

User's Guide

DE/EE/PE Series

Default Login Details

LAN IP Address	http://192.168.1.1
Login	admin
Password	See the device label

Version 5.19-5.67 Ed 1, 09/2025

IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

This is a User's Guide for a series of products. Not all products support all firmware features. Screenshots and graphics in this book may differ slightly from your product due to differences in product features or Web Configurator brand style. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- Quick Start Guide

The Quick Start Guide shows how to connect the Zyxel Device.

- Zyxel One app. Download the Zyxel One app from Google Play or Apple Store to manage the Zyxel Device using a smartphone or tablet. To view Zyxel One app tutorials, please go to <https://service-provider.zyxel.com/app-help/ZyxelOne/FLA/LAN>

- More Information

Go to <https://service-provider.zyxel.com/global/en/tech-support> to find other information on Zyxel Device.



Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this guide.

Warnings tell you about things that could harm you or your Zyxel Device.

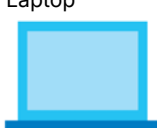
Note: Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

Syntax Conventions

- Product labels, screen names, field labels and field choices are all in **bold** font.
- A right angle bracket (>) within a screen name denotes a mouse click. For example, **Network Setting > Routing > DNS Route** means you first click **Network Setting** in the navigation panel, then the **Routing** submenu, and then finally the **DNS Route** tab to get to that screen.

Icons Used in Figures

Figures in this user guide may use the following generic icons. The Zyxel Device icon is not an exact representation of your Zyxel Device.

Zyxel Device 	Generic Router 	Switch 
Server 	Firewall 	USB Storage Device 
Printer 	4G LTE or 5G NR Base Station 	Desktop 
Laptop 	Smart TV 	Wireless Device 

Accessibility and Compatibility

Introduction

This User's Guide complies with the accessibility requirements set out in EAA (European Accessibility Act) (EU) 2019/882.

Accessibility makes this User's Guide usable for people with disabilities, including those with visual, auditory, motor, and cognitive impairments. Compatibility ensures this User's Guide works well with a wide range of devices, software, and assistive technologies.

Accessibility Feature – Screen Reader Support

The visually impaired may use screen readers, such as NVDA to read contents.

To use the screen reader, do the following:

- 1 Open your screen reader software.
- 2 Navigate to this User's Guide; the screen reader should automatically start reading the contents.
- 3 Use the keyboard shortcuts to navigate through this User's Guide (refer to the screen reader documentation).

Accessibility Feature – Keyboard Navigation

Keyboard navigation allows you to read the contents in this User's Guide without a mouse. Use the following keys.

- **Tab** key: navigate between interactive elements (for example, buttons, links, fields).
- **Enter** key: select or activate the highlighted item.
- Arrow keys: move between options in menus or lists.
- **Esc** (Escape) key: close pop-up windows or cancel actions.

How to Get Support

If you are an Internet Service Provider (ISP), please contact your Zyxel sales or service representative for direct support.

If you obtained your Zyxel Device from an ISP, please contact your ISP's support team directly, as the Zyxel Devices may have custom configurations.

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PART I

User's Guide

CHAPTER 1

Introducing the Zyxel Device

1.1 Overview

The Zyxel Device refers to the models listed in the tables.

DE Series

- DE1301-00
- DE3301-00

EE Series

- EE1301-00
- EE3301-00
- EE4410-00
- EE5301-00
- EE6510-10
- EE6601-00

PE Series

- PE3101-00
- PE3301-00
- PE5301-01

1.1.1 DE Series

The DE Series are DSL gateways, which provide Internet access over telephone lines (DSL) or the Ethernet WAN port.

The following table describes the feature differences of the DE Series by model. For more details about the ports panel, please refer to [DE1301-00](#) and [DE3301-00](#).

Table 1 DE Series Feature Comparison

	DE1301-00 AND DE3301-00
WiFi 7 Wireless Standard	BE7200
Supported Frequency Bands	2.4 GHz 5 GHz
Theoretical Maximum WiFi Speed	7.2 Gbps
SFP+ Cage	NO
Ethernet WAN	1 Gbps

Table 1 DE Series Feature Comparison (continued)

	DE1301-00 AND DE3301-00
DSL WAN	VDSL2 35b
USB	2.0
Phone Port (VoIP)	1 FXS
Zero-Wait DFS	YES
Wall Mount	No
App Management	Zyxel One

1.1.2 EE Series

The EE Series are Ethernet gateways that provide Internet access through the Ethernet WAN port or an SFP port.

The following table describes the feature differences of the EE Series by model. For more details about the ports panel, please refer from [EE3301-00](#) to [EE6601-00](#).

Table 2 EE Series Feature Comparison

	EE1301-00	EE3301-00	EE5301-00	EE6601-00
WiFi 7 Wireless Standard	BE7200	BE7200	BE7200	BE19000
Supported Frequency Bands	2.4 GHz 5 GHz	2.4 GHz 5 GHz	2.4 GHz 5 GHz	2.4 GHz 5 GHz 6 GHz
Theoretical Maximum WiFi Speed	7.2 Gbps	7.2 Gbps	7.2 Gbps	19 Gbps
SFP+ Cage	NO	NO	10G XGS-PON 10G AON	10G AON
Ethernet WAN	1 Gbps	1 or 2.5 Gbps	1, 2.5, 5, or 10 Gbps	1, 2.5, 5, or 10 Gbps
USB	2.0	3.0	3.0	3.0
Phone Port (VoIP)	1 FXS	1 FXS	2 FXS	2 FXS
Zero-Wait DFS	YES	YES	YES	YES
Wall Mount	No	YES	YES	YES
App Management	Zyxel One	Zyxel One	Zyxel One	Zyxel One

Table 3 EE Series Feature Comparison

	EE6510-10	EE4410-00
Wi-Fi 7 Wireless Standard	BE18000	BE18000
Supported Frequency Bands	2.4 GHz 5 GHz 6 GHz	2.4 GHz 5 GHz 6 GHz
Theoretical Maximum WiFi Speed	18 Gbps	18 Gbps
SFP+ Cage	NO	NO
Ethernet WAN	1, 2.5, or 10 Gbps	1 or 2.5 Gbps
USB	3.0	NO
Phone Port (VoIP)	NO	NO
Zero-Wait DFS	NO	NO

Table 3 EE Series Feature Comparison (continued)

	EE6510-10	EE4410-00
Wall Mount	YES	YES
App Management	Zyxel One	Zyxel One

1.1.3 PE Series

The PE Series are PON (Passive Optical Network) gateways that connect to the Internet through a fiber cable.

The following table describes the feature differences of the PE Series by model. For more details about the ports panel, please refer from [PE3101-00](#) to [PE5301-01](#).

Table 4 PE Series Feature Comparison

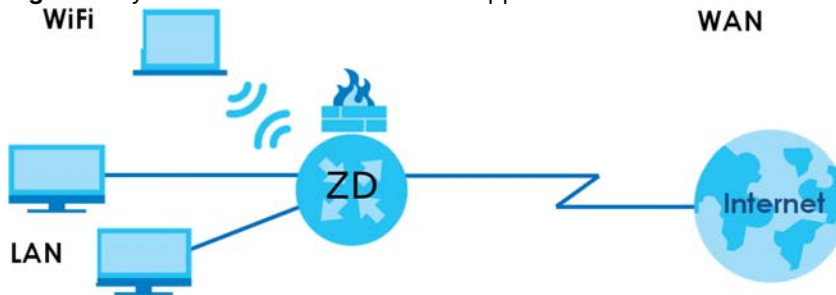
	PE3101-00	PE3301-00	PE5301-01
WiFi 7 Wireless Standard	BE3600	BE7200	BE7200
Supported Frequency Bands	2.4 GHz 5 GHz	2.4 GHz 5 GHz	2.4 GHz 5 GHz
Theoretical Maximum WiFi Speed	3.6 Gbps	7.2 Gbps	7.2 Gbps
SFP+ Cage	NO	NO	NO
PON WAN	1.25 or 2.5G (GPON)	1.25 or 2.5G (GPON)	10G or 10G (XGSPON)
USB	2.0	3.0	3.0
Phone Port (VoIP)	1 FXS	2 FXS	2 FXS
Zero-Wait DFS	No	YES	YES
Wall Mount	YES	YES	YES
App Management	Zyxel One	Zyxel One	Zyxel One

1.2 Example Applications

This section shows the few examples of using the Zyxel Device in various network environments.

Connect the WAN port to the Internet. Connect computers to the Zyxel Device's LAN ports, or wirelessly, and access the Internet simultaneously.

Figure 1 Zyxel Device's Internet Access Application



In the figure above, you can also configure Firewall on the Zyxel Device for secure Internet access. When the Firewall is on, all incoming traffic from the Internet to your network is blocked by default unless it is initiated from your network. This means that probes from the outside to your network are not allowed, but you can safely browse the Internet and download files.

1.2.1 WAN Priority

The WAN connection priority is as follows:

- 1 PON WAN
- 2 SFP
- 3 Ethernet WAN
- 4 DSL
- 5 Cellular WAN (3G or 4G)
See [Zyxel Device's USB Support](#) for more information about Cellular backup.

1.2.2 Dual-Band WiFi

Note: Check [Overview](#) to see if your Zyxel Device supports dual-band WiFi.

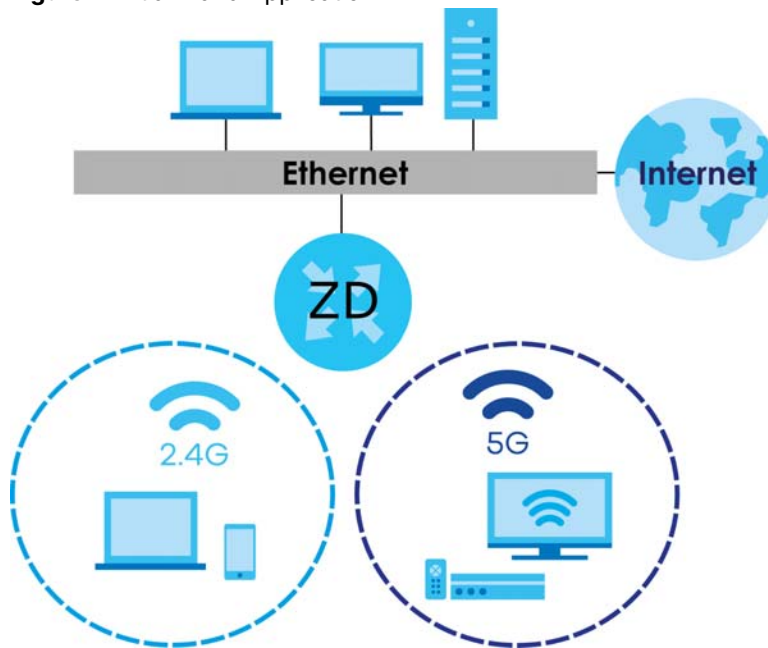
When WiFi is enabled on the Zyxel Device, IEEE 802.11a/b/g/n/ac/ax/be compliant clients, such as notebooks, tablets, and smartphones can wirelessly connect to the Zyxel Device to access network resources.

With dual-band, the Zyxel Device is a gateway that can use both 2.4 GHz and 5 GHz WiFi networks at the same time. IOT devices and other low-bandwidth clients could use the 2.4 GHz band for basic connectivity, while the 5 GHz band handles time-sensitive traffic such as high-definition video, music, and gaming.

The Zyxel Device supports WiFi 7 that is most suitable in areas with a high concentration of users. Zyxel Devices support backward compatibility with older WiFi standards, ensuring seamless connectivity with

previous-generation devices.

Figure 2 Dual-Band Application



1.2.3 Triple-Band WiFi

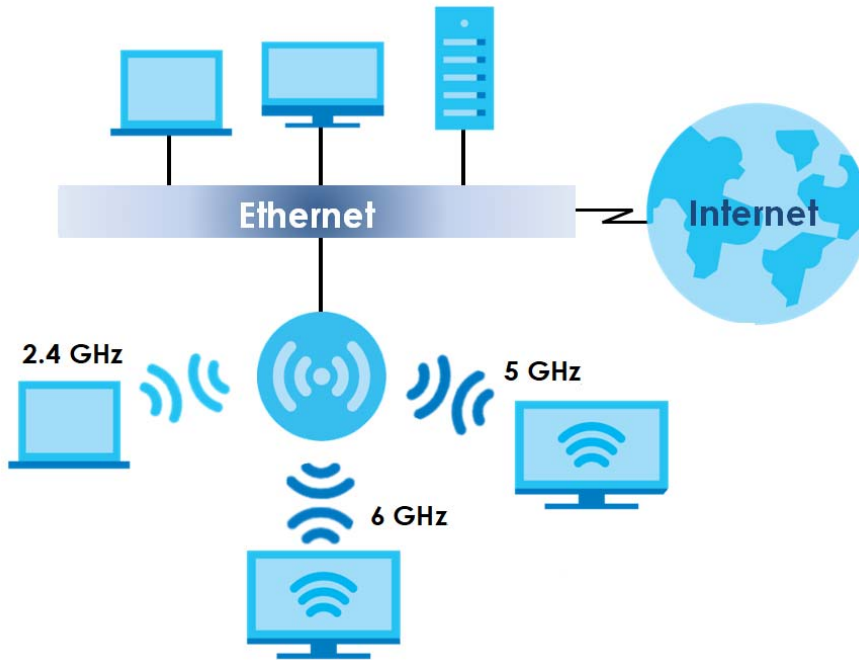
Note: Check [Overview](#) to see if your Zyxel Device supports triple-band WiFi.

With triple-band, the Zyxel Device can use 2.4 GHz, 5 GHz, or 6 GHz bands to operate simultaneously.

The 6 GHz band provides less coverage but has the highest amount of channels among the three frequency bands. Use the 6 GHz band for the most congestion-free transmission for tri-band clients.

Note: Due to each country's regulations on frequency band usage, the available bands (2.4 GHz, 5 GHz, and 6 GHz) may differ by countries or markets the Zyxel Device products are sold to.

You can leverage concurrent tri-band connectivity across 2.4 GHz, 5 GHz, and 6 GHz bands. This allows IoT devices and various clients to simultaneously maintain connections for basic tasks with 2.4 GHz. At the same time, 5 GHz and 6 GHz handle time-sensitive traffic, and high-bandwidth applications like high-definition video, music, and gaming.

Figure 3 Triple-Band Application

WiFi 7 (IEEE802.11be)

WiFi 7 (802.11be) is backwards compatible with WiFi 6 and WiFi 6E. WiFi 7 is a WiFi standard that supports 2.4 GHz, 5 GHz and 6 GHz frequency bands with the following improvements over WiFi 6 and WiFi 6E.

Table 5 WiFi 6, WiFi 6E and WiFi 7 Comparison

FEATURES		WiFi 6	WiFi 6E	WiFi 7
Theoretical Maximum Speed (Up-to)		9.6 Gbps		46 Gbps
Supported Frequency Bands		2.4 GHz or 5 GHz	2.4 GHz, 5 GHz, or 6 GHz	2.4 GHz, 5 GHz, or 6 GHz
Supported Channel Bandwidth		20, 40, 80, or 160 MHz	20, 40, 80, or 160 MHz	20, 40, 80, 160, or 320 MHz
Total Spectrum (Up-to)	2.4 GHz	80 MHz		80 MHz
	5 GHz	500 MHz		500 MHz
	6 GHz	Not supported.	1200 MHz	1200 MHz
Other Features (OFDMA/BSS Coloring/TWT/Two-Way MU-MIMO/Beamforming/1024-QAM)		WiFi 6E inherits all the features from WiFi 6.		WiFi 7 inherits all the features from WiFi 6 and WiFi 6E, with the addition of multi-link operation and preamble puncturing.

Faster Data Transmission

WiFi 7 allows faster data transmission using:

- 4096 QAM (Quadrature Amplitude Modulation) – enhances the amount of data transmitted over the available bandwidth.
- 320 MHz Channel Bandwidth – enlarges the supported channel bandwidth to 320 MHz, allowing higher data throughput.

- Multiple Resource Units (RUs) – allows an AP to allocate multiple RUs to a WiFi client.

Multi-Link Operation (MLO)

WiFi 7 MLO allows a WiFi client to connect to the Zyxel Device using multiple frequency bands simultaneously. This increases speed and improves reliability of the WiFi connection. MLO makes WiFi 7 ideal for streaming 4K or 8K videos, using augmented reality (AR), virtual reality (VR) applications and playing online games. Devices without MLO can only transmit data on one band at a time.

Figure 4 Without Multi-Link Operation



The Zyxel Device can support multiple frequency bands (2.4 GHz, 5 GHz and 6 GHz), but a WiFi client can only connect to the Zyxel Device using one of these frequency bands. The other frequency bands are unused. The client's data transmission speed depends on the frequency band they are connected to.

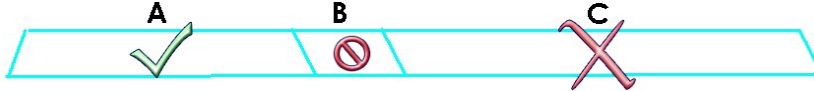
To use MLO, both the Zyxel Device and the WiFi client have to support MLO.

Figure 5 Multi-Link Operation Example



Preamble Puncturing

In WiFi 6 and earlier, any interference would cause the entire WiFi channel to become unavailable. In the figure below, if part of the WiFi channel (B) experiences interference, the rest of the WiFi channel (C) becomes unavailable.

Figure 6 Without Preamble Puncturing

WiFi 7 preamble puncturing allows you to block the specific portion of the channel that is experiencing interference while continuing to use the rest of the WiFi channel. In the figure below, if part of the WiFi channel (**B**) experiences interference, the rest of the WiFi channel (**C**) is still available.

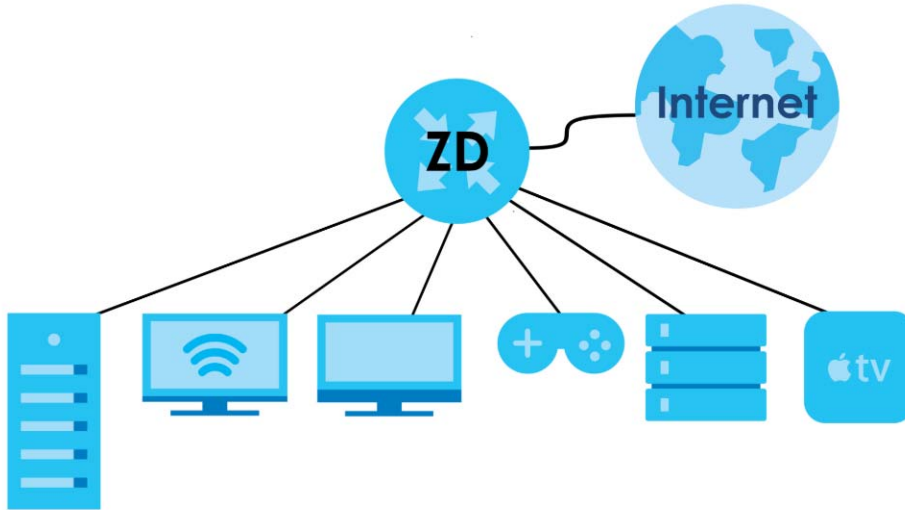
Figure 7 Preamble Puncturing Example

1.2.4 Multi-Gigabit Ethernet

Multi-Gigabit Ethernet supports network speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Not all Multi-Gigabit ports support all speeds. See [Ports Panel](#) for the speeds your Zyxel Device supports.

Some network devices, such as gaming computers, servers, NAS devices, or access points, support 2.5 Gbps or 5 Gbps connectivity. The Multi-Gigabit Ethernet technology enables the Zyxel Device to automatically detect and adjust to the required speed of the connected network device. A non-Multi-Gigabit 10G port would connect to a 2.5 Gbps or 5 Gbps device at just 1 Gbps.

Actual speeds also depend on the type of Ethernet cable used. See [Ethernet Cable Types](#) for the correct Ethernet cable type.

Figure 8 Multi-Gigabit Application

See the following table for the cables required and distance limitation to attain the corresponding speed.

