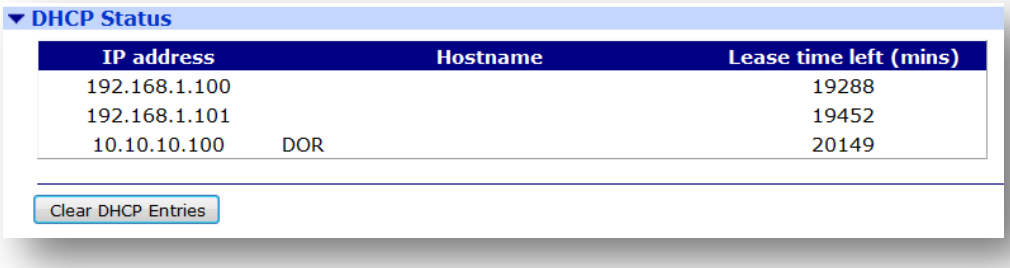
4.2.1 Web GUI

You can check the number of connected clients and their status on the Wi-Fi management page.

Management – Network Status > Interfaces > Wi-Fi



You can also check the DHCP status for clients under the DHCP Status page



4.2.2 Command Line (CLI)

The command **wificonn** will display all the Wi-Fi clients connected and their status

```
Number of connected clients: 1
Number of client mode connections: 0

  1 Node 8c:70:8c:70:8c:70
      Wi-Fi node : 0
      RSSI       : 42
      Flags      : ERP
      Power Save : Awake
      Mode       : N
      Neg. Rates : 6.5 13.0 19.5 26.0 39.0 52.0 58.5 65.0 13.0 26.0 39.0 52.0
78.0 104.0 117.0 130.0 Mbps
```

```
      TX Rate     : 117.0 Mbps
      RX Rate     : 130.0 Mbps
      Cap. Info   : ESS Short_Preamble Short_Slottime
      HT Cap.     : GREENFIELD SHORTGI20 RXSTBC(1) AMSDU(7935)
      Channel     : 1

OK
```

The command **dhcp 12 status** will display the DHCP Server status of Interface ETH 12

```
Entry: IP [192.168.1.100], hostname [], MAC [00:10:49:31:27:a8], expiry 19282
(mins)
Entry: IP [192.168.1.101], hostname [], MAC [00:40:9d:4a:1d:4c], expiry 19446
(mins)
Entry: IP [10.10.10.100], hostname [DOR], MAC [8c:70:8c:70:8c:70], expiry 20143
(mins)
OK
```

5 CONFIGURATION FILES

Digi TransPort WR44v2

```
wifi 0 country "France"
wifi 0 chanmode "bgn"
wifi 0 hotspot_lifetime 60
wifinode 0 descr "TransPort Hotspot"
wifinode 0 ssid "Hotspot"
wifinode 0 hotspot 2
wifinode 0 isolation ON
wifinode 0 bridge_inst 1
eth 0 IPaddr "192.168.1.44"
eth 0 gateway "192.168.1.1"
eth 12 IPaddr "10.10.10.1"
eth 12 bridge ON
eth 12 bridge_inst 1
addp 0 enable ON
lapb 0 ans OFF
lapb 0 tinact 120
lapb 1 tinact 120
lapb 3 dtemode 0
lapb 4 dtemode 0
lapb 5 dtemode 0
lapb 6 dtemode 0
gps 0 asy_add 1
gps 0 gpson ON
ip 0 cidr ON
def_route 0 ll_ent "ppp"
def_route 0 ll_add 1
hshosts 0 host "www.digi.com"
dhcp 0 IPmin "192.168.1.100"
dhcp 0 respdelms 500
dhcp 0 mask "255.255.255.0"
dhcp 0 gateway "192.168.1.1"
dhcp 0 DNS "192.168.1.1"
dhcp 12 IPmin "10.10.10.100"
dhcp 12 IPrange 101
dhcp 12 wifionly ON
```

```
dhcp 12 mask "255.255.255.0"
dhcp 12 gateway "10.10.10.1"
dhcp 12 DNS "10.10.10.1"
dhcp 12 DNS2 "8.8.8.8"
dhcp 12 domain "wifi.digi.com"
ppp 0 timeout 300
ppp 1 name "W-WAN"
ppp 1 phonenum "*98*5#"
ppp 1 username "orange"
ppp 1 epassword "Ny13VEJJ"
ppp 1 IPaddr "0.0.0.0"
ppp 1 timeout 0
ppp 1 do_nat 2
ppp 1 use_modem 1
ppp 1 aodion 1
ppp 1 autoassert 1
ppp 1 ipanon ON
ppp 1 r_chap OFF
ppp 3 name "DSL"
ppp 3 l1iface "AAL"
ppp 3 username "Enter ADSL Username"
ppp 3 r_addr OFF
ppp 3 IPaddr "0.0.0.0"
ppp 3 l_addr ON
ppp 3 timeout 0
ppp 3 do_nat 2
ppp 3 aodion 1
ppp 3 autoassert 1
ppp 3 immoos ON
ppp 3 echo 10
ppp 3 echodropcnt 5
ppp 3 l_pap OFF
ppp 3 l_chap OFF
ppp 3 defpak 16
ppp 4 defpak 16
modemcc 0 info_asy_add 7
modemcc 0 apn "internet"
modemcc 0 epin "aG8mCg=="
modemcc 0 link_retries 10
modemcc 0 stat_retries 30
modemcc 0 sms_interval 1
modemcc 0 sms_access 1
modemcc 0 sms_concat 0
modemcc 0 apn_2 "none"
modemcc 0 link_retries_2 10
modemcc 0 stat_retries_2 30
modemcc 0 sms_interval_2 1
modemcc 0 sms_access_2 1
ana 0 anon ON
ana 0 l1on ON
ana 0 lapdon 0
ana 0 asyon 1
ana 0 logsize 45
cmd 0 unitid "ss%s>"
cmd 0 cmdnua "99"
cmd 0 hostname "digi.router"
cmd 0 asyled_mode 2
cmd 0 tremto 1200
cmd 0 rcihttp ON
cmd 1 autocmd "ats31=7"
cmd 1 gpson ON
cmd 4 cmd_processor OFF
user 0 access 0
user 1 name "username"
```

```
user 1 epassword "KD5lSVJDVVg="
user 1 access 0
user 2 access 0
user 3 access 0
user 4 access 0
user 5 access 0
user 6 access 0
user 7 access 0
user 8 access 0
user 9 access 0
local 0 transaccess 2
sslsvr 0 certfile "cert01.pem"
sslsvr 0 keyfile "privrsa.pem"
ssh 0 hostkey1 "privSSH.pem"
ssh 0 nb_listen 5
ssh 0 v1 OFF
cloud 0 ssl ON

Power Up Profile: 0
OK
```