

# **WLAN CONFIGURATION WITH WDS LINK**

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R&TTE Directive 1999/5/EG

CE marking for all EU countries and Switzerland

You will find detailed information in the Declarations of Conformity at [www.bintec.net](http://www.bintec.net).

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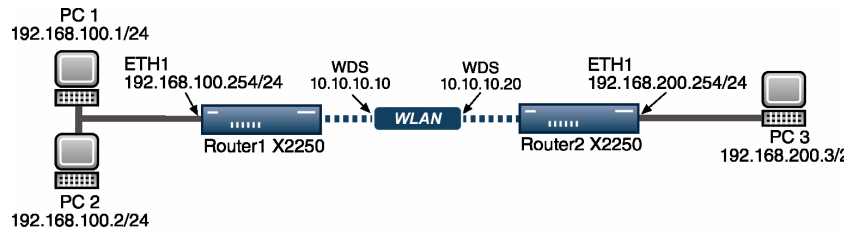
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# 1 Introduction

The following chapters describe the configuration of the Wireless LAN between 2 access points. You have 2 different IP networks that can be reached with 2 access points over radio.

The Setup Tool is used for the configuration.



## 1.1 Requirements

The following requirements must be fulfilled for the configuration:

- A boot image of version 7.1.16 or later.
- Your LAN is connected over the first Ethernet interface (ETH 1) of your router.
- At least 2 **X2250** routers.



## 2 Configuration

Settings must be made in the following menu for configuring a Wireless LAN:

**MAIN MENU → WIRELESS LAN**

### 2.1 Settings in the Wireless LAN Menu

■ Go to **WIRELESS LAN**

VPN Access 25	Bintec Access Networks GmbH
[WLAN-2-0]: Configure WLAN Interface	Head_Office
Operation Mode	Access Point
Location	Germany
Channel	11
Wireless Interfaces >	
WDS Link Configuration >	
Advanced >	
SAVE	CANCEL
Use <Space> to select	

The following fields are relevant:

Field	Meaning
Operation Mode	Here you activate the access point.
Location	This is the country in which you use the device.
Channel	For selecting the radio channel.
WDS Link Configuration	For configuring the connections between routers.

Table 2-1: Relevant fields in **WIRELESS LAN**

Proceed as follows to set the menu:

- Set **OPERATION MODE** to *Access Point*.
- Leave **LOCATION** set to *Germany*.
- Set **CHANNEL**, e.g. to *11*.
- Press **SAVE** to confirm your settings.



**Note**

Both access points must be set to the same channel to permit communication between them.

## 2.1.1 WDS Link Configuration on Router 1

You need WDS links to enable the WLAN routers to set up connections to each other. Go to the following menu to configure WDS links:

**WIRELESS LAN → WDS LINK CONFIGURATION → ADD**

VPN Access 25	Bintec Access Networks GmbH
[WLAN-2-0] [WDS LINK] [EDIT]: WDS Link	Head_Office
AdminStatus	enable
Remote WDS MAC Address	000c840106fa
Local IP Address	10.10.10.10
Partner IP Address	10.10.10.20
Remote Network	192.168.200.0
Remote Netmask	255.255.255.0
Bridging enabled	no
SAVE	CANCEL
Use <Space> to select	



The following fields are relevant:

Field	Meaning
AdminStatus	For activating the WDS link.
Remote WDS MAC Address	Enter the MAC address of the WLAN interface of the remote router.
Local IP Address	Enter the IP address of your WLAN interface.
Partner IP Address	Enter the IP address of your partner's WLAN interface.
Remote Network	This is the network at the remote end.
Remote Netmask	The netmask associated with the remote network.

Table 2-2: Relevant fields in **WIRELESS LAN → WDS LINK CONFIGURATION → ADD**

Proceed as follows to configure the entry:

- Set the **ADMINSTATUS** to *enable*.
- Enter a **REMOTE WDS MAC ADDRESS**, e.g. *000c840106fa*.
- Enter a **LOCAL IP ADDRESS**, e.g. *10.10.10.10*.
- Enter a **PARTNER IP ADDRESS**, e.g. *10.10.10.20*.
- Enter a **REMOTE NETWORK**, e.g. *192.168.200.0*.
- Set **REMOTE NETMASK**, e.g. to *255.255.255.0*.
- Press **SAVE** to confirm your settings.