Table 6 Ethernet Cable Types

CABLE	TRANSMISSION SPEED	MAXIMUM DISTANCE	BANDWIDTH CAPACITY
Category 5	100M	100 m	100 MHz
Category 5e	1G, 2.5G, or 5G	100 m	100 MHz
Category 6	5G or 10G	100 m or 55 m	250 MHz

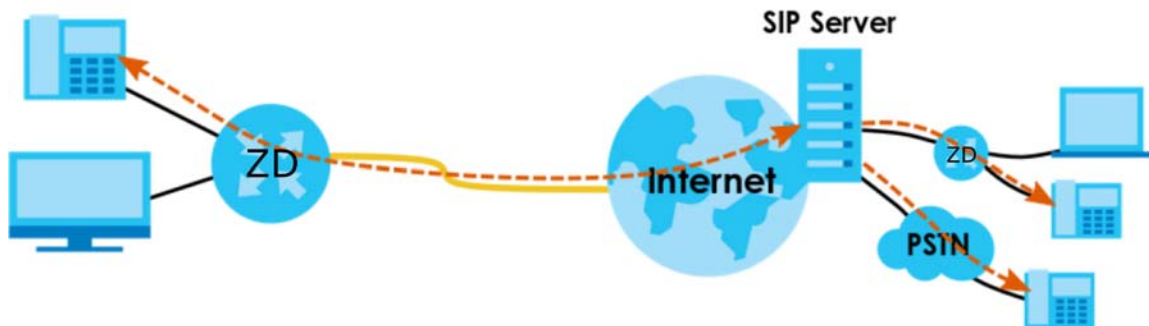
Table 6 Ethernet Cable Types

CABLE	TRANSMISSION SPEED	MAXIMUM DISTANCE	BANDWIDTH CAPACITY
Category 6a	10G	100 m	500 MHz
Category 7	10G	100 m	600 MHz

1.2.5 VoIP Applications

The Zyxel Device's VoIP function allows you to register up to eight SIP (Session Initiation Protocol) accounts and use the Zyxel Device to make and receive VoIP telephone calls. The Zyxel Device sends your call to a VoIP service provider's SIP server which forwards the calls to either VoIP or PSTN phones.

Figure 9 VoIP Application



1.2.6 Zyxel Device's USB Support

The USB port of the Zyxel Device is used for cellular WAN backup, file-sharing, and media server.

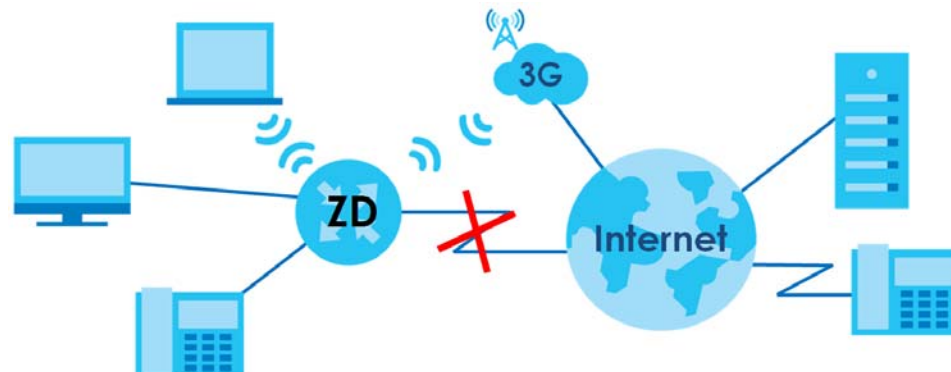
Cellular WAN Backup

Connect a supported cellular USB dongle with an active SIM card to the USB port. This adds a second WAN interface and allows the Zyxel Device to wirelessly access the Internet via a cellular network. The cellular WAN connection is a backup in case the DSL, Ethernet, or Fiber connection fails.

To set up a cellular connection, click **Network > Broadband > Cellular Backup**.

To update the supported cellular USB dongle list, download the latest WWAN package from the Zyxel website and upload it to the Zyxel Device using the **Maintenance > Firmware Upgrade** screen.

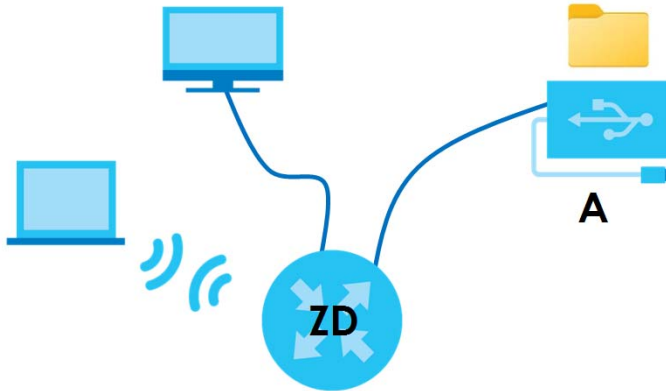
Figure 10 Internet Access Application: Cellular WAN



File Sharing

Use the built-in USB 3.0 port to share files on a USB memory stick or a USB hard drive (**A**).

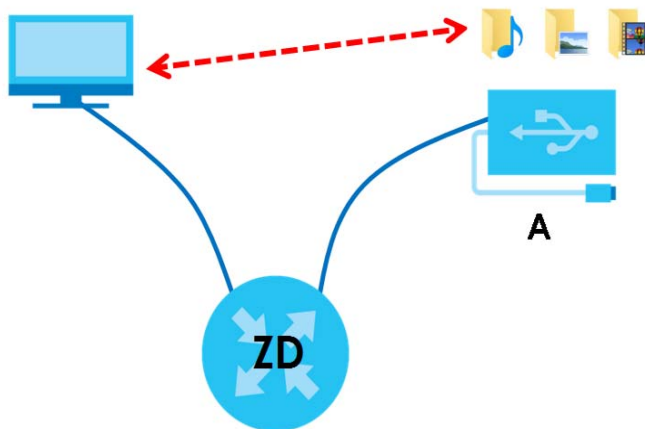
Figure 11 USB File Sharing Application



Media Server

You can also use the Zyxel Device as a media server. This lets anyone on your network play video, music, and photos from a USB device (**A**) connected to the Zyxel Device's USB port (without having to copy them to another computer).

Figure 12 USB Media Server Application



1.3 Ways to Manage the Zyxel Device

Use any of the following methods to manage the Zyxel Device.

- Web Configurator. This is recommended for management of the Zyxel Device using a (supported) web browser.

- Secure Shell (SSH), Telnet. Use for troubleshooting the Zyxel Device by qualified personnel.
- App. Download the app to manage your Zyxel Device using a mobile device. Refer to the Comparison table in [Overview](#) or the Quick Start Guide to find out which app is supported for your Zyxel Device.
- Zyxel One app. Download the Zyxel One app from Google Play or Apple Store to manage the Zyxel Device using a smartphone or tablet. To view Zyxel One app tutorials, please go to <https://service-provider.zyxel.com/app-help/ZyxelOne/FLA/LAN>

1.4 Good Habits for Managing the Zyxel Device

Do the following things regularly to make the Zyxel Device more secure and to manage the Zyxel Device more effectively.

- Change the WiFi and Web Configurator passwords. Use a password that is not easy to guess and that consists of different types of characters, such as numbers, letters, and special characters.
- Write down the passwords and put it in a safe place.
- Back up the configuration. Restoring an earlier working configuration may be useful if the device becomes unstable or even crashes. If you forget your password, you will have to reset the Zyxel Device to its factory default settings. If you backed up an earlier configuration file, you would not have to totally re-configure the Zyxel Device. You could simply restore your last configuration.

CHAPTER 2

Hardware

2.1 Overview

This section describes the front and rear panels for each model. Refer to the Zyxel Device's Quick Start Guides to see the product drawings and how to make the hardware connections.

2.2 LED Indicators Panel

The following shows the LED indicator panel and the LED behaviors of the Zyxel Device. None of the LEDs are on if the Zyxel Device is not receiving power. See [Ports Panel](#) to check whether your Zyxel Device has ports for multi-gigabit Ethernet, SFP, PON, or phone connections.

DSL (Digital Subscriber Line) Gateways

- [DE1301-00 and DE3301-00](#)

Ethernet Gateways

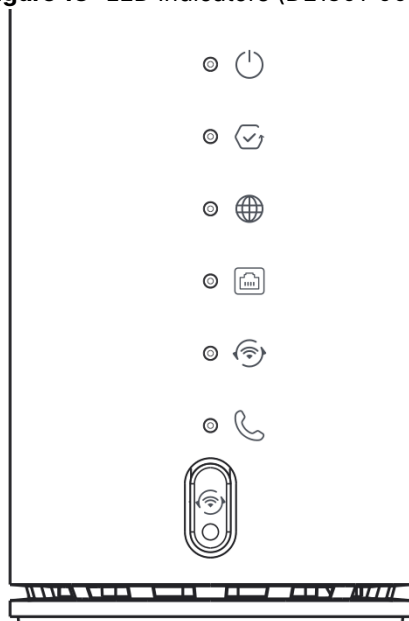
- [EE1301-00](#)
- [EE3301-00](#)
- [EE4410-00](#)
- [EE5301-00](#)
- [EE6510-10](#)
- [EE6601-00](#)

PON Gateways

- [PE3101-00](#)
- [PE3301-00](#)
- [PE5301-01](#)

DE1301-00 and DE3301-00

Figure 13 LED Indicators (DE1301-00 and DE3301-00)



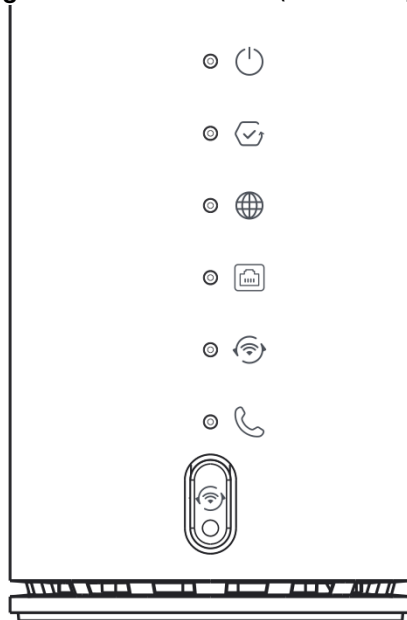
The following are the LED descriptions for your Zyxel Device.

Table 7 LED Descriptions (DE1301-00 and DE3301-00)

LED	COLOR	STATUS	DESCRIPTION
	Green	On	The Zyxel Device is receiving power and ready for use.
		Blinking	The Zyxel Device is booting up.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware.
	Off		The Zyxel Device is not receiving power.
	Green	On	The G.fast, VDSL or Ethernet WAN connection is active and ready for use.
		Blinking	The connection is down and the Zyxel Device is trying to look for a G.fast, VDSL, or Ethernet WAN signal.
	Off		The Zyxel Device is initializing the G.fast, VDSL or Ethernet WAN connection.
	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
		Off	There is no Internet connection or the gateway is in bridge mode.
	Green	On	The Zyxel Device has a successful 10 or 100 or 1000 Mbps Ethernet connection with a device on the Local Area Network (LAN).
		Blinking	The Zyxel Device is sending or receiving data to or from the LAN at 10 or 100 or 1000 Mbps.
	Off		The Zyxel Device does not have an Ethernet connection with the LAN.

Table 7 LED Descriptions (DE1301-00 and DE3301-00) (continued)

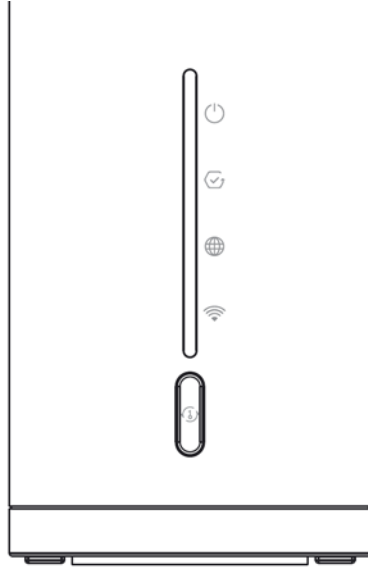
LED	COLOR	STATUS	DESCRIPTION
	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated.
	Green	On	A SIP account is registered for at least one phone port, and there is no voice message in the corresponding SIP account.
		Blinking	A telephone connected to one of the phone port has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding SIP account.
	Amber	On	A SIP account is registered for the phone port and there is a voice message in the corresponding SIP account.
		Blinking	A telephone connected to the phone port has its receiver off the hook or there is an incoming call. There is voice message in the corresponding SIP account.
	Off		- The Zyxel Device is turned off. - The VoIP function is not activated. - The SIP account is not enabled. - The phone port does not have a SIP account registered.

EE1301-00**Figure 14** LED Indicators (EE1301-00)

The following are the LED descriptions for your Zyxel Device.

Table 8 LED Descriptions (EE1301-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use.
		Blinking	The Zyxel Device is booting up.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware.
	Off		The Zyxel Device is not receiving power.
STATUS 	Green	On	The Ethernet WAN connection is active and ready for use.
		Blinking	The connection is down and the Zyxel Device is trying to look for an Ethernet WAN signal.
	Off		The Zyxel Device is initializing the Ethernet WAN connection.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain a WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
	Off		There is no Internet connection or the gateway is in bridge mode.
LAN1 to 4 	Green	On	The Zyxel Device has a successful 10 or 100 or 1000 Mbps Ethernet connection with a device on the Local Area Network (LAN).
		Blinking	The Zyxel Device is sending or receiving data to or from the LAN at 10 or 100 or 1000 Mbps.
	Off		The Zyxel Device does not have an Ethernet connection with the LAN.
WiFi or WPS 	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated.
Phone 	Green	On	A SIP account is registered for at least one phone port, and there is no voice message in the corresponding SIP account.
		Blinking	A telephone connected to one of the phone port has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding SIP account.
	Amber	On	A SIP account is registered for the phone port and there is a voice message in the corresponding SIP account.
		Blinking	A telephone connected to the phone port has its receiver off the hook or there is an incoming call. There is voice message in the corresponding SIP account.
	Off		- The Zyxel Device is turned off. - The VoIP function is not activated. - The SIP account is not enabled. - The phone port does not have a SIP account registered.

EE3301-00**Figure 15** LED Indicators (EE3301-00)

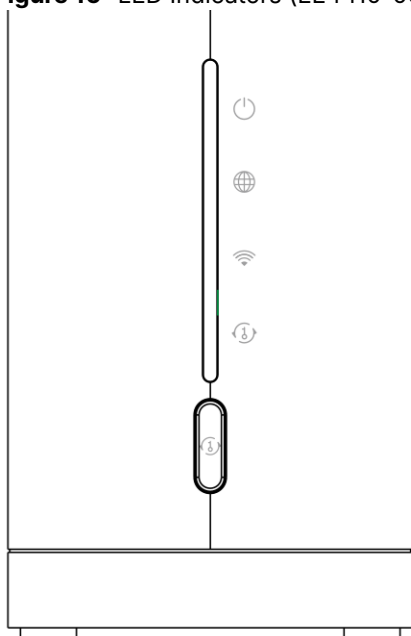
The following are the LED descriptions for your Zyxel Device.

Table 9 LED Descriptions (EE3301-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use. The Mesh pairing is done.
		Blinking	The Zyxel Device is booting up or under the Mesh pairing process.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware or the Mesh pairing process has failed.
	Off		The Zyxel Device is not receiving power.
STATUS 	Green	On	The WAN connection is active and ready for use. All phone ports are on-hook. An VoIP account is registered for at least one phone port, and there is no voice message in the corresponding VoIP account.
		Blinking	At least one telephone connected to one of the phone ports has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding VoIP account.
	Amber	On	The VoIP service is enabled, but the VoIP account registration has failed.
	Off		All phone ports are on-hook. The VoIP function is disabled, or there is no registered VoIP account defined for any of the phone ports.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
		Blinking	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
	Off		There is no Internet connection or the gateway is in bridge mode.

Table 9 LED Descriptions (EE3301-00) (continued)

LED	COLOR	STATUS	DESCRIPTION
	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated.

EE4410-00**Figure 16** LED Indicators (EE4410-00)

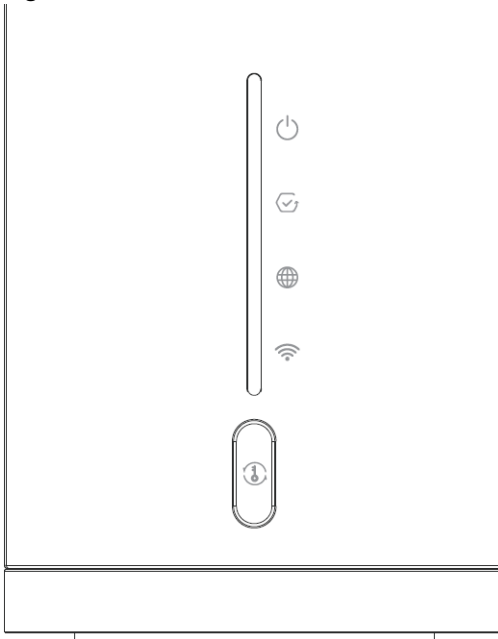
The following are the LED descriptions for your Zyxel Device.

Table 10 LED Descriptions (EE4410-00)

LED	COLOR	STATUS	DESCRIPTION
	Green	On	The Zyxel Device is receiving power and ready for use. The Mesh pairing is done.
		Blinking	The Zyxel Device is booting up or under the Mesh pairing process.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware or the Mesh pairing process has failed.
	Off		The Zyxel Device is not receiving power.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain a WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
	Off		There is no Internet connection or the gateway is in bridge mode.

Table 10 LED Descriptions (EE4410-00) (continued)

LED	COLOR	STATUS	DESCRIPTION
WiFi 	Green	On	The 2.4 GHz, 5 GHz, and 6 GHz wireless connections are ready.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Off		Either the 2.4 Ghz, 5 Ghz, or 6 Ghz wireless connection is not ready or has failed.
WPS 	Green	On	The Mesh network is ready for use.
		Blinking	The WPS process is in progress.
		Off	The Mesh network is not ready.
	Amber	Blinking	The IPTV Wi-Fi network WPS is in progress.

EE5301-00**Figure 17** LED Indicators (EE5301-00)

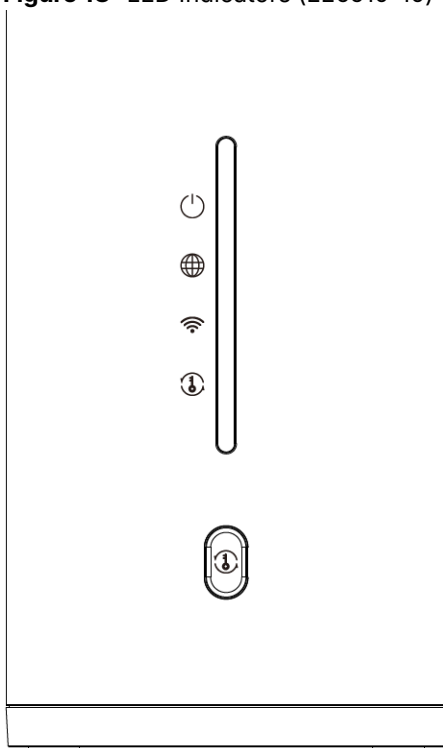
The following are the LED descriptions for your Zyxel Device.

Table 11 LED Descriptions (EE5301-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use. The Mesh pairing is done.
		Blinking	The Zyxel Device is booting up or under the Mesh pairing process.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware or the Mesh pairing process has failed.
	Off		The Zyxel Device is not receiving power.

Table 11 LED Descriptions (EE5301-00) (continued)

LED	COLOR	STATUS	DESCRIPTION
STATUS 	Green	On	The WAN connection is active and ready for use. All phone ports are on-hook. An VoIP account is registered for at least one phone port, and there is no voice message in the corresponding VoIP account.
		Blinking	At least one telephone connected to one of the phone ports has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding VoIP account.
	Amber	On	The VoIP service is enabled, but the VoIP account registration has failed.
		Blinking	The PON registration has failed. (For PON connection only)
	Off		All phone ports are on-hook. The VoIP function is disabled, or there is no registered VoIP account defined for any of the phone ports.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
	Off		There is no Internet connection or the gateway is in bridge mode.
WiFi 	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated.

EE6510-10**Figure 18** LED Indicators (EE6510-10)

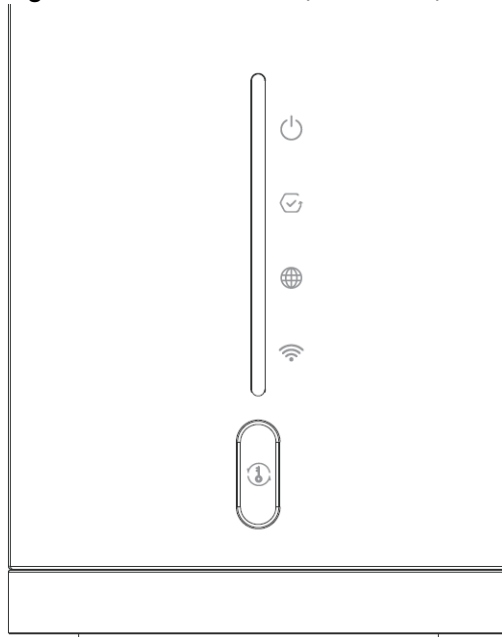
The following are the LED descriptions for your Zyxel Device.

Table 12 LED Descriptions (EE6510-10)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use.
		Blinking	The Zyxel Device is booting up.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware.
		Off	The Zyxel Device is not receiving power.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is up.
		Blinking	The Zyxel Device is sending or receiving Internet data.
		Off	There is no Internet connection or the Zyxel Device is in Bridge mode.
	Red	On	The Zyxel Device attempted to obtain a WAN IP address but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
Wi-Fi 	Green	On	The 2.4 GHz, 5 GHz or 6 GHz Wi-Fi connection is activated.
		Blinking	The Zyxel Device is sending or receiving data.
		Off	The 2.4 GHz, 5 GHz, and 6 GHz Wi-Fi network is not ready or failed.
WPS 	Green	On	The Mesh network is ready for use.
		Blinking	The WPS process is in progress.
		Off	The Mesh network is not ready.
	Amber	Blinking	The IPTV Wi-Fi network WPS is in progress.

EE6601-00

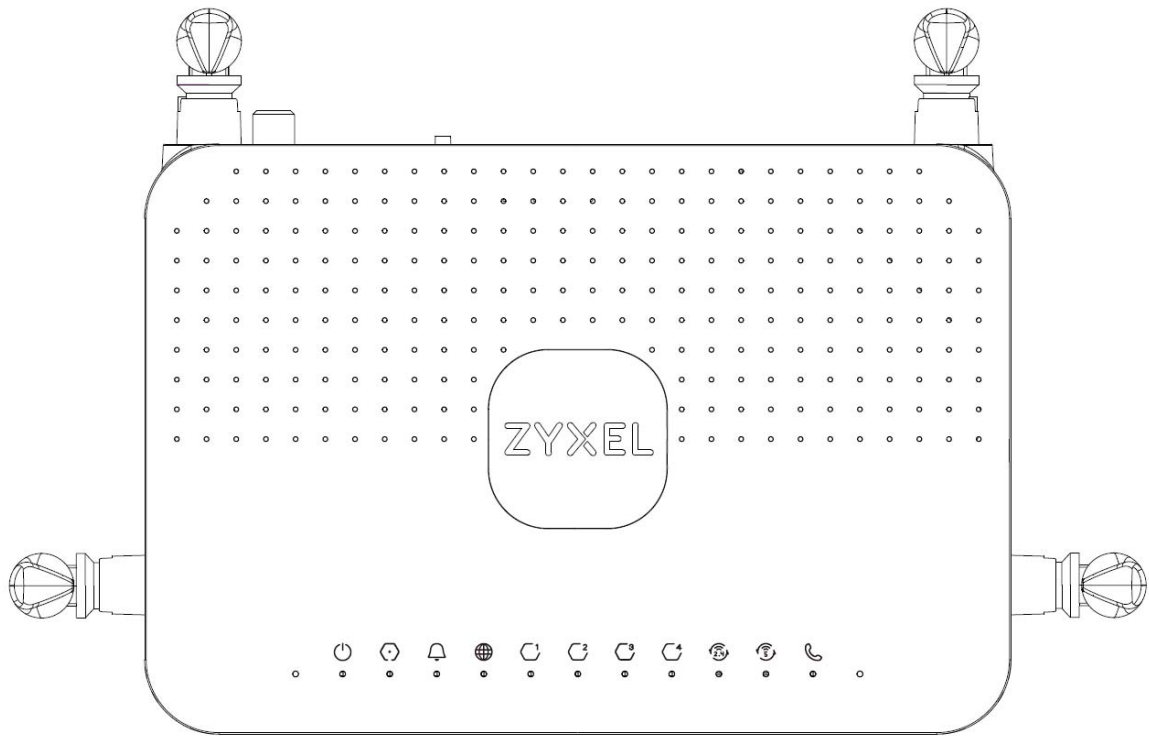
Figure 19 LED Indicators (EE6601-00)



The following are the LED descriptions for your Zyxel Device.

Table 13 LED Descriptions (EE6601-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use.
		Blinking	The Zyxel Device is booting up.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware.
	Off		The Zyxel Device is not receiving power.
STATUS 	Green	On	The WAN connection is active and ready for use. All phone ports are on-hook. An VoIP account is registered for at least one phone port, and there is no voice message in the corresponding VoIP account.
		Blinking	At least one telephone connected to one of the phone ports has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding VoIP account.
	Amber	On	The VoIP service is enabled, but the VoIP account registration has failed.
	Off		All phone ports are on-hook. The VoIP function is disabled, or there is no registered VoIP account defined for any of the phone ports.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
	Off		There is no Internet connection or the gateway is in bridge mode.
WiFi 	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated.

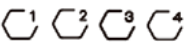
PE3101-00**Figure 20** LED Indicators (PE3101-00)

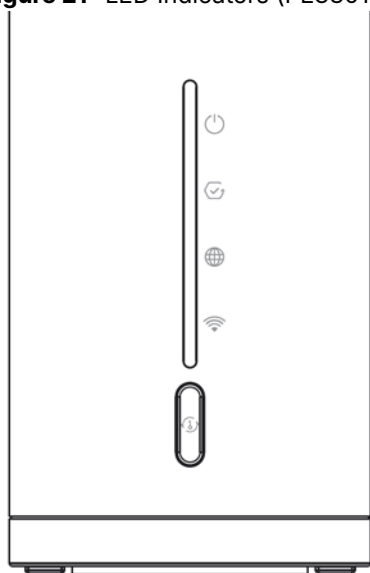
The following are the LED descriptions for your Zyxel Device.

Table 14 LED Descriptions (PE3101-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use.
		Blinking	The Zyxel Device is booting up or upgrading firmware.
	Off		The Zyxel Device is not receiving power.
PON 	Green	On	The Zyxel Device is ready for PON connection.
		Blinking	The Zyxel Device is setting up a PON connection.
	Off		The Zyxel Device is not receiving an optical signal.
LOS 	Red	On	The PON transceiver is not receiving an optical signal.
		Blinking	The optical signal the PON transceiver receiving is too weak.
	Off		The PON connection is ready and the optical signal the Zyxel Device is proper.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is transmitting and receiving data.
	Off		The Zyxel Device attempted to obtain a WAN IP address but failed.

Table 14 LED Descriptions (PE3101-00) (continued)

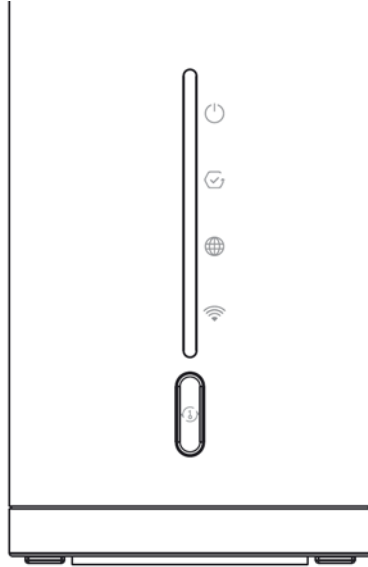
LED	COLOR	STATUS	DESCRIPTION
LAN 1 to 4 	Green	On	The Zyxel Device has a successful Ethernet connection with a device on the LAN (Local Area Network) port.
		Blinking	The Zyxel Device is transmitting and receiving data to or from the LAN port.
	Off		The Zyxel Device does not have an Ethernet connection on the LAN port.
2.4G 	Green	On	The 2.4 GHz WiFi is activated.
		Blinking	The Zyxel Device is communicating with 2.4 GHz WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a 2.4 GHz WiFi client.
	Off		The 2.4 GHz WiFi network is not activated.
5G 	Green	On	The 5 GHz WiFi network is activated.
		Blinking	The Zyxel Device is communicating with 5 GHz WiFi clients.
	Amber	Blinking	The Zyxel Device is connecting to 5 GHz WiFi clients through WPS.
	Off		The 5 GHz WiFi network is not activated.
Phone 	Green	On	The phone port has a telephone connection, but it is not in use. A SIP account is registered for the phone port.
		Blinking	The phone port has a telephone connection, and it is in use.
	Off		The phone port has a telephone connection, but it is not in use. VoIP is disabled, or there is no registered SIP account defined for the phone port.

PE3301-00**Figure 21** LED Indicators (PE3301-00)

The following are the LED descriptions for your Zyxel Device.

Table 15 LED Descriptions (PE3301-00)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use. The Mesh pairing is done.
		Blinking	The Zyxel Device is booting up or under the Mesh pairing process.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware or the Mesh pairing process has failed.
		Off	The Zyxel Device is not receiving power.
STATUS 	Green	On	The WAN connection is active and ready for use. All phone ports are on-hook. An VoIP account is registered for at least one phone port, and there is no voice message in the corresponding VoIP account. PON registration is successful.
		Blinking	At least one telephone connected to one of the phone ports has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding VoIP account.
	Amber	On	The VoIP service is enabled, but the VoIP account registration has failed.
		Blinking	PON registration is in progress. (For PON connection only)
	Off		All phone ports are on-hook. The VoIP function is disabled, or there is no registered VoIP account defined for any of the phone ports.
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
		Blinking	The Zyxel Device is receiving a low optical signal.
	Off		There is no Internet connection or the gateway is in bridge mode.
WiFi or WPS 	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated. The WPS process was expired or successful.

PE5301-01**Figure 22** LED Indicators (PE5301-01)

The following are the LED descriptions for your Zyxel Device.

Table 16 LED Descriptions (PE5301-01)

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The Zyxel Device is receiving power and ready for use. The Mesh pairing is done.
		Blinking	The Zyxel Device is booting up or under the Mesh pairing process.
	Red	On	The Zyxel Device detects an error while self-testing, or there is a device malfunction.
		Blinking	The Zyxel Device is upgrading firmware or the Mesh pairing process has failed.
		Off	The Zyxel Device is not receiving power.
STATUS 	Green	On	The WAN connection is active and ready for use. All phone ports are on-hook. An VoIP account is registered for at least one phone port, and there is no voice message in the corresponding VoIP account. PON registration is successful.
		Blinking	At least one telephone connected to one of the phone ports has its receiver off the hook or there is an incoming call. There is no voice message in the corresponding VoIP account.
	Amber	On	The VoIP service is enabled, but the VoIP account registration has failed.
		Blinking	PON registration is in progress. (For PON connection only)
	Off		All phone ports are on-hook. The VoIP function is disabled, or there is no registered VoIP account defined for any of the phone ports.

Table 16 LED Descriptions (PE5301-01) (continued)

LED	COLOR	STATUS	DESCRIPTION
INTERNET 	Green	On	The Zyxel Device has a WAN IP address (either static or assigned by a DHCP server) and the Internet connection is active.
		Blinking	The Zyxel Device is sending or receiving traffic.
	Red	On	The Zyxel Device attempted to obtain an WAN IP but failed. Possible causes are no response from a DHCP server, no PPPoE response, PPPoE authentication failed.
		Blinking	The Zyxel Device is receiving a low optical signal.
	Off		There is no Internet connection or the gateway is in bridge mode.
WiFi or WPS 	Green	On	The WiFi is activated.
		Blinking	The Zyxel Device is communicating with WiFi clients.
	Amber	Blinking	The Zyxel Device is setting up a WPS connection with a WiFi client.
	Off		The WiFi network is not activated. The WPS process was expired or successful.

2.3 Ports Panel

The following shows the Zyxel Device ports panel and connection ports.

DSL Gateways

- [DE1301-00 and DE3301-00](#)

Ethernet Gateways

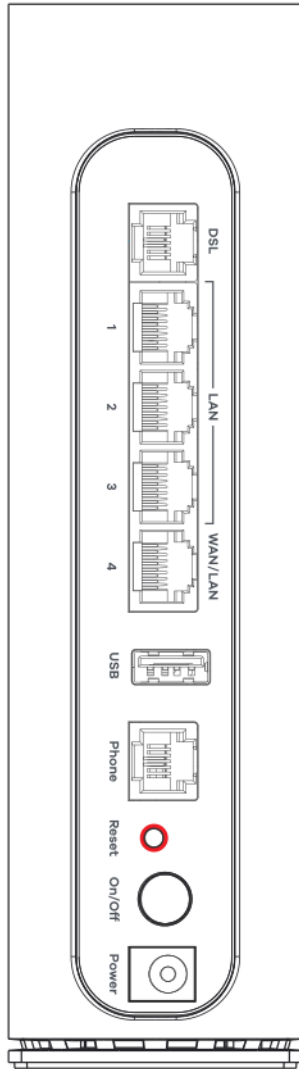
- [EE1301-00](#)
- [EE3301-00](#)
- [EE4410-00](#)
- [EE5301-00](#)
- [EE6510-10](#)
- [EE6601-00](#)

PON Gateways

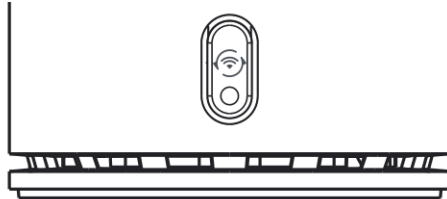
- [PE3101-00](#)
- [PE3301-00](#)
- [PE5301-01](#)

DE1301-00 and DE3301-00

Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 23 Rear Panel (DE1301-00 and DE3301-00)

The WPS and WiFi On or Off button is on the front panel, near the bottom of the Zyxel Device.

Figure 24 WPS and WiFi On or Off Button on the Front Side of the Zyxel Device (DE1301-00 and DE3301-00)

The following table describes the items on the port panels of your Zyxel Device.

Table 17 Panel Ports and Buttons (DE1301-00 and DE3301-00)

LABEL	DESCRIPTION
DSL	Connect a DSL cable to the DSL port for Internet connection.
LAN1 to 3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.

Table 17 Panel Ports and Buttons (DE1301-00 and DE3301-00) (continued)

LABEL	DESCRIPTION
1G WAN (LAN 4)	The 1G WAN port supports speeds of 100 or 1000 Mbps. Connect computers or other Ethernet devices to the WAN port for Internet access.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
PHONE	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
WPS and WiFi On or Off	WPS: Press the WPS and WiFi On or Off button more than 1 second to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi On or Off: Press the WPS and WiFi On or Off button more than 5 seconds to enable the WiFi function.

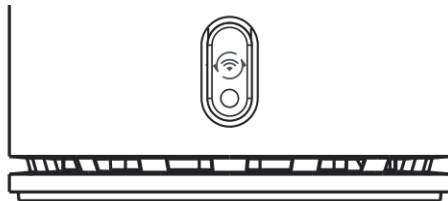
EE1301-00

Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 25 Rear Panel (EE1301-00)



The WPS and WiFi On or Off button is on the front panel, near the bottom of the Zyxel Device.

Figure 26 WPS and WiFi On or Off Button on the Front Side of the Zyxel Device (EE1301-00)

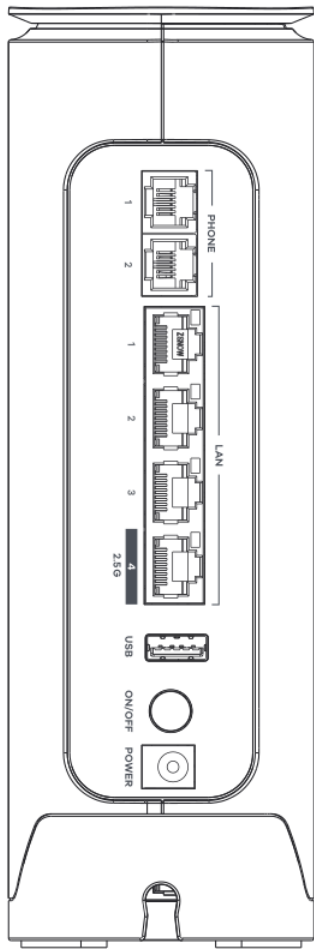
The following table describes the items on the port panels of your Zyxel Device.

Table 18 Panel Ports and Buttons (EE1301-00)

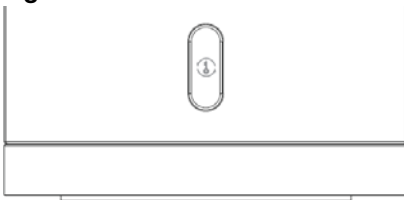
LABEL	DESCRIPTION
LAN1 to 3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.
1G WAN (LAN 4)	The 1G WAN port supports speeds of 100 or 1000 Mbps. Connect computers or other Ethernet devices to the WAN port for Internet access.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
PHONE	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
WPS and WiFi On or Off	WPS: Press the WPS and WiFi On or Off button more than 1 second to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi On or Off: Press the WPS and WiFi On or Off button more than 5 seconds to enable the WiFi function.

EE3301-00

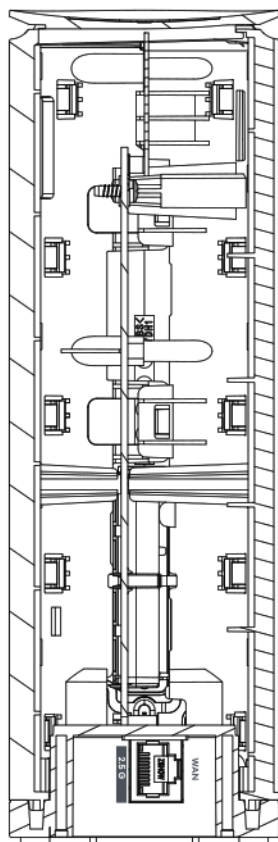
Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 27 Rear Panel (EE3301-00)

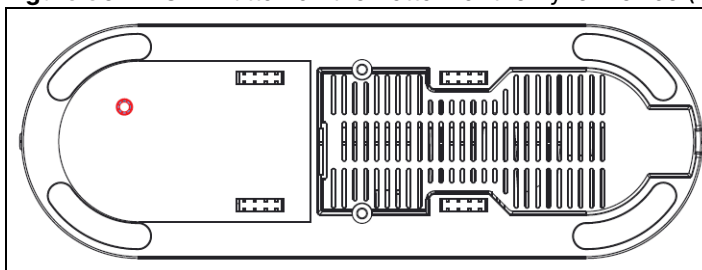
The WPS and WiFi On or Off button is on the front panel, near the bottom of the Zyxel Device.

Figure 28 WPS and WiFi On or Off Button on the Front Side of the Zyxel Device (EE3301-00)

Remove the bottom cover to see the **2.5G WAN** port near the bottom of the Zyxel Device.

Figure 29 WAN Port (EE3301-00)

The **RESET** button is on the bottom of the Zyxel Device.

Figure 30 RESET Button on the Bottom of the Zyxel Device (EE3301-00)

The following table describes the items on the port panels of your Zyxel Device.

Table 19 Panel Ports and Buttons (EE3301-00)

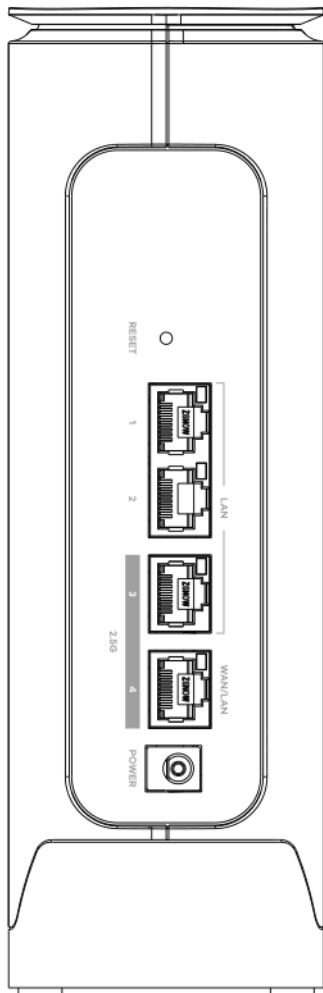
LABEL	DESCRIPTION
PHONE 1, 2	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
LAN1 to 3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.
2.5G LAN (LAN 4)	The 2.5G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect computers or other Ethernet devices to the 2.5G LAN port for Internet access with speed up to 2.5 Gbps.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
POWER	Connect the power adapter and press the ON/OFF button to start the device.

Table 19 Panel Ports and Buttons (EE3301-00) (continued)

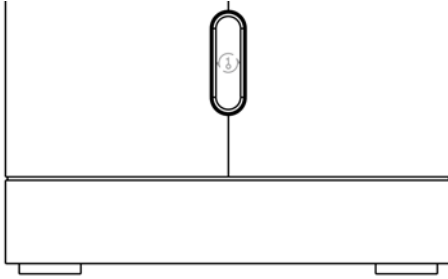
LABEL	DESCRIPTION
WPS and WiFi On or Off	WPS: Press the WPS and WiFi On or Off button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi On or Off: Press the WPS and WiFi On or Off button more than 15 seconds to enable the WiFi function.
2.5G WAN	The 2.5G WAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect an Ethernet cable to the 2.5G WAN port for an (up to) 2.5 Gbps Ethernet connection.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.