## 2.1.2 WDS Link Configuration on Router 2

The client receives an IP address from the network 192.168.100.0/24 as soon as he has set up a radio connection to the router. You must therefore also configure bridging in all the interfaces involved.

- Go to **WIRELESS LAN → WDS LINK CONFIGURATION → ADD**

VPN Access 25	Bintec Access Networks GmbH
[WLAN-2-0] [WDS LINK] [EDIT]: WDS Link	Head_Office
AdminStatus	enable
Remote WDS MAC Address	000c840106fb
Local IP Address	10.10.10.20
Partner IP Address	10.10.10.10
Remote Network	192.168.100.0
Remote Netmask	255.255.255.0
Bridging enabled	no
SAVE	CANCEL
Use <Space> to select	

The following fields are relevant:

Field	Meaning
AdminStatus	For activating the WDS link.
Remote WDS MAC Address	Enter the MAC address of the WLAN interface of the remote router.
Local IP Address	Enter the IP address of your WLAN interface.
Partner IP Address	Enter the IP address of your partner's WLAN interface.
Remote Network	This is the network at the remote end.
Remote Netmask	The netmask associated with the remote network.

Table 2-3: Relevant fields in **WIRELESS LAN → WDS LINK CONFIGURATION → ADD**

Proceed as follows to configure the entry:

- Set the **ADMINSTATUS** to *enable*.
- Enter a **REMOTE WDS MAC ADDRESS**, e.g. *000c840106fb*.

- Enter a **LOCAL IP ADDRESS**, e.g. *10.10.10.20*.
- Enter a **PARTNER IP ADDRESS**, e.g. *10.10.10.10*.
- Enter a **REMOTE NETWORK**, e.g. *192.168.100.0*.
- Set **REMOTE NETMASK**, e.g. to *255.255.255.0*.
- Press **SAVE** to confirm your settings.



## 3 Result

You have configured a Wireless LAN link between 2 access points. The networks 192.168.100.0/24 and 192.168.200.0/24 are now reachable over radio.

### 3.1 Test

You can test the IP connection between the routers once a connection has been set up successfully between the WLAN routers. This is done by entering the following in the SNMP shell of router 1:

```
ping 192.168.200.254
```

You should then receive the following result:

```
Running Ping for 192.168.200.254 with 32 bytes of data:
Answer from 192.168.200.254: Bytes=32 time=1ms TTL=64
Answer from 192.168.200.254: Bytes=32 time=1ms TTL=64
Answer from 192.168.200.254: Bytes=32 time=1ms TTL=64
Answer from 192.168.200.254: Bytes=32 time=1ms TTL=64
Ping statistics for 192.168.200.254:
    Packets: sent = 4, received = 4, lost = 0 (0% loss),
    approx. time in milliseconds:
        minimum = 1ms, maximum = 1ms, mean = 1ms
```

## 3.2 Overview of Configuration Steps

### Router 1

Field	Menu	Description
Operation Mode	<b>WIRELESS LAN</b>	<i>Access Point</i>
Location	<b>WIRELESS LAN</b>	<i>Germany</i>
Channel	<b>WIRELESS LAN</b>	<i>11</i>
AdminStatus	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	<i>enable</i>
Remote WDS MAC Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>000c840106fa</i>
Local IP Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>10.10.10.10</i>
Partner IP Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>10.10.10.20</i>
Remote Network	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>192.168.200.0</i>
Remote Netmask	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>255.255.255.0</i>

### Router 2

Field	Menu	Description
Operation Mode	<b>WIRELESS LAN</b>	<i>Access Point</i>
Location	<b>WIRELESS LAN</b>	<i>Germany</i>
Channel	<b>WIRELESS LAN</b>	<i>11</i>
AdminStatus	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	<i>enable</i>
Remote WDS MAC Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>000c840106fb</i>
Local IP Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>10.10.10.20</i>
Partner IP Address	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>10.10.10.10</i>
Remote Network	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>192.168.100.0</i>
Remote Netmask	<b>WIRELESS LAN → WDS LINK CONFIGURATION → ADD</b>	e.g. <i>255.255.255.0</i>