EE4410-00

Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 31 Rear Panel (EE4410-00)

The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 32 WPS Button on the Front Side of the Zyxel Device (EE4410-00)

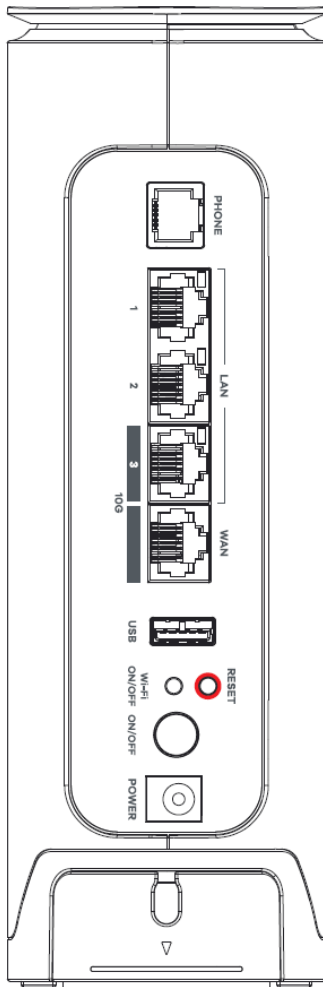
The following table describes the items on the port panels of your Zyxel Device.

Table 20 Panel Ports and Buttons(EE4410-00)

LABEL	DESCRIPTION
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
LAN1, 2	Connect computers or other Ethernet devices to Ethernet ports for Internet access.
2.5G LAN (LAN 3)	The 2.5G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect computers or other Ethernet devices to the 2.5G LAN port for Internet access with speed up to 2.5 Gbps.
2.5G WAN (LAN 4)	The 2.5G WAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect an Ethernet cable to the 2.5G WAN port for an (up to) 2.5 Gbps Ethernet connection.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
WPS	Press the WPS button more than 1 second to quickly setup a secure WiFi connection between the device and a WPS-compatible client.

EE5301-00

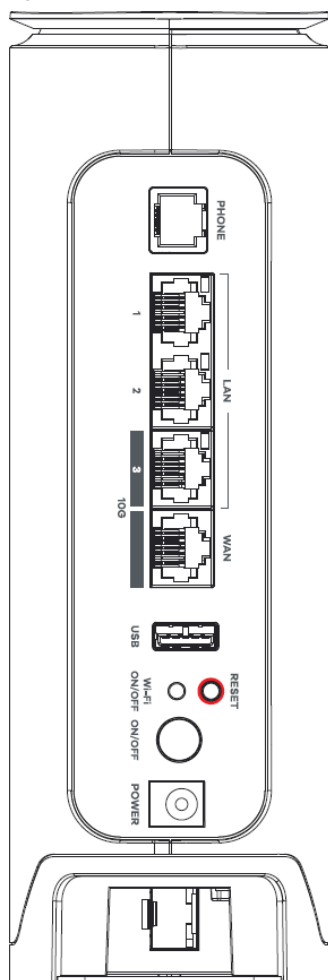
Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 33 Rear Panel (EE5301-00)

The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 34 WPS Button on the Front Side of the Zyxel Device (EE5301-00)

The SFP+ Cage is on the bottom of the Zyxel Device.

Figure 35 SFP+ Cage on the Bottom of the Zyxel Device (EE5301-00)

The following table describes the items on the ports panels of your Zyxel Device.

Table 21 Panel Ports and Buttons (EE5301-00)

LABEL	DESCRIPTION
PHONE	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
LAN1 and LAN2	LAN1 and LAN2 are 1G ports supporting speeds of 100 or 1000 Mbps. Connect computers or other Ethernet devices to Ethernet ports for Internet access.
10G LAN (LAN3)	The 10G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Connect computers or other Ethernet devices to the 10G LAN port for Internet access with speed up to 10 Gbps.
10G WAN	The 10G WAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Connect an Ethernet cable to the 10G WAN port for an (up to) 10 Gbps Ethernet connection.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
Wi-Fi ON/OFF	Press the Wi-Fi ON/OFF button for more than 2 seconds to enable the WiFi function.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
POWER	Connect the power adapter and press the ON/OFF button to start the device.

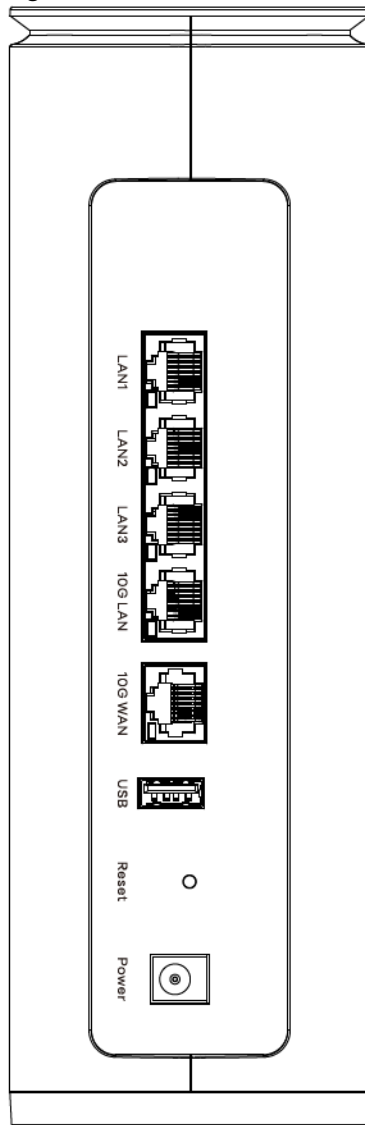
Table 21 Panel Ports and Buttons (EE5301-00) (continued)

LABEL	DESCRIPTION
WPS	Press the WPS button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client.
SFP+	Insert a compatible SFP transceiver to the SFP port and connect a fiber optic or Ethernet cable for an (up to) 10 Gbps Internet connection.

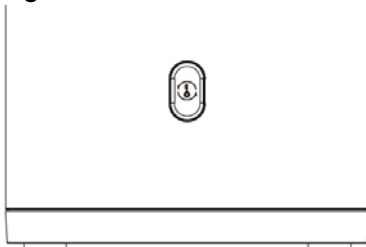
EE6510-10

Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo at the top.

Figure 36 Rear Panel (EE6510-10)



The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 37 WPS or WLAN Button on the Front Side of the Zyxel Device(EE6510-10)

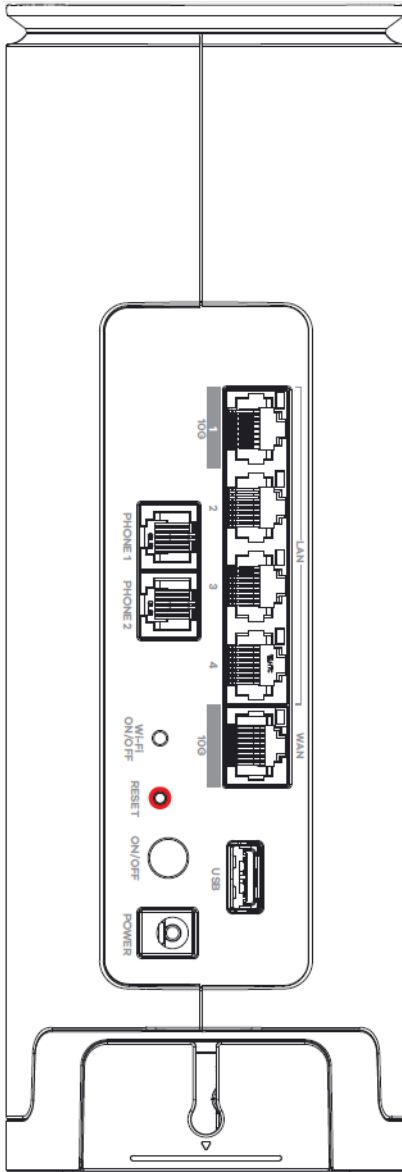
The following table describes the items on the ports panels of your Zyxel Device.

Table 22 Panel Ports and Buttons (EE6510-10)

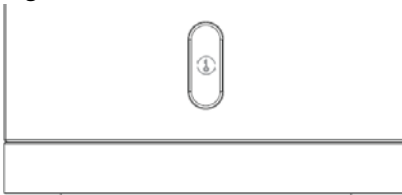
LABEL	DESCRIPTION
LAN1 to 3	LAN1 to LAN3 are 1G ports supporting speeds of 100 or 1000 Mbps. Connect computers or other Ethernet devices to Ethernet ports for Internet access.
10G LAN	The 10G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, and 10 Gbps. Connect computers or other Ethernet devices to the 10G LAN port for Internet access with speed up to 10 Gbps.
10G WAN	The 10G WAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, and 10 Gbps. Connect an Ethernet cable to the 10G WAN port for an (up to) 10 Gbps Ethernet connection.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
Reset	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
Power	Connect the power adapter and press the ON/OFF button to start the device.
WPS or WLAN	Press the WPS button once more than 1 second to quickly setup a secure Wi-Fi connection between the device and a WPS-compatible client.

EE6601-00

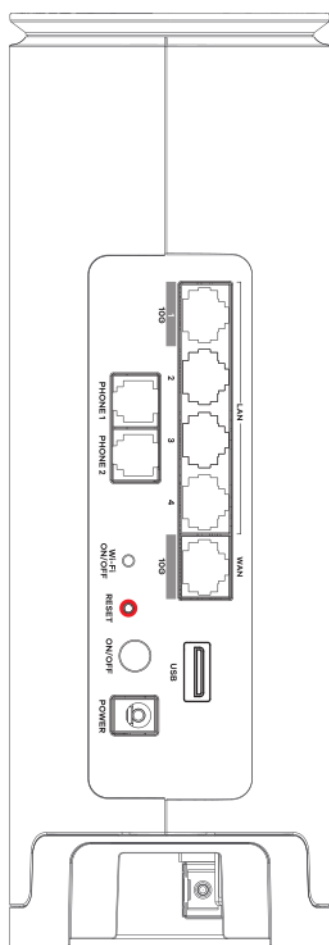
Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 38 Rear Panel (EE6601-00)

The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 39 WPS Button on the Front Side of the Zyxel Device (EE6601-00)

The SFP+ Cage is on the bottom of the Zyxel Device.

Figure 40 SFP+ Cage on the Bottom of the Zyxel Device (EE6601-00)

The following table describes the items on the ports panels of your Zyxel Device.

Table 23 Panel Ports and Buttons (EE6601-00)

LABEL	DESCRIPTION
10G LAN (LAN1)	The 10G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Connect computers or other Ethernet devices to the 10G LAN port for Internet access with speed up to 10 Gbps.
LAN2 to LAN4	LAN2 to LAN4 are 1G ports supporting speeds of 100 or 1000 Mbps. Connect computers or other Ethernet devices to Ethernet ports for Internet access.
10G WAN	The 10G WAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Connect an Ethernet cable to the 10G WAN port for an (up to) 10 Gbps Ethernet connection.
PHONE1 or 2	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
Wi-Fi ON/OFF	Press the Wi-Fi ON/OFF button for more than 2 seconds to enable the WiFi function.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.

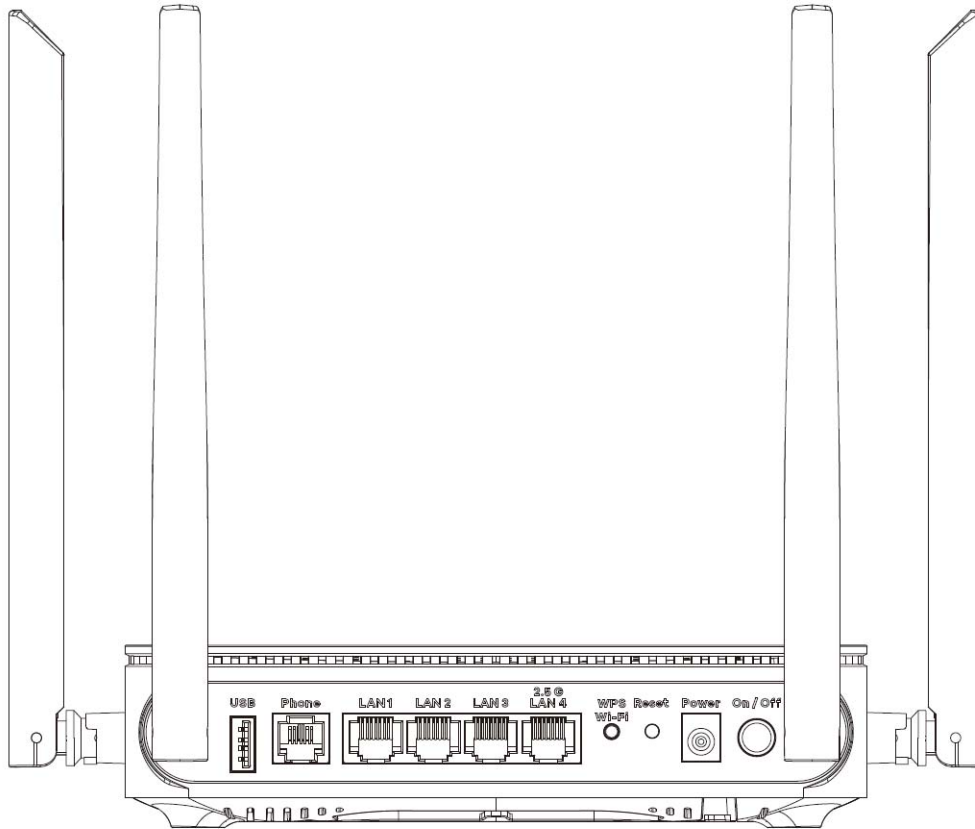
Table 23 Panel Ports and Buttons (EE6601-00) (continued)

LABEL	DESCRIPTION
WPS	Press the WPS button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client.
SFP+ Cage	Insert a compatible SFP transceiver to the SFP port and connect a fiber optic or Ethernet cable for an (up to) 10 Gbps Internet connection.

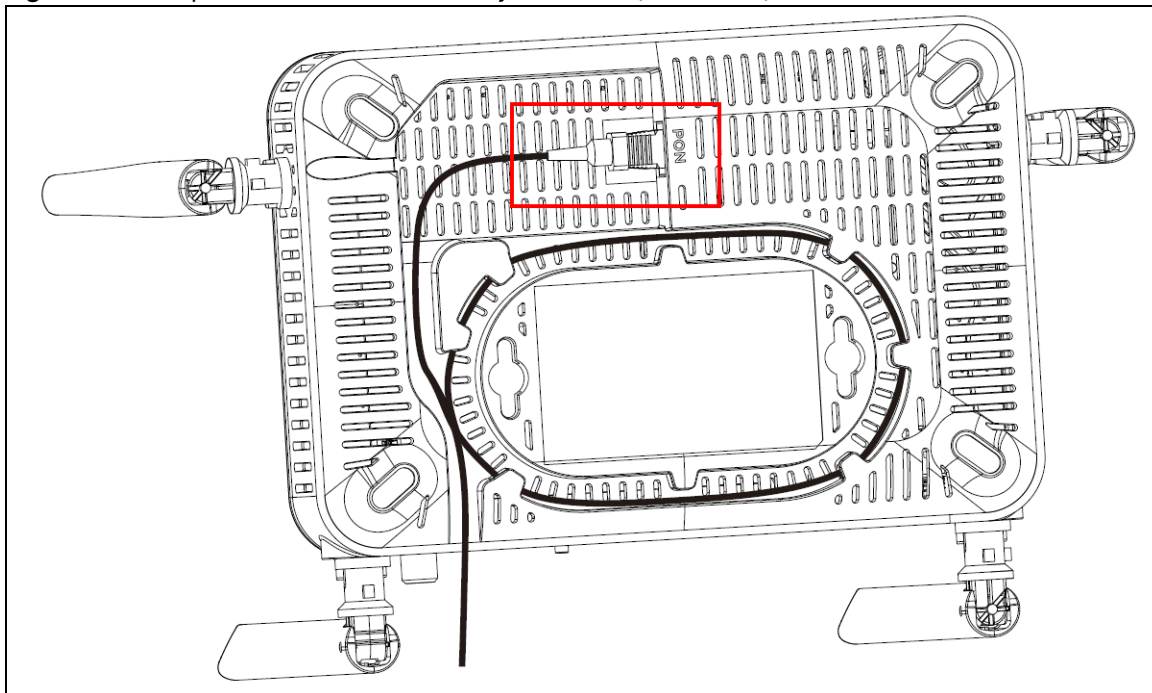
PE3101-00

Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 41 Rear Panel (PE3101-00)



The **PON** port is on the bottom of the Zyxel Device.

Figure 42 PON port on the Bottom of the Zyxel Device (PE3101-00)

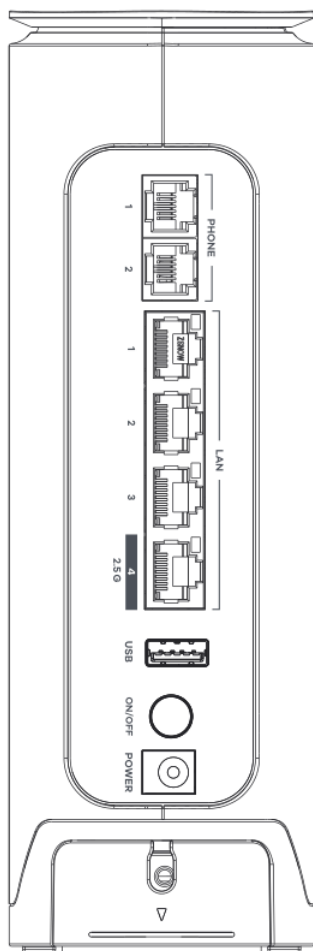
The following table describes the items on the port panels of your Zyxel Device.

Table 24 Panel Ports and Buttons (PE3101-00)

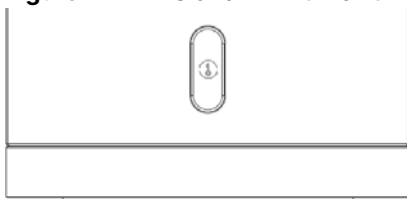
LABEL	DESCRIPTION
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
PHONE	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
LAN1 to LAN3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.
2.5G LAN (LAN 4)	The 2.5G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect computers or other Ethernet devices to the 2.5G LAN port for Internet access with speed up to 2.5 Gbps.
WPS or WiFi	WPS: Press the WPS button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi: Press the WPS button more than 3 seconds to enable the WiFi function.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
PON	Connect the fiber optic cable to the PON (Passive Optical Network) port for Internet access.

PE3301-00

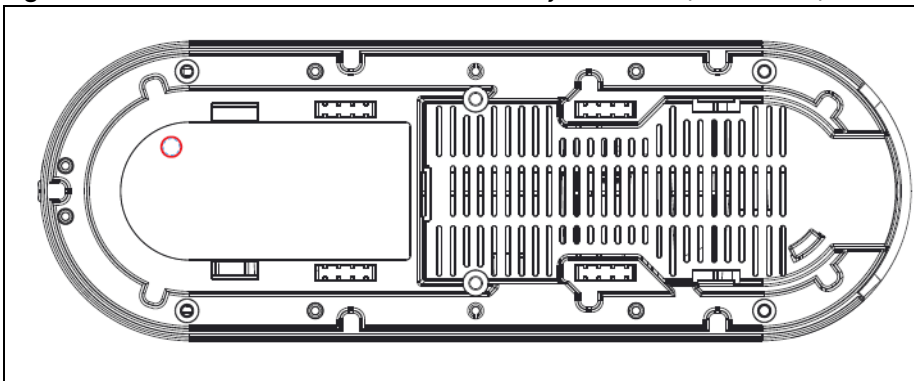
Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 43 Rear Panel (PE3301-00)

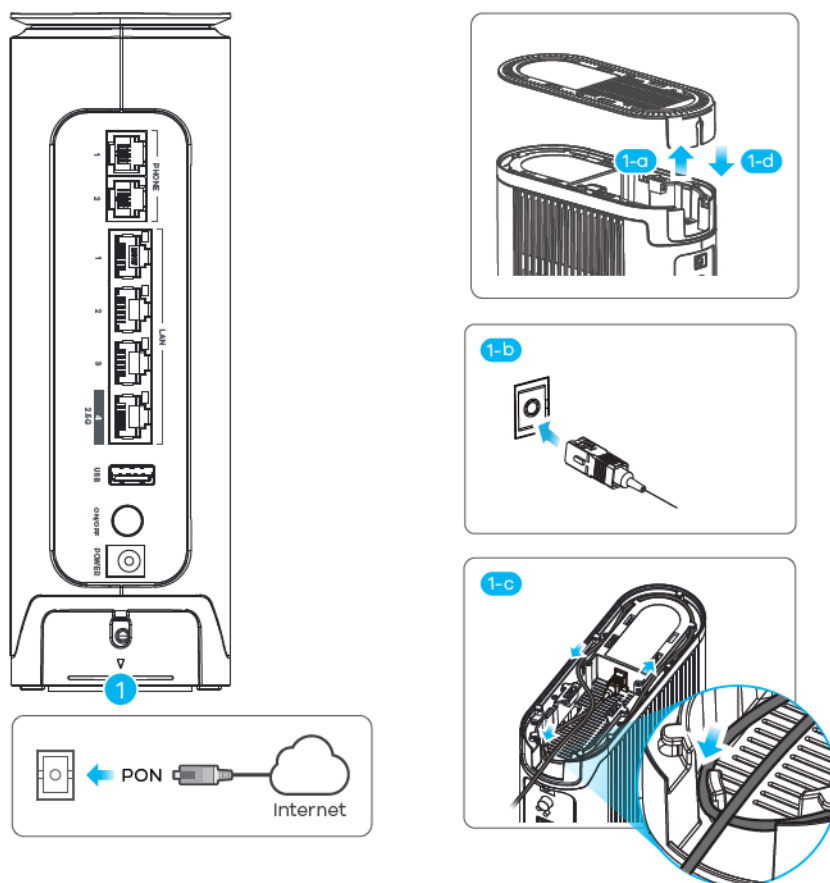
The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 44 WPS and WiFi On or Off Button on the Front Side of the Zyxel Device (PE3301-00)

The **RESET** button is on the bottom of the Zyxel Device.

Figure 45 RESET Button on the Bottom of the Zyxel Device (PE3301-00)

The PON port is on the bottom of the Zyxel Device.

Figure 46 PON port on the Bottom of the Zyxel Device (PE3301-00)

The following table describes the items on the port panels of your Zyxel Device.

Table 25 Panel Ports and Buttons (PE3301-00)

LABEL	DESCRIPTION
PHONE 1, 2	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
LAN1, 3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.

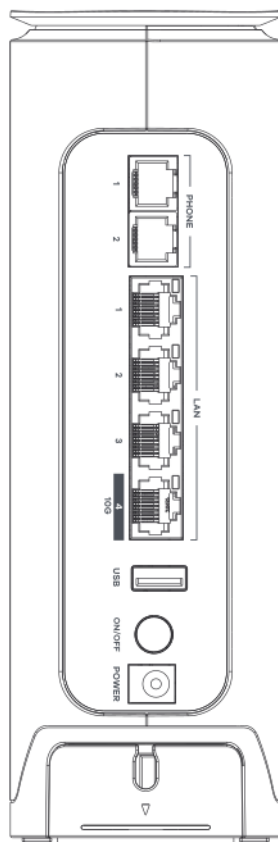
Table 25 Panel Ports and Buttons (PE3301-00) (continued)

LABEL	DESCRIPTION
2.5G LAN (LAN 4)	The 2.5G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps and 2.5 Gbps. Connect computers or other Ethernet devices to the 2.5G LAN port for Internet access with speed up to 2.5 Gbps.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
WPS and WiFi On or Off	WPS: Press the WPS button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi On or Off: Press the WPS button more than 15 seconds to enable the WiFi function.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
PON	Connect the fiber optic cable to the PON (Passive Optical Network) port for Internet access.

PE5301-01

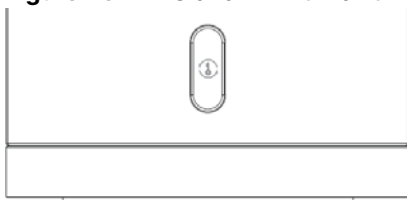
Place the Zyxel Device with the ports and buttons facing you and the Zyxel logo on the top.

Figure 47 Rear Panel (PE5301-01)



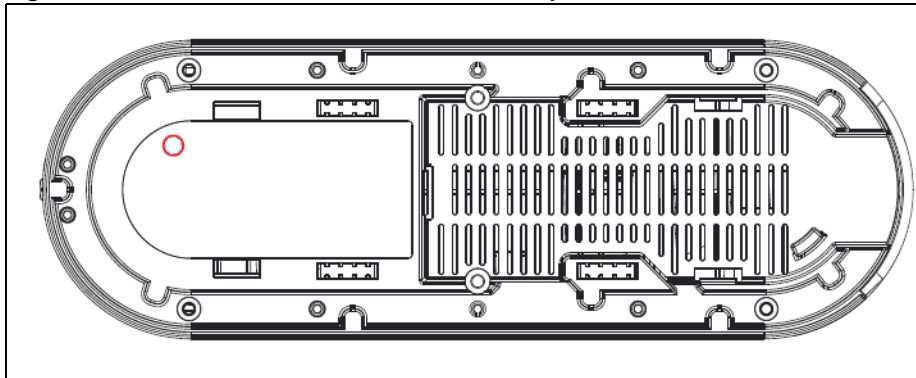
The WPS button is on the front panel, near the bottom of the Zyxel Device.

Figure 48 WPS and WiFi On or Off Button on the Front Side (PE5301-01)

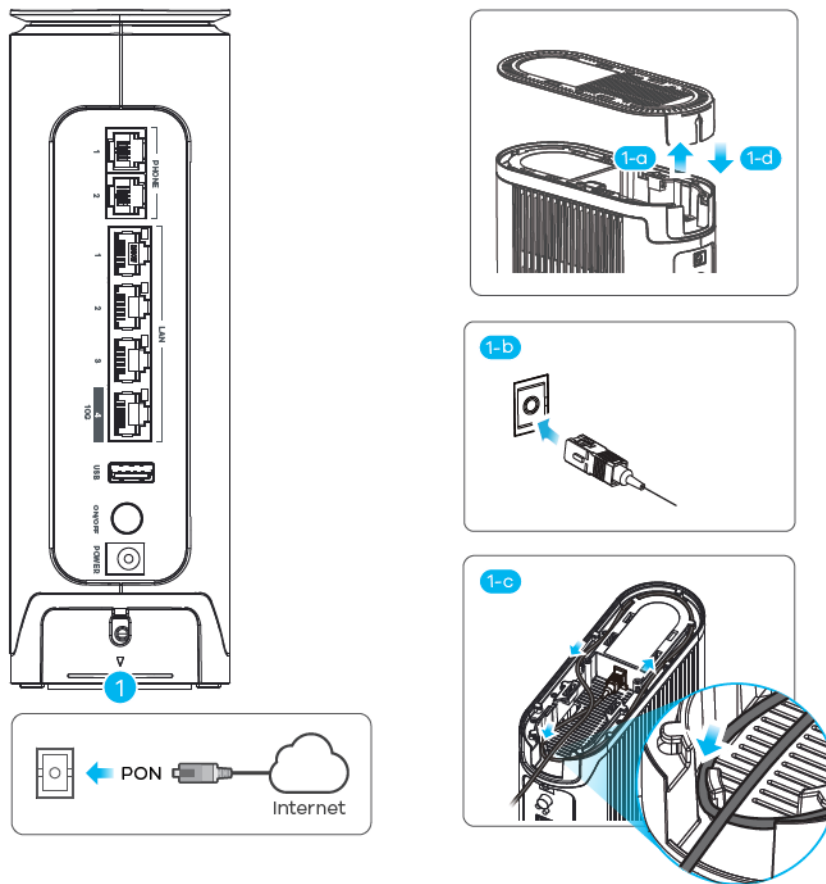


The **RESET** button is on the bottom of the Zyxel Device.

Figure 49 RESET Button on the Bottom of the Zyxel Device (PE5301-01)



The PON port is on the bottom of the Zyxel Device.

Figure 50 PON port on the Bottom of the Zyxel Device (PE5301-01)

The following table describes the items on the port panels of Zyxel Device.

Table 26 Panel Ports and Buttons (PE5301-01)

LABEL	DESCRIPTION
PHONE 1, 2	Connect analog phones to the PHONE ports with RJ-11 cables for VoIP services.
LAN 1to 3	Connect computers or other Ethernet devices to Ethernet ports for Internet access.
10G LAN (LAN 4)	The 10G LAN port is a multi-gigabit Ethernet port that supports connection speeds of 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Connect computers or other Ethernet devices to the 10G LAN port for Internet access with speed up to 10 Gbps.
USB	The USB port is used for cellular WAN backup, file-sharing, and media server.
POWER	Connect the power adapter and press the ON/OFF button to start the device.
WPS and WiFi On or Off	WPS: Press the WPS button once within 3 seconds to quickly setup a secure WiFi connection between the device and a WPS-compatible client. WiFi On or Off: Press the WPS button more than 15 seconds to enable the WiFi function.
RESET	Press the button for more than 5 seconds to return the Zyxel Device to the factory defaults.
PON	Connect the fiber optic cable to the PON (Passive Optical Network) port for Internet access.

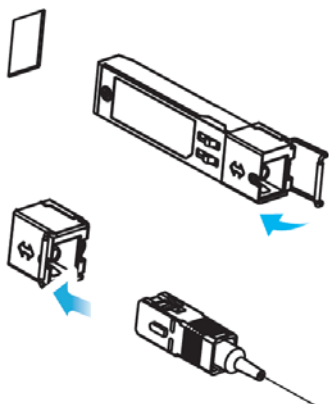
2.3.1 Transceiver Installation or Removal

Transceiver Installation

Use the following steps to install an SFP transceiver.

- 1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface.
- 2 Align the transceiver in front of the slot opening.
- 3 Make sure the latch is in the lock position (latch styles vary), then insert the transceiver into the slot with the exposed section of PCB board facing down.
- 4 Press the transceiver firmly until it clicks into place.
- 5 The Zyxel Device automatically detects the installed transceiver. Check the LEDs to verify that it is functioning properly.
- 6 Remove the dust plugs from the transceiver and cables (dust plug styles vary).
- 7 Identify the signal transmission direction of the fiber optic cables and the transceiver. Insert the fiber optic cable into the transceiver.

Figure 51 Transceiver Installation Example



Transceiver Removal

Use the following steps to remove an SFP transceiver.

- 1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface on the chassis.
- 2 Remove the fiber optic cables from the transceiver.
- 3 Pull out the latch and down to unlock the transceiver (latch styles vary).

Note: Make sure the transceiver's latch is pushed all the way down, so the transceiver can be pulled out successfully.

- 4 Pull the latch, or use your thumb and index finger to grasp the tabs on both sides of the transceiver, and carefully slide it out of the slot.

Note: Do NOT pull the transceiver out by force. You could damage it. If the transceiver will not slide out, grasp the tabs on both sides of the transceiver with a slight up or down motion and carefully slide it out of the slot. If unsuccessful, contact Zyxel Support to prevent damage to your Zyxel Device and transceiver.

- 5 Insert the dust plug into the ports on the transceiver and the cables.

2.3.2 WPS Button

You can use the **WPS** button to quickly set up a secure WiFi connection between the Zyxel Device and a WPS-compatible client by adding one device at a time.

To Activate WPS

- 1 Make sure the **POWER** LED is on and not blinking.
- 2 Press the **WPS** button once within 3 seconds (see the ports panel table of each Zyxel Device model in [Ports Panel](#) for more information) and release it.
- 3 Press the **WPS** button on another WPS-enabled device within range of the Zyxel Device (within 120 seconds). The **WPS** LED flashes green while the Zyxel Device sets up a WPS connection with the other wireless device.
- 4 Once the connection is successfully made, the **WPS** LED will light off.

2.3.3 RESET Button

If you forget your password or cannot access the Web Configurator, you will need to use the **RESET** button to reload the factory-default configuration file. This means that you will lose all configurations that you had previously. The password will be reset to the factory default (see the device label), and the LAN IP address will be "192.168.1.1".

- 1 Make sure the **POWER** LED is on (not blinking).
- 2 To set the device back to the factory default settings, press the **RESET** button for more than 5 seconds or until the **POWER** LED begins to blink and then release it. When the **POWER** LED begins to blink, the defaults have been restored and the device restarts.

CHAPTER 3

Web Configurator

3.1 Overview

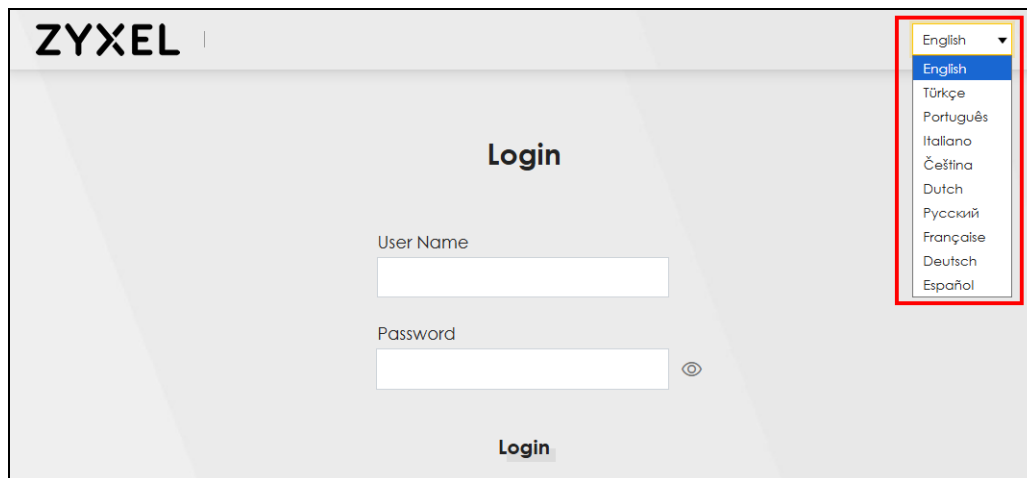
The Web Configurator is an HTML-based management interface that allows easy system setup and management through Internet browser. Use a browser that supports HTML5, such as Microsoft Edge, Mozilla Firefox, or Google Chrome. The recommended minimum screen resolution is 1024 by 768 pixels.

In order to use the Web Configurator you need to allow:

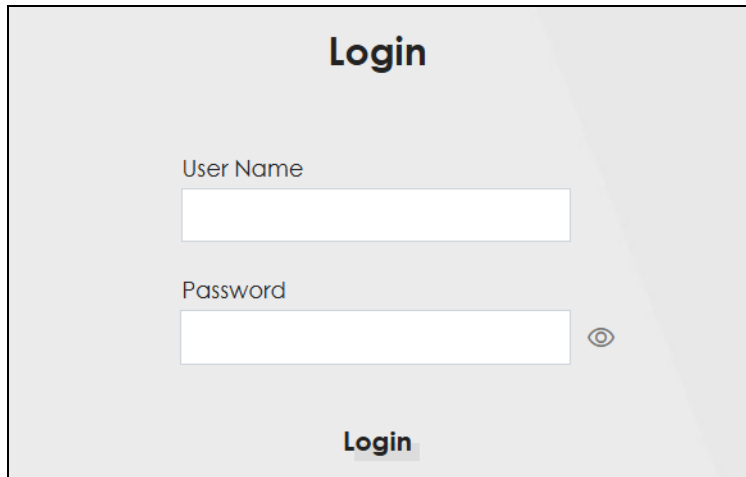
- Web browser pop-up windows from your computer.
- JavaScript (enabled by default).
- Java permissions (enabled by default).

3.1.1 Access the Web Configurator

- 1 Make sure your Zyxel Device hardware is properly connected (refer to the Quick Start Guide).
- 2 Make sure your computer has an IP address in the same subnet as the Zyxel Device.
- 3 Launch your web browser. Type `http://192.168.1.1` in your browser address bar.
- 4 A login screen displays. Select the language you prefer (upper right).

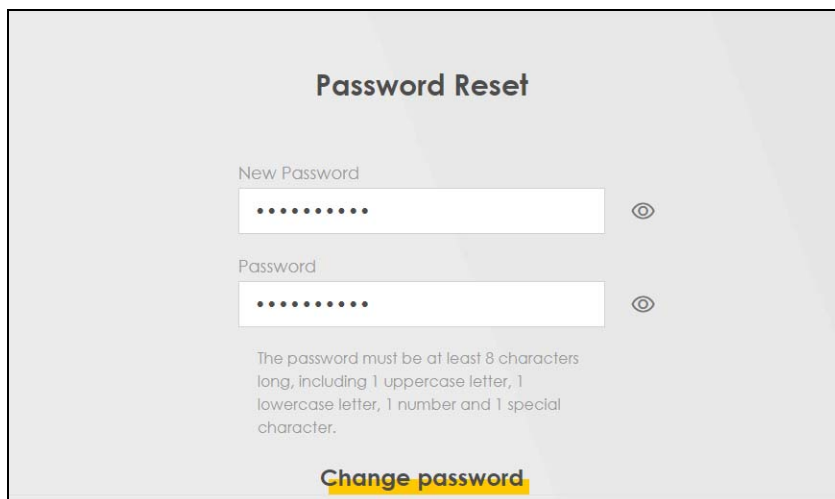


- 5 To access the administrative Web Configurator and manage the Zyxel Device, enter the default user name **admin** and the randomly assigned default password (see the Zyxel Device label) in the **Login** screen and click **Login**. If you have changed the password, enter your password and click **Login**.



The Login screen features a light gray background with a subtle geometric pattern. At the top center, the word "Login" is displayed in a bold, dark font. Below this, the text "User Name" is positioned above a white rectangular input field. Further down, the text "Password" is positioned above another white rectangular input field. To the right of the password field is a small circular icon with an eye, used for toggling password visibility. At the bottom center, a "Login" button is visible, with the text highlighted in a light blue background.

Note: The first time you enter the password, you will be asked to change it. The new password must be at least 8 characters, must contain at least one uppercase letter, one lowercase letter, one number, and one special character. For some models, the password must contain at least one English character and one number. Please see the password requirement displayed on the screen.



The Password Reset screen has a light gray background with a subtle geometric pattern. At the top center, the text "Password Reset" is displayed in a bold, dark font. Below this, the text "New Password" is positioned above a white rectangular input field filled with dots. To the right of this field is a small circular icon with an eye. Below the "New Password" field, the text "Password" is positioned above another white rectangular input field filled with dots, also with an eye icon to its right. Below these fields, a paragraph of text states: "The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character." At the bottom center, a "Change password" button is displayed, with the text highlighted in a yellow background.

- 6 The **Connection Status** screen appears. Use this screen to configure basic Internet access and WiFi settings.

ZYXEL | EE5301-00 ≡

Connectivity

>

System Info

Model Name	EE5301-00
Firmware Version	V5.63(ACLD.0)b3
System Uptime	0 days 0 hours 33 minutes 30 seconds
LAN MAC Address	
Ethernet WAN	1000M/Full

>

WiFi Settings



	2.4GHz WiFi Name	WiFi Password
☒	ZyxeI_F6D8	 
	5GHz WiFi Name	WiFi Password
☒	ZyxeI_F6D8	 

>

Guest WiFi Settings

	2.4GHz WiFi Name	WiFi Password
☐	ZyxeI_F6D8_guest1	 
	5GHz WiFi Name	WiFi Password
☐	ZyxeI_F6D8_guest1	 

>

LAN

IP Address	
Subnet Mask	255.255.255.0
IP Address Range	172.21.59.1 ~ 172.21.59.254
DHCP	☒
Lease Time	1 days 0 hours 0 minutes

>

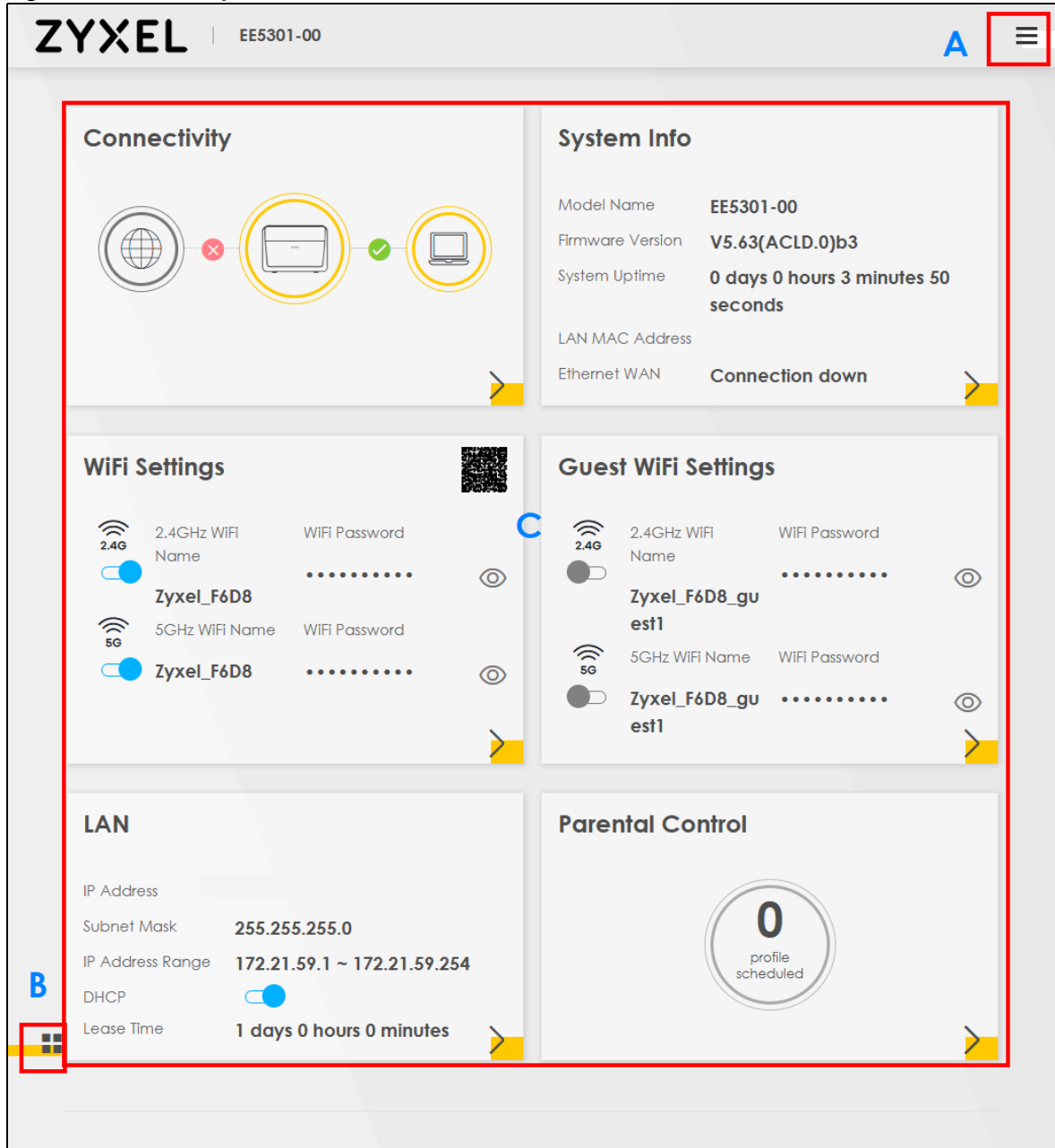
Parental Control

0
profile
scheduled

>

3.2 Web Configurator Layout

Figure 52 Screen Layout



As illustrated above, the main screen is divided into these parts:

- **A** – Settings Icon (Navigation Panel and Side Bar)
- **B** – Layout Icon
- **C** – Main Window

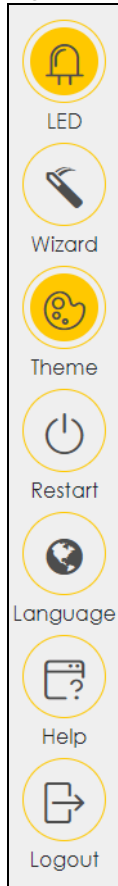
3.2.1 Settings Icon

Click this icon () to see the side bar and navigation panel.

3.2.1.1 Side Bar

The side bar provides some icons on the right hand side.

Figure 53 Side Bar

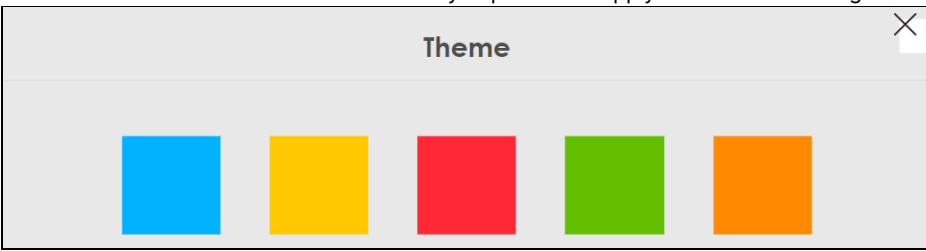
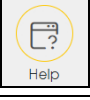


The icons provide the following functions.

Table 27 Web Configurator Icons in the Title Bar

ICON	DESCRIPTION
 LED	LED: Click this icon to turn off or on
 Wizard	Wizard: Click this icon to open scree

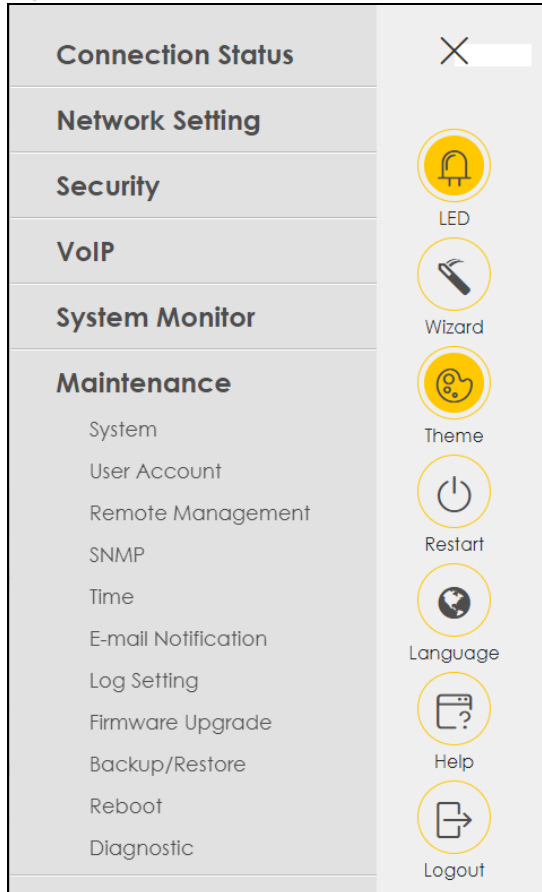
Table 27 Web Configurator Icons in the Title Bar (continued)

ICON	DESCRIPTION
 Theme	Theme: Click this icon to select a color that you prefer and apply it to the Web Configurator. 
 Language	Language: Select the language you prefer.
 Help	Help: Click this link to display web help pages. The help pages provide descriptions for all of the configuration screens.
 Restart	Restart: Click this icon to reboot the Zyxel Device without turning the power off.
 Logout	Logout: Click this icon to log out of the Web Configurator.

3.2.1.2 Navigation Panel

Click the menu icon () to display the navigation panel that contains configuration menus and icons (quick links). Click **X** to close the navigation panel.

Use the menu items on the navigation panel to open screens to configure Zyxel Device features. The following tables describe each menu item.

Figure 54 Navigation Panel**Table 28** Navigation Panel Summary

LINK	TAB	FUNCTION
Connection Status		Use this screen to configure basic Internet access, wireless settings, and parental control settings. This screen also shows the network status of the Zyxel Device and computers or devices connected to it.
Network Setting		
Broadband	Broadband	Use this screen to view and configure ISP parameters, WAN IP address assignment, and other advanced properties. You can also add new WAN connections.
	Cellular Backup	Use this screen to configure a cellular WAN connection as a backup to keep you online if the primary WAN connection fails.
Wireless	General	Use this screen to configure the WiFi settings and WiFi authentication or security settings.
	More AP	Use this screen to configure multiple BSSs on the Zyxel Device.
	MAC Authentication	Use this screen to block or allow wireless traffic from wireless devices of certain SSIDs and MAC addresses to the Zyxel Device.
	WPS	Use this screen to configure and view your WPS (WiFi Protected Setup) settings.
	Others	Use this screen to configure advanced WiFi settings.
	Channel Status	Use this screen to scan WiFi channel noises and view the results.
	MESH	Use this screen to enable or disable Mesh.

Table 28 Navigation Panel Summary (continued)

LINK	TAB	FUNCTION
Home Networking	LAN Setup	Use this screen to configure LAN TCP or IP settings, and other advanced properties.
	Static DHCP	Use this screen to assign specific IP addresses to individual MAC addresses.
	UPnP	Use this screen to turn UPnP and UPnP NAT-T on or off.
	Custom DHCP	Use this screen to configure additional DHCP options.
	Additional Subnet	Use this screen to configure IP alias and public static IP.
	STB Vendor ID	Use this screen to configure the Vendor IDs of the connected Set Top Box (STB) devices, which have the Zyxel Device automatically create static DHCP entries for the STB devices when they request IP addresses.
	Wake on LAN	Use this screen to remotely turn on a device on the local network.
	TFTP Server Name	Use DHCP option 66 to identify a TFTP server name.
	APAS	Use this screen to allow a LAN device to use any available port to access any available service from a remote WAN device.
Routing	Static Route	Use this screen to view and set up static routes on the Zyxel Device.
	DNS Route	Use this screen to forward DNS queries for certain domain names through a specific WAN interface to its DNS servers.
	Policy Route	Use this screen to configure policy routing on the Zyxel Device.
	RIP	Use this screen to configure Routing Information Protocol to exchange routing information with other routers.
QoS	General	Use this screen to enable QoS and traffic prioritizing. You can also configure the QoS rules and actions.
	Queue Setup	Use this screen to configure QoS queues.
	Classification Setup	Use this screen to define a classifier.
	Shaper Setup	Use this screen to limit outgoing traffic rate on the selected interface.
NAT	Port Forwarding	Use this screen to make your local servers visible to the outside world.
	Port Triggering	Use this screen to change your Zyxel Device's port triggering settings.
	DMZ	Use this screen to configure a default server which receives packets from ports that are not specified in the Port Forwarding screen.
	ALG	Use this screen to enable the ALGs (Application Layer Gateways) in the Zyxel Device to allow applications to operate through NAT.
	Address Mapping	Use this screen to change your Zyxel Device's IP address mapping settings.
	Sessions	Use this screen to configure the maximum number of NAT sessions each client host is allowed to have through the Zyxel Device.
	PCP	Use this screen to configure PCP (Port Control Protocol) to allow devices such as web or file sharing servers behind the Zyxel Device to receive incoming traffic.
DNS	DNS Entry	Use this screen to view and configure DNS routes.
	Dynamic DNS	Use this screen to allow a static hostname alias for a dynamic IP address.
IGMP/MLD	IGMP/MLD	Use this screen to configure multicast settings (IGMP for IPv4 and MLD for IPv6 multicast groups) on the WAN.
VLAN Group	VLAN Group	Use this screen to group and tag VLAN IDs to outgoing traffic from the specified interface.

Table 28 Navigation Panel Summary (continued)

LINK	TAB	FUNCTION
Interface Grouping	Interface Grouping	Use this screen to map a port to create multiple networks on the Zyxel Device.
USB Service	File Sharing	Use this screen to enable file sharing through the Zyxel Device.
	Media Server	Use this screen to use the Zyxel Device as a media server.
	Print Server	Use this screen to use the Zyxel Device as a print server.
Home Connectivity	Home Connectivity	Use this screen to enable or disable WiFi auto-configuration.
Security		
Firewall	General	Use this screen to configure the security level of your firewall.
	Protocol	Use this screen to add Internet services and configure firewall rules.
	Access Control	Use this screen to enable specific traffic directions for network services.
	DoS	Use this screen to activate protection against Denial of Service (DoS) attacks.
MAC Filter	MAC Filter	Use this screen to block or allow traffic from devices of certain MAC addresses to the Zyxel Device.
Home Security	Connected Home Security	Use this screen to set up a URL filter that blocks users on your network from accessing certain websites.
Parental Control	Parental Control	Use this screen to define time periods and days during which the Zyxel Device performs parental control and/or block web sites with the specific URL.
Scheduler Rule	Scheduler Rule	Use this screen to configure the days and times when a configured restriction (such as parental control) is enforced.
Certificates	Local Certificates	Use this screen to view a summary list of certificates and manage certificates and certification requests.
	Trusted CA	Use this screen to view and manage the list of the trusted CAs.
VoIP		
SIP	SIP Account	Use this screen to set up information about your SIP account and configure audio settings such as volume levels for the phones connected to the Zyxel Device.
	SIP Service Provider	Use this screen to configure the SIP server information, and other SIP settings, such as QoS for VoIP calls, outbound proxy, DTMF mode and SIP timers.
	SIP TLS Common	Use this screen to change the default TLS local port if you need to, and select a local certificate for the SIP server to verify the Zyxel Device.
Phone	Phone Device	Use this screen to control which SIP accounts each phone uses to handle outgoing and incoming calls.
	Region	Use this screen to select your location and call service mode.
Call Rule	Call Rule	Use this screen to configure speed dial for SIP phone numbers that you often call.
Call History	Call History	Use this screen to view detailed information for each outgoing call you made or each incoming call from someone calling you. You can also view a summary list of received, dialed and missed calls.
System Monitor		
Log	System Log	Use this screen to view the status of events that occurred to the Zyxel Device. You can export or email the logs.

Table 28 Navigation Panel Summary (continued)

LINK	TAB	FUNCTION
	Security Log	Use this screen to view all security related events. You can select the level and category of the security events in their proper drop-down list window. Levels include: • Emergency • Alert • Critical • Error • Warning • Notice • Informational • Debugging Categories include: • Account • Attack • Firewall • MAC Filter
Traffic Status	WAN	Use this screen to view the status of all network traffic going through the WAN port of the Zyxel Device.
	LAN	Use this screen to view the status of all network traffic going through the LAN ports of the Zyxel Device.
	NAT	Use this screen to view NAT statistics for connected hosts.
VoIP Status	VoIP Status	Use this screen to view VoIP registration, current call status and phone numbers for the phone ports.
ARP Table	ARP Table	Use this screen to view the ARP table. It displays the IP and MAC address of each DHCP connection.
Routing Table	Routing Table	Use this screen to view the routing table on the Zyxel Device.
Multicast Status	IGMP Status	Use this screen to view the status of all IGMP settings on the Zyxel Device.
	MLD Status	Use this screen to view the status of all MLD settings on the Zyxel Device.
xDSL Statistics	xDSL Statistics	Use this screen to view the Zyxel Device's xDSL traffic statistics.
WLAN Station Status	WLAN Station Status	Use this screen to view the wireless stations that are currently associated to the Zyxel Device's WiFi.
Cellular Statistics	Cellular Statistics	Use this screen to look at the cellular Internet connection status.
Optical Signal Status	Optical Signal Status	Use this screen to view the optical fiber transceiver's TX power and RX power level and its temperature.
Maintenance		
System	System	Use this screen to set the Zyxel Device name and Domain name.
User Account	User Account	Use this screen to change the user password on the Zyxel Device.
Remote Management	MGMT Services	Use this screen to enable specific traffic directions for network services.
	Trust Domain	Use this screen to view a list of public IP addresses which are allowed to access the Zyxel Device through the services configured in the Maintenance > Remote Management screen.
Power Monitor	Power Monitor	Use this screen to view the current and past amount of power consumed by the Zyxel Device.
Time	Time	Use this screen to change your Zyxel Device's time and date.
E-mail Notification	E-mail Notification	Use this screen to configure up to two mail servers and sender addresses on the Zyxel Device.

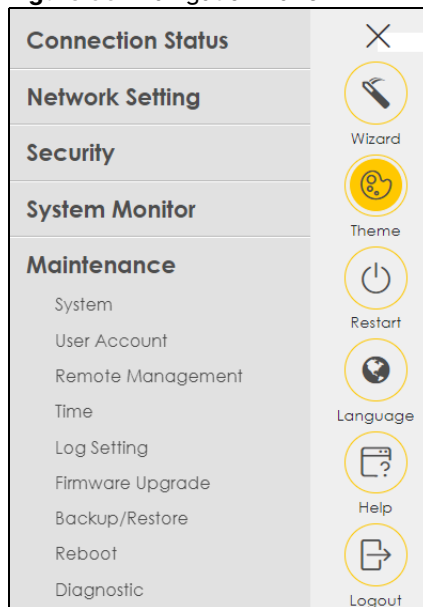
Table 28 Navigation Panel Summary (continued)

LINK	TAB	FUNCTION
Log Setting	Log Settings	Use this screen to change your Zyxel Device's log settings.
Firmware Upgrade	Firmware Upgrade	Use this screen to upload firmware to your Zyxel Device.
Backup/Restore	Backup/Restore	Use this screen to backup and restore your Zyxel Device's configuration (settings) or reset the factory default settings.
Reboot	Reboot	Use this screen to reboot the Zyxel Device or Zyxel Mesh system without turning the power off.
	Schedule Reboot	Use this screen to set the time to reboot the Zyxel Device without turning the power off.
Diagnostic	Diagnostic	Use this screen to identify problems with the Internet connection. You can use Ping, Ping 6, TraceRoute, TraceRoute 6, or Nslookup to help you identify problems.

3.2.1.3 Dashboard

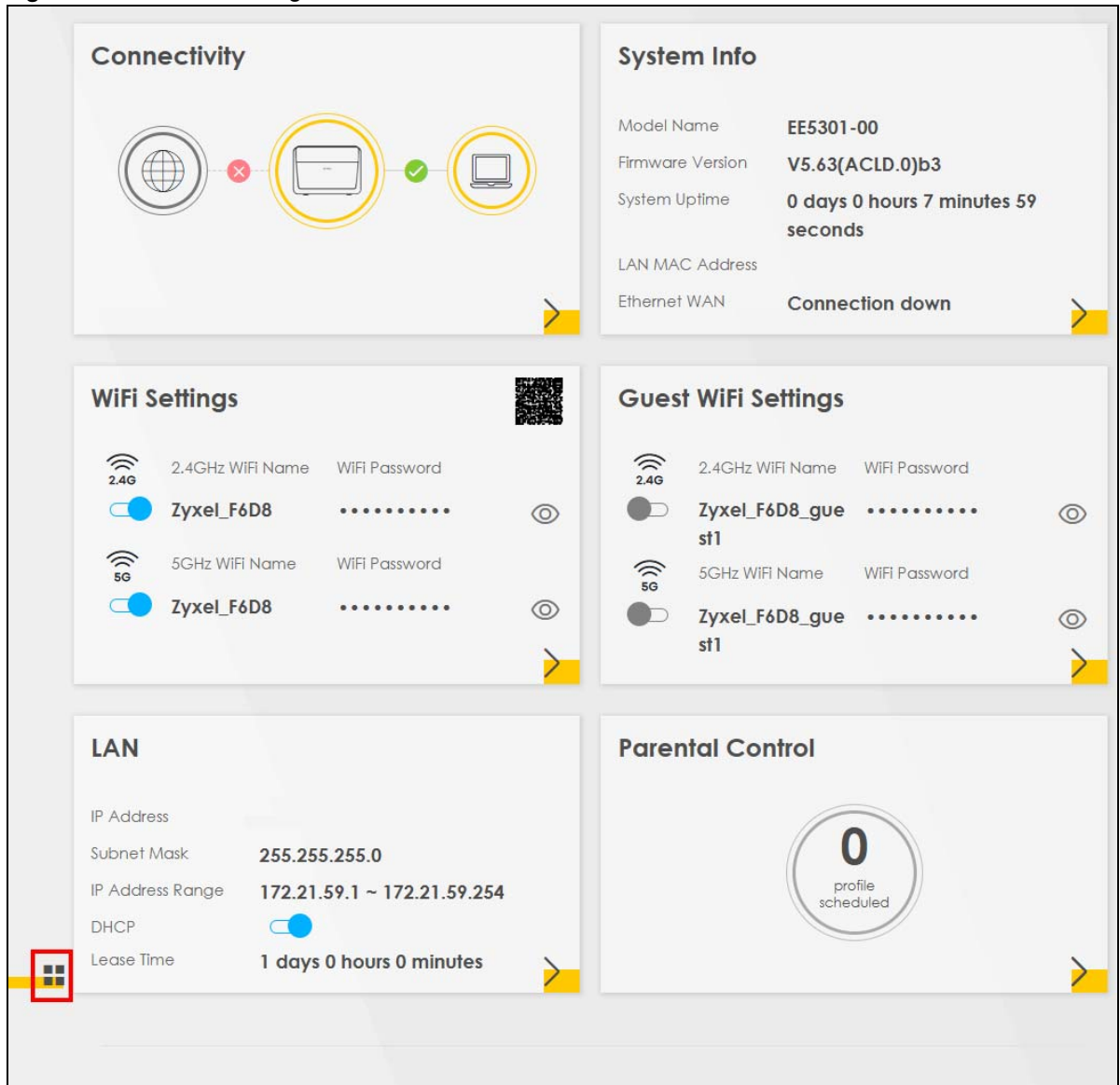
Use the menu items in the navigation panel on the right to open screens to configure the Zyxel Device's features.

Figure 55 Navigation Panel

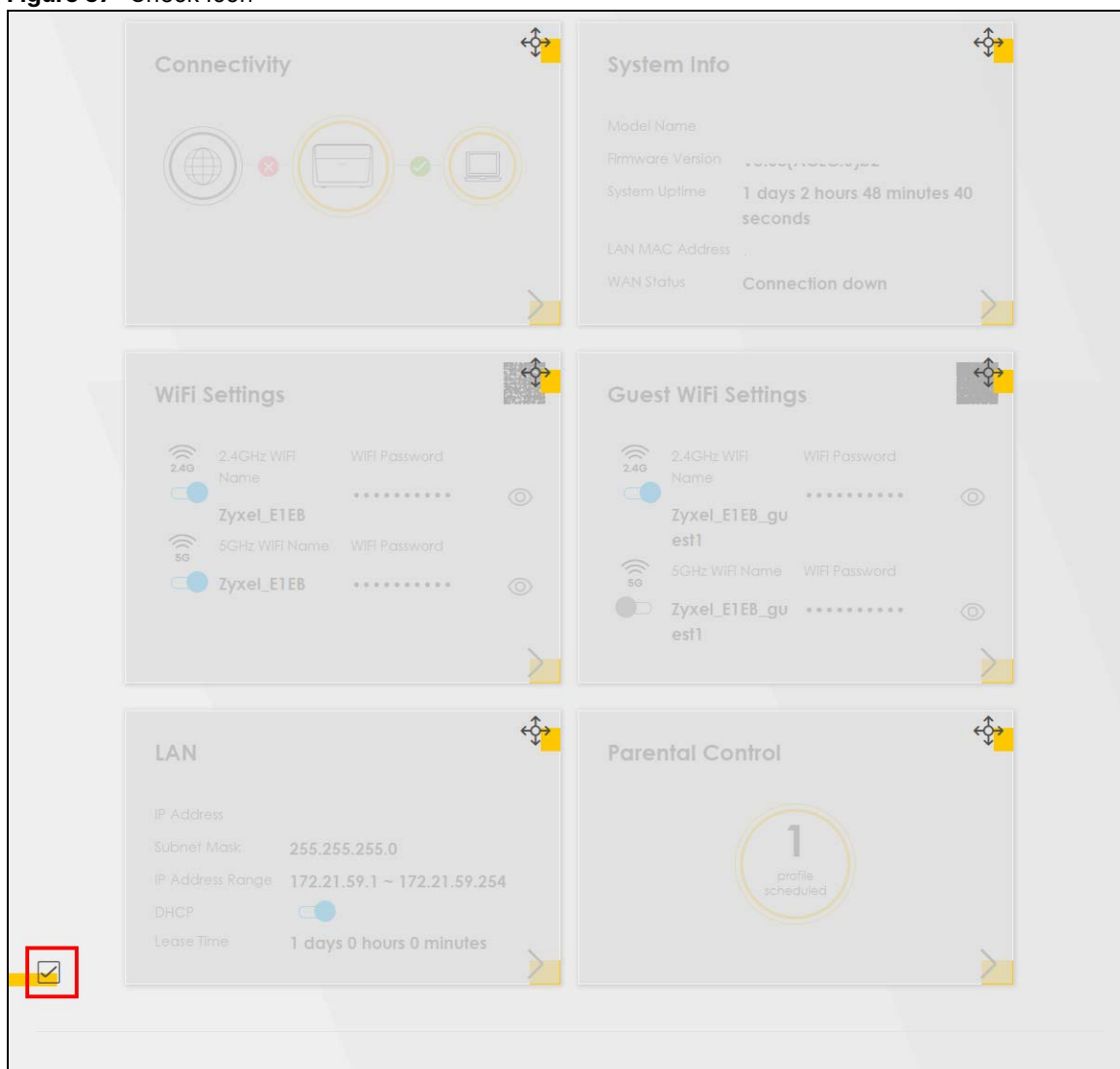


3.2.2 Widget Icon

Click the Widget icon () in the lower left corner to arrange the screen order.

Figure 56 Dashboard Widget

The following screen appears. Select a block and hold it to move around. Click the Check icon (👁) in the lower left corner to save the changes.

Figure 57 Check Icon

CHAPTER 4

Quick Start

4.1 Quick Start Overview

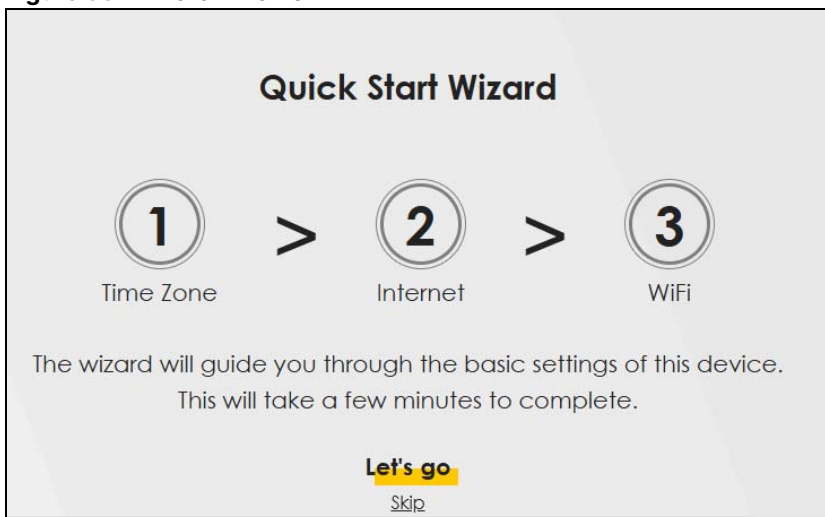
Use the **Wizard** screens to configure the Zyxel Device's time zone and WiFi settings.

Note: See the technical reference chapters for background information on the features in this chapter.

4.2 Quick Start Setup

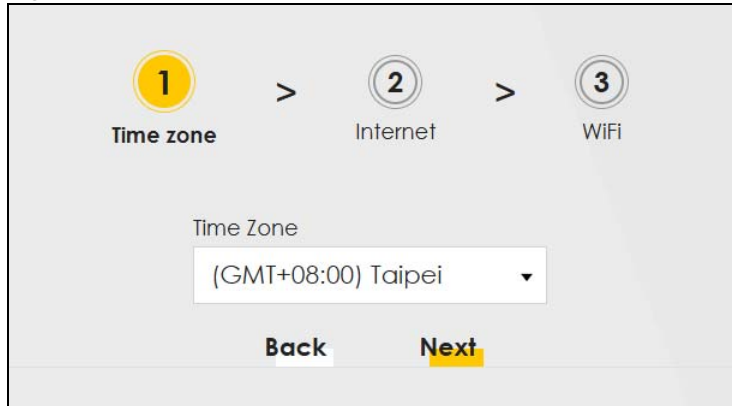
You can click the **Wizard** icon in the side bar to open the **Wizard** screens. After you click the **Wizard** icon, the following screen appears. Click **Let's go** to proceed with settings on time zone and WiFi networks. It will take you a few minutes to complete the settings on the **Wizard** screens. You can click **Skip** to leave the **Wizard** screens.

Figure 58 Wizard – Home



4.3 Quick Start Setup – Time Zone

Select the time zone of the Zyxel Device's location. Click **Next**.

Figure 59 Wizard – Time Zone

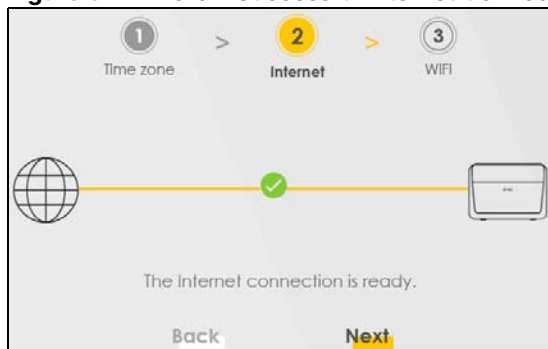
4.4 Quick Start Setup – Internet Connection

The Zyxel Device detects your Internet connection status. Click **Next** to continue.

Figure 60 Wizard – Internet

4.4.1 Successful Internet Connection

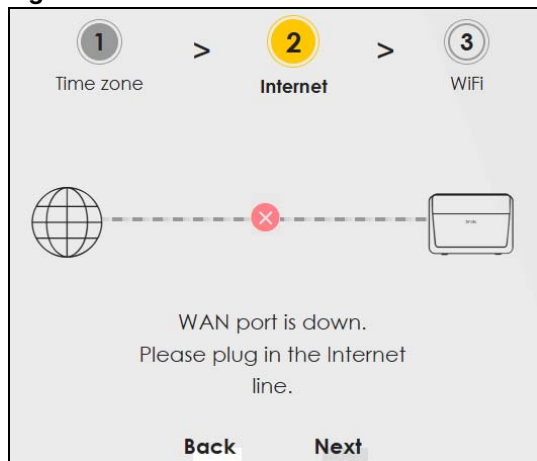
The Zyxel Device has Internet access.

Figure 61 Wizard – Successful Internet Connection

4.4.2 Unsuccessful Internet Connection

The Zyxel Device did not detect a WAN connection. See [Internet Problems](#) for troubleshooting the Zyxel Device WAN connection.

Figure 62 Wizard – Internet Connection is Down



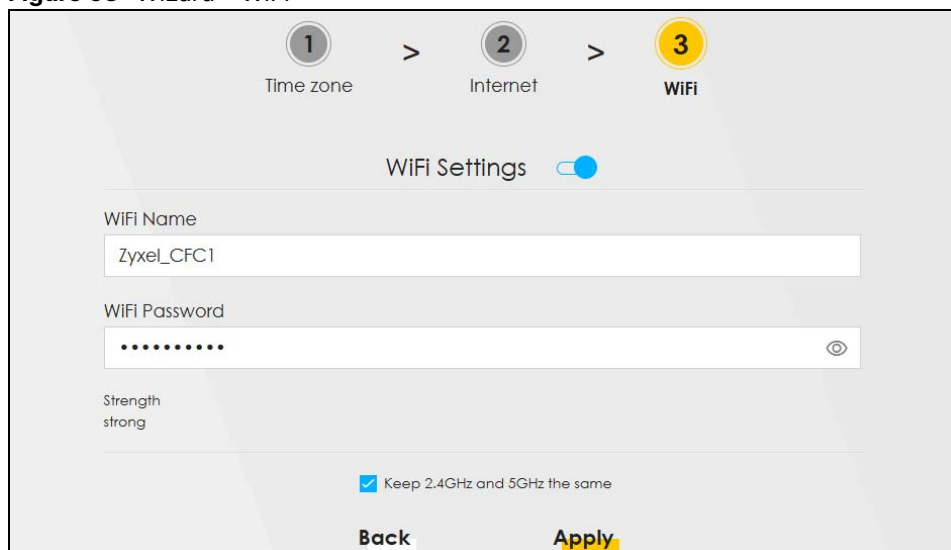
4.5 Quick Start Setup – WiFi

Turn WiFi on or off. If you keep it on, record the **WiFi Name** and **Password** in this screen so you can configure your WiFi clients to connect to the Zyxel Device. If you want to show or hide your WiFi password, click the Eye icon (👁).

Select **Keep 2.4GHz and 5GHz the same** to use the same SSID for 2.4 GHz and 5 GHz WiFi networks. Otherwise, clear the checkbox to have two different SSIDs for 2.4 GHz and 5 GHz WiFi networks. The screen and fields to enter may vary when you select or clear the checkbox.

You have to disable **MPro Mesh** in the **Network > Wireless > MESH** screen to clear the **Keep 2.4GHz and 5GHz the same** checkbox. Click **Done**.

Figure 63 Wizard – WiFi



4.6 Quick Start Setup – Finish

Your Zyxel Device saves and applies your settings.

CHAPTER 5

Web Interface Tutorials

5.1 Web Interface Overview

This chapter shows you how to use the Zyxel Device's various features.

- [Device Settings](#) - Rename your Zyxel Device, change the admin password, and change the management IP address.
- [Wired Network Setup](#) - Set up a wired network connection using DSL/GPON/Ethernet.
- [WiFi Network Setup](#) - Change the security mode, connect to the WiFi network using the WPS, set up a guest WiFi network with different WiFi bands, and configure the channel and bandwidth for each WiFi band.
- [USB Applications](#) - Set up file sharing and play files through Windows Media Player with a USB device.
- [Network Security](#) - Configure a firewall rule, set up parental control rule, and configure a MAC Filter rule.
- [Internet Calls](#) - Add a SIP service provider or a SIP account, to make phone calls over the Internet.
- [Device Maintenance](#) - Upgrade the firmware, back up the firmware, restore the Zyxel Device configuration, and reset the Zyxel Device to factory defaults.
- [Remote Access from WAN](#) - Configure remote access to your Zyxel Device and configure the trust domain.

5.2 Device Settings

This section shows you how to:

- [Rename Your Zyxel Device](#)
- [Change the Admin Password](#)
- [Change the Management IP Address](#)

You can rename your device, and change the admin password.

5.2.1 Rename Your Zyxel Device

An FQDN (Fully Qualified Domain Name) is used to identify a specific host on the Internet, consisting of a host name and a domain name.

Proper naming of the host name and domain name makes the Zyxel Device and the network easier to identify, manage, and troubleshoot. The host name is the name of your Zyxel Device, while the domain name is the name of the entire network your Zyxel Device belongs to. If your Zyxel Device's host name is room1, and it belongs to the domain you name with home.com, then your Zyxel Device's FQDN would be room1.home.com.

To change the host name and the domain name, please follow the steps below:

- 1 Go to the **Maintenance > System** screen. Enter a new host name in the **Host Name** field and a domain name in the **Domain Name** field (special characters and spaces are not allowed). Click **Apply**.

System

You can assign a unique name to this device so it can be recognized easily on your network.

Host Name: room1

Domain Name: home

Cancel Apply

- 2 Go to the **Connection Status > System Info**. You can see the new host name has been applied successfully.

5.2.2 Change the Admin Password

Change the Web Configurator login password regularly to secure access to your Zyxel Device. To change the admin password, follow the steps below:

- 1 Go to the **Maintenance > User Account** screen. Click the **Edit** icon.

User Account

User Account lets you create or manage the user accounts on the device.

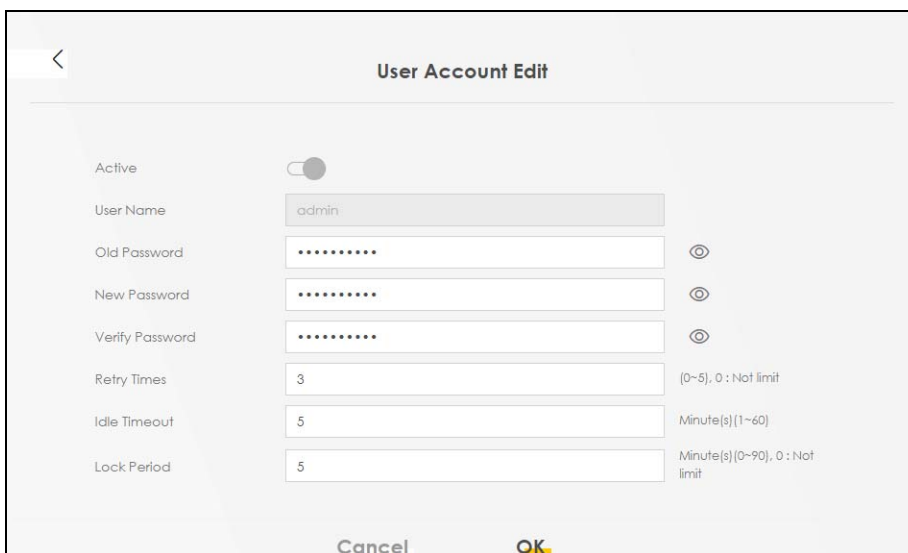
+ Add New Account

#	Active	User Name	Retry Times	Idle Timeout	Lock Period	Group	Modify
1	☒	admin	3	60	5	Administrator	

Cancel Apply

- 2 The **User Account Edit** screen appears. Enter your old and new passwords in the corresponding field. Click **OK**.

Note: The new password must be at least 8 characters, must contain at least one uppercase letter, one lowercase letter, one number, and one special character. For some models, the password must contain at least one English character and one number. Please see the password requirement displayed on the screen.



The 'User Account Edit' form contains the following fields and controls:

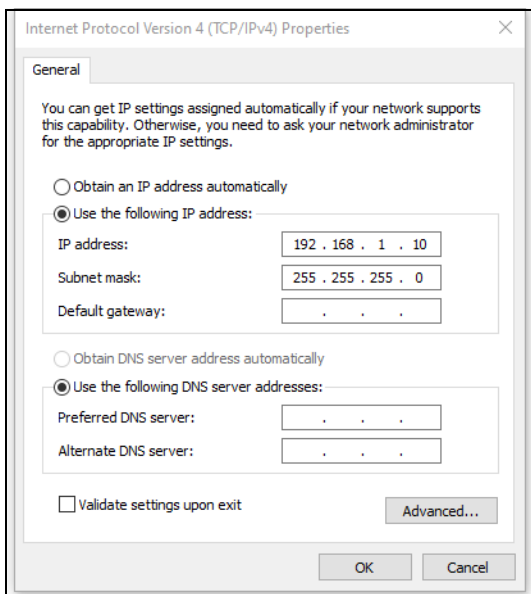
- Active:** A toggle switch currently turned on.
- User Name:** A text field containing 'admin'.
- Old Password:** A password field with masked characters and a visibility icon.
- New Password:** A password field with masked characters and a visibility icon.
- Verify Password:** A password field with masked characters and a visibility icon.
- Retry Times:** A numeric field set to '3', with a range constraint of '(0~5), 0: Not limit'.
- Idle Timeout:** A numeric field set to '5', with a unit constraint of 'Minute(s) (1~60)'.
- Lock Period:** A numeric field set to '5', with a unit constraint of 'Minute(s) (0~90), 0: Not limit'.

At the bottom of the form are 'Cancel' and 'OK' buttons.

5.2.3 Change the Management IP Address

Duplicated IP addresses in the network environment may cause failure to connect to the Zyxel Device. To change the management IP address of your Zyxel Device, please follow the steps below:

- 1 Change your computer's IP address to the same subnet as the Zyxel Device. For example, if the default static IP address of the Zyxel Device is 192.168.1.1, set your computer IP address between 192.168.1.2 and 192.168.1.254.



The 'Internet Protocol Version 4 (TCP/IPv4) Properties' dialog box shows the following configuration:

- General tab:**
 - Radio button 'Use the following IP address:' is selected.
 - IP address:** 192 . 168 . 1 . 10
 - Subnet mask:** 255 . 255 . 255 . 0
 - Default gateway:** . . .
 - Radio button 'Obtain DNS server address automatically' is selected.
 - Preferred DNS server:** . . .
 - Alternate DNS server:** . . .
 - ☐ Validate settings upon exit
 - Advanced... button

At the bottom are 'OK' and 'Cancel' buttons.

- 2 Log into the Zyxel Device using the default IP address "192.168.1.1". Go to **Network Setting > Home Networking**. Enter your preferred IPv4 address in the **IP Address** field. For example, "192.168.1.15". Click **Apply** and the Zyxel Device will disconnect from your computer due to the IP address change.

LAN IP Setup							
IP Address	192	.	168	.	1	.	15
Subnet Mask	255	.	255	.	255	.	0

- 3 Enter the new IP address "192.168.1.15" in the address bar to check if you can access the Zyxel Device's Web Configurator.
- 4 After logging in, click the menu icon () and go to **Connection Status**. In the **LAN** section, the **IP Address** should now be "192.168.1.15".

LAN	
IP Address	192.168.1.15
Subnet Mask	255.255.255.0
IP Address Range	192.168.1.1 ~ 192.168.1.254
DHCP	☒
Lease Time	1 days 0 hours 0 mins

5.3 Wired Network Setup

This section shows you how to:

- [Set Up a DSL Connection](#)
- [Set Up a GPON Connection](#)
- [Set Up an Ethernet Connection](#)

You can set up a PON, DSL or Ethernet Internet connection with the **Broadband** screens. The screens vary by the connection mode, encapsulation type and IP mode (IPv6 or IPv4) you select.

Set the Zyxel Device to **Routing** mode or **Bridge** mode on this connection as follows:

- Use **Routing** mode if you want the Zyxel Device to use routing mode functions such as **NAT**, **Firewall**, or **DHCP Server**. You will need to reconfigure your network if you have an existing router.
- Use **Bridge** mode to pass the ISP-assigned IP address(es) to your devices connected to the LAN port. All traffic from the Internet passes through the Zyxel Device directly to devices connected to the LAN port. Use this mode if you already have a router with complete routing functions in your network.

5.3.1 Set Up a DSL Connection

This tutorial shows you how to set up a DSL Internet connection using the Web Configurator on DSL routers (see [Overview](#)).

If you connect to the Internet through a DSL connection, use the information from your Internet Service Provider (ISP) to configure the **Broadband** screens.

- 1 Go to **Network Setting > Broadband** and then the following screen appears. Click **Add New WAN Interface**.

#	Name	Type	Mode	Encapsulation	802.1p	802.1q	IGMP Proxy	NAT	Default Gateway	IPv6	MLD Proxy	Modify
1	ADSL	ATM	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	
2	VDSL	PTM	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	
3	ETHWAN	ETH	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	

- 2 To set the Zyxel Device to **Routing** mode, see [Routing Mode](#).
To set the Zyxel Device to **Bridge** mode, see [Bridge Mode](#).

Routing Mode

- 1 In this routing mode example, the DSL WAN connection has the following information.

General	
Name	MyDSLConnection
Type	ADSL over ATM
Connection Mode	Routing
Encapsulation	PPPoE
IPv6/IPv4 Mode	IPv4
ATM PVC Configuration	
VPI/VCI	36/48
Encapsulation Mode	LLC/SNAP-Bridging
Service Category	UBR without PCR
Account Information	
PPP User Name	1234@DSL-Ex.com
PPP Password	ABCDEF!
Static IP Address	192.168.1.32
Gateway IP Address	192.168.1.254
Primary DNS server	192.168.5.2

Secondary DNS server	192.168.5.1
Others	Authentication Method: AUTO PPPoE Passthrough: Disabled NAT: Enabled IGMP Multicast Proxy: Enabled Apply as Default Gateway: Enabled VLAN: Disabled

- 2** Enter the **General** and **ATM PVC Configuration** settings as provided above.
 - Set the **Type** to **ADSL over ATM**.
 - Set the **Mode** to **Routing**.
 - Choose the **Encapsulation** specified by your DSL service provider.
 - Set the **IPv4/IPv6 Mode** to **IPv4 Only**.
- 3** Enter the account information provided by your DSL service provider.
- 4** Enable **Apply as Default Gateway** to use this rule as your default Internet connection. Then select **Use Following Static DNS Address** and enter the DNS server addresses provided by your DSL service provider.
- 5** For the rest of the fields, use the default settings.
- 6** Click **Apply** to save your settings.

The new connection is displayed on the **Broadband** screen.

Broadband

Broadband Cellular Backup Advanced

You can configure the Internet settings of this device. Correct configurations build successful Internet connection.

+ Add New WAN Interface

#	Name	Type	Mode	Encapsulation	802.1p	802.1q	IGMP Proxy	NAT	Default Gateway	IPv6	MLD Proxy	Modify
1	ADSL	ATM	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	 
2	VDSL	PTM	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	 
3	ETHWAN	ETH	Routing	IPoE	N/A	N/A	Y	Y	Y	Y	Y	 
4	MyDSLConnection	ATM	Routing	PPPoE	N/A	N/A	Y	Y	Y	N	N	 

Bridge Mode

- 1 In this bridge mode example, the DSL WAN connection has the following information.

General	
Name	MyDSLConnection
Type	ADSL over ATM
Connection Mode	Bridge
ATM PVC Configuration	
VPI/VCI	36/48
Encapsulation Mode	LLC/SNAP-BRIDGING
Service Category	UBR without PCR

- 2 Enter the **General** and **ATM PVC Configuration** settings as provided above.
- 3 For the rest of the fields, use the default settings.
- 4 Click **Apply** to save your settings.
- 5 Try to connect to a website to see if you have correctly set up your Internet connection.

5.3.2 Set Up a GPON Connection

If you connect to the Internet through a GPON connection, you need to connect a broadband modem or router with Internet access to the WAN GPON port on the Zyxel Device. You need to configure the Internet settings from the broadband modem or router on the Zyxel Device. First, make sure you have Internet access through the broadband modem or router by connecting directly to it.

- 1 Make sure you have the GPON WAN port connect to a modem or router.

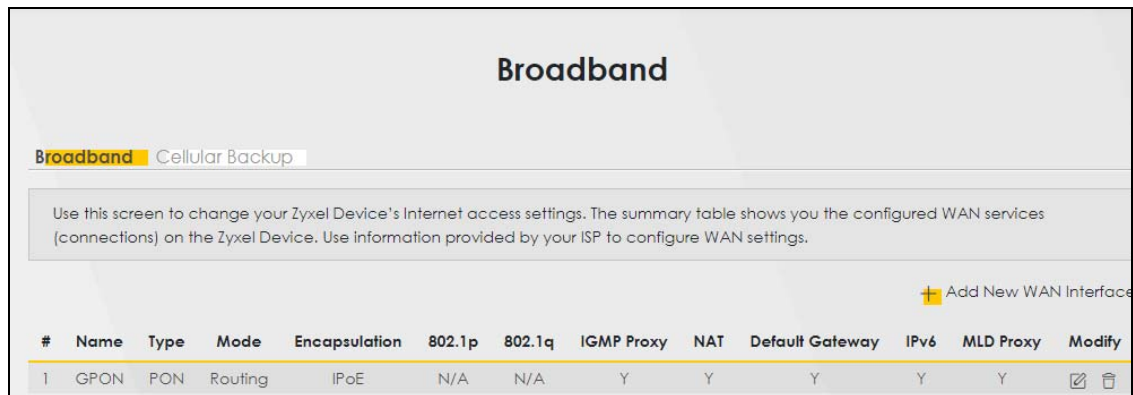
- 2 Register the GPON serial number on the back label of the Zyxel Device (ONT, Optical Network Terminal) with your Internet service provider (OLT, Optical Line Terminal). The LED indicator will show the status of the registration. The GPON registration process includes the states below for the Zyxel Device:

Table 29 GPON registration process

STATE	DESCRIPTION
O1	Initial State: Check if the GPON port of the Zyxel Device (ONT) is enabled and ready to connect to the Internet service provider (OLT).
O2	Standby State: The Zyxel Device (ONT) is trying to receive signals sent by the Internet service provider (OLT) and is responding.
O3	Serial Number State: The Internet service provider (OLT) is sending a serial number request for the Zyxel Device (ONT). The Zyxel Device (ONT) replies with the GPON serial number found on the back label of the Zyxel Device.
O4	Ranging State: The Internet service provider (OLT) is sending a ranging request to the Zyxel Device (ONT) and is asking for a response.
O5	Operation State: The GPON connection is established between the Zyxel Device (ONT) and the Internet service provider (OLT).

See [LED Indicators Panel](#) for more information about the LED of GPON registration.

- 3 Go to **Network Setting > Broadband** and then the following screen appears. Click **Add New WAN Interface**.



- 4 To set the Zyxel Device to **Routing** mode, see [Routing Mode](#).
To set the Zyxel Device to **Bridge** mode, see [Routing Mode](#).

Routing Mode

- 1 In this routing mode example, the PON WAN connection has the following information.

General	
Name	GPON-1
Type	GPON
Connection Mode	Routing
Encapsulation	IPoE

IPv6/IPv4 Mode	IPv4 Only
Others	NAT: Enabled IGMP Multicast Proxy: Enabled Apply as Default Gateway: Enabled VLAN: Enabled

- 2 Enter the **General** settings as provided above.
 - Enter a **Name** to identify your WAN connection.
 - Set the **Type** to **GPON**.
 - Set the **Mode** to **Routing**.
 - Choose the **Encapsulation** specified by your GPON service provider.
 - Set the **IPv4/IPv6 Mode** to **IPv4 Only**.
- 3 Under **Routing Feature**, enable **NAT** and **Apply as Default Gateway**.
- 4 For the rest of the fields, use the default settings.
- 5 Click **Apply** to save your settings.

Edit WAN Interface

General

Name

GPON-1

Type

GPON

Mode

Routing

Encapsulation

IPoE

IPv4/IPv6 Mode

IPv4 Only

VLAN

802.1p

1

802.1q

2

[0~4094]

MTU

1500

NAT

IGMP Proxy

Apply as Default Gateway

Fullcone NAT

6RD

IP Address

Obtain an IP Address Automatically

Static IP Address

DNS Server

Obtain DNS Info Automatically

Use Following Static DNS Address

DHCP Options

Request Options

option 42

option 43

option 120

option 121

Sent Options

option 12

option 60

Vendor ID

option 61

IAID

DUID

option 125

Cancel

Apply

- 6** Try to connect to a website to see if you have correctly set up your Internet connection. Go to the **Network Setting > Broadband** screen to view the established Ethernet connection. The new connection is displayed on the **Broadband** screen

Broadband

Broadband Cellular Backup

Use this screen to change your Zyxel Device's Internet access settings. The summary table shows you the configured WAN services (connections) on the Zyxel Device. Use information provided by your ISP to configure WAN settings.

+ Add New WAN Interface

#	Name	Type	Mode	Encapsulation	802.1p	802.1q	IGMP Proxy	NAT	Default Gateway	IPv6	MLD Proxy	Modify
1	GPON	PON	Routing	IPoE	N/A	N/A	N	Y	Y	Y	N	
2	GPON-1	PON	Routing	IPoE	1	2	Y	Y	Y	N	N	

The new connection is displayed on the **Broadband** screen.

Bridge Mode

- 1 In this bridge mode example, the GPON WAN connection has the following information.

General	
Name	GPON-2
Type	GPON
Connection Mode	Bridge

- 2 Enter the **General** settings provided by your Internet service provider.
 - Enter a **Name** to identify your WAN connection.
 - Set the **Type** to **GPON**.
 - Set your GPON connection **Mode** to **Bridge**.
- 3 For the rest of the fields, use the default settings.
- 4 Click **Apply** to save your settings.

Edit WAN Interface

General ☒

Name

Type

Mode

VLAN ☐

802.1p

802.1q

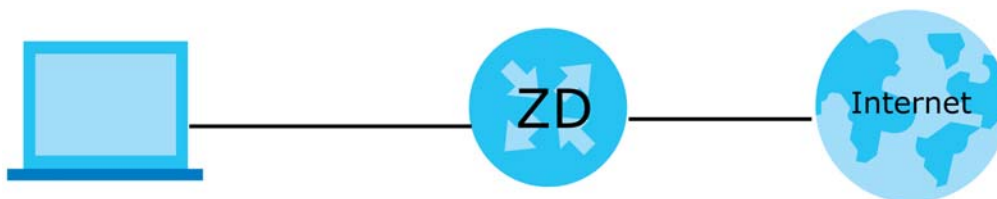
(0~4094)

MTU

MTU

5.3.3 Set Up an Ethernet Connection

If you connect to the Internet through an Ethernet connection, you need to connect a broadband modem or router with Internet access to the WAN Ethernet port on the Zyxel Device. You need to configure the Internet settings from the broadband modem or router on the Zyxel Device. First, make sure you have Internet access through the broadband modem or router by connecting directly to it.



This example shows you how to configure an Ethernet WAN connection.

- 1 Make sure you have the Ethernet WAN port connect to a modem or router.
- 2 Go to **Network Setting > Broadband** and then the following screen appears. Click **Add New WAN Interface** to add a WAN connection.

#	Name	Type	Mode	Encapsulation	802.1p	802.1q	IGMP Proxy	NAT	Default Gateway	IPv6	MLD Proxy	Modify
1	ETHWAN	ETH	Routing	IPoE	1	2	Y	Y	N	N	N	

- 3 To set the Zyxel Device to **Routing** mode, see [Routing Mode](#).
To set the Zyxel Device to **Bridge** mode, see [Bridge Mode](#).

Routing Mode

- 1 In this routing mode example, configure the following information for the Ethernet WAN connection.

General	
Name	My ETH Connection
Type	Ethernet
Connection Mode	Routing
Encapsulation (Internet Type)	IPoE
IPv6/IPv4 Mode	IPv4 Only

- 2 Enter the **General** settings provided by your Internet service provider.

- Enter a **Name** to identify your WAN connection.
 - Set the **Type** to **Ethernet**.
 - Set your Ethernet connection **Mode** to **Routing**.
 - Choose the **Encapsulation** specified by your Internet service provider. For this example, select **IPoE** as the WAN encapsulation type.
 - Set the **IPv4/IPv6 Mode** to **IPv4 Only**.
- 3** Under **Routing Feature**, enable **NAT** and **Apply as Default Gateway**.
 - 4** For the rest of the fields, use the default settings.
 - 5** Click **Apply** to save your settings.

<

Add New WAN Interface

General

Name

My ETH Connecti

Type

Ethernet

Mode

Routing

Encapsulation

IPoE

IPv4/IPv6 Mode

IPv4 Only

VLAN

802.1p

0

802.1q

(0~4094)

MTU

1500

IP Address

☒ Obtain an IP Address Automatically

☐ Static IP Address

DNS Server

☒ Obtain DNS Info Automatically

☐ Use Following Static DNS Address

Routing Feature

NAT

☒

IGMP Proxy

☒

Apply as Default Gateway

☒

Fullcone NAT

☐

6RD

☐

DHCPD Options

Request Options

☐ option 42

☐ option 43

☐ option 120

☐ option 121

Sent Options

☐ option 12

☐ option 60

Vendor ID

☐ option 61

IAID

DUID

☐ option 125

Cancel

Apply

- 6** Go to the **Network Setting** > **Broadband** screen to view the established Ethernet connection. The new connection is displayed on the **Broadband** screen.

Broadband

Broadband Advanced

Use this screen to change your Zyxel Device's Internet access settings. The summary table shows you the configured WAN services (connections) on the Zyxel Device. Use information provided by your ISP to configure WAN settings.

+ Add New WAN Interface

#	Name	Type	Mode	Encapsulation	802.1p	802.1q	IGMP Proxy	NAT	Default Gateway	IPv6	MLD Proxy	Modify
1	ETHWAN	ETH	Routing	IPoE	1	2	N	Y	N	N	N	
2	My ETH Connecti	ETH	Routing	IPoE	N/A	N/A	Y	Y	N	N	N	

Bridge Mode

- 1 In this bridge mode example, configure the following information for the Ethernet WAN connection.

General	
Name	My ETH Connection
Type	Ethernet
Connection Mode	Bridge

- 2 Enter the **General** settings provided by your Internet service provider.
 - Enter a **Name** to identify your WAN connection.
 - Set the **Type** to **Ethernet**.
 - Set your Ethernet connection **Mode** to **Bridge**.
- 3 For the rest of the fields, use the default settings.
- 4 Click **Apply** to save your settings.

Edit WAN Interface

General ☒

Name

Type

Mode

VLAN ☐

802.1p

802.1q

(0~4094)

MTU

MTU

Cancel
Apply

5.4 WiFi Network Setup

This section shows you how to:

- [Change Security Settings on a WiFi Network](#)
- [Connect to the Zyxel Device's WiFi Network Using WPS](#)
- [Set Up a Guest Network](#)
- [Set Up Two Guest WiFi Networks on Different WiFi Bands](#)
- [Configure the Channel and Bandwidth for Each WiFi Band](#)

For Zyxel Devices that support MPro Mesh, you can use the app to configure your WiFi network. See [Overview](#) for the app you can use to manage the Zyxel Devices.

In this example, you want to set up a WiFi network so that you can use your notebook to access the Internet. In this WiFi network, the Zyxel Device is an access point (AP), and the notebook is a WiFi client. The WiFi client can access the Internet through the AP.

Figure 64 WiFi Network Setup



See the label on the Zyxel Device for the WiFi network settings and then connect manually to the Zyxel Device. Alternatively, you can connect to the Zyxel Device WiFi network using WPS. See [RESET Button](#).

5.4.1 Change Security Settings on a WiFi Network

This example changes the default security settings of a WiFi network to the following:

SSID	Zyxel_E1EB
Pre-Shared Key	Admin1234!!
802.11 Mode	802.11b/g/n/ax/be Mixed

Use this screen to enable the Wireless LAN, enter the SSID and select the wireless security mode. We recommend that you select **More Secure** to enable **WPA3-SAE/WPA2-PSK** data encryption.

Wireless

Wireless ☒ Keep the same settings for 2.4GHz and 5GHz wireless networks ⓘ

Note
To enable MLO, please enable **Keep the same setting for 2.4G and 5G WIFI networks** and make sure to select **802.11_ax/be Mixed** for **802.11 Mode** in **Wireless > Others: Band:2.4GHz/5GHz**

MLO ☐

Wireless Network Setup

Band

Wireless ☒

Channel Current: 5 / 20 MHz

Bandwidth

Control Sideband

Wireless Network Settings

Wireless Network Name

Max Clients

☐ Hide SSID ⓘ

☒ Multicast Forwarding

Max. Upstream Bandwidth Kbps

Max. Downstream Bandwidth Kbps

Note
(1) If you are configuring the Zyxel Device from a computer connected by WIFI and you change the Zyxel Device's SSID, channel or security settings, you will lose your WIFI connection when you press **Apply**. You must change the WIFI settings of your computer to match the new settings on the Zyxel Device.
(2) If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID 90:9F:22:C7:E1:EB

Security Level

No Security More Secure (Recommended)

☒

Security Mode

Protected Management Frames

☐ Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password ⓘ

Strength strong

☒

Cancel Apply

- 5 Go to the **Wireless > Others** screen. Set **802.11 Mode** to **802.11b/g/n /ax/be Mixed**, and then click **Apply**.

Use this screen to configure advanced wireless settings, such as additional security, power saving, and data transmission settings.

Band	2.4GHz	▼
RTS/CTS Threshold	2347	
Fragmentation Threshold	2346	
Output Power	100%	▼
Beacon Interval	100	ms
DTIM Interval	1	ms
802.11 Mode	802.11b/g/n/ax/be Mixed ▼	
802.11 Protection	Auto ▼	
Preamble	Long	

Cancel Apply

You can now use the WPS feature to establish a WiFi connection between your notebook and the Zyxel Device (see [Others](#)). Now use the new security settings to connect to the Internet through the Zyxel Device using WiFi.

5.4.2 Connect to the Zyxel Device's WiFi Network Using WPS

This section shows you how to connect a WiFi device to the Zyxel Device's WiFi network using WPS. WPS (WiFi Protected Setup) is a security standard that allows devices to connect to a router securely without you having to enter a password. There is one method:

- **Push Button Configuration (PBC)** – Connect to the WiFi network by pressing a button. This is the simplest method.

5.4.2.1 WPS Push Button Configuration (PBC)

This example shows how to connect to the Zyxel Device's WiFi network from a notebook computer running Windows 10.

- 1 Make sure that your Zyxel Device is turned on, and your notebook is within range of the Zyxel Device's WiFi signal.
- 2 Push and hold the **WPS** button located on the Zyxel Device until the **WiFi** or **WPS** LED starts blinking slowly.
Alternatively, log into the Zyxel Device's Web Configurator, and then go to the **Network Setting > Wireless > WPS** screen. Enable **WPS** and **Method 1 PBC**, click **Apply**, and then click the **WPS button**.
- 3 Log into the Zyxel Device's Web Configurator, and then go to the **Network Setting > Wireless > WPS** screen. Enable **WPS** and **Method 1 PBC**, click **Apply**, and then click the **WPS button**.

WiFi Protected Setup (WPS) allows you to quickly set up a wireless network with strong security, without having to configure security settings manually. Select one of the WPS methods and follow the instructions to establish a WPS connection. Your device must support WPS to use this feature. We recommend using Push Button Configuration (**PBC**) if your device supports it.

General

Band 2.4GHz

WPS ☒

Add a new device with WPS Method

 **Method 1** ☒
PBC

Step1. Click WPS button WPS

Step2. Press the WPS button on your new wireless client device within 120 seconds

Note

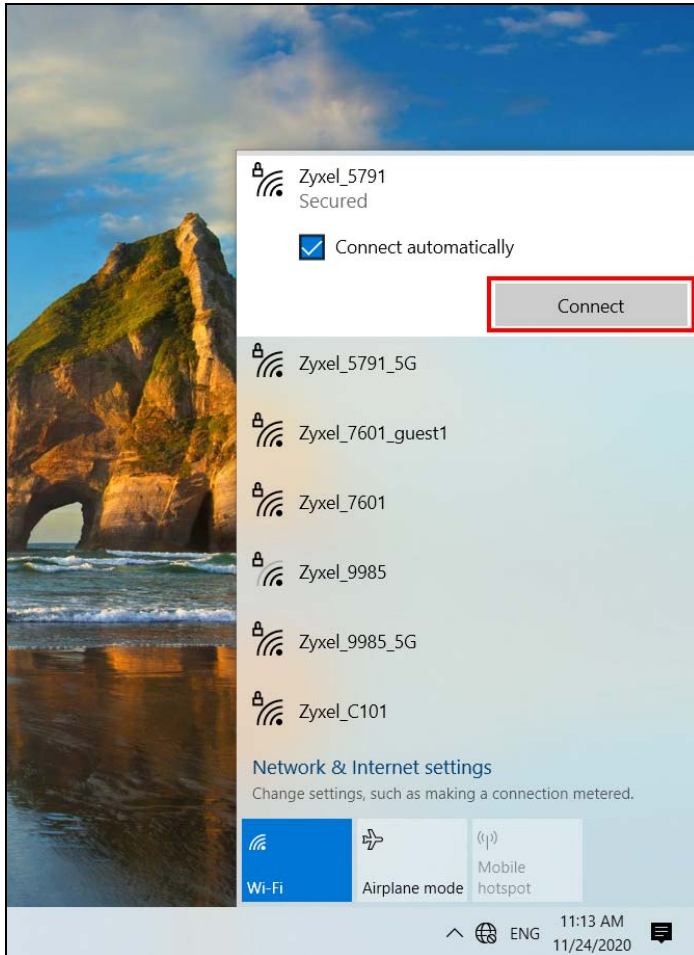
(1) If WPS is Enabled, UPnP will automatically be turned on.
 (2) The Zyxel Device applies the security settings of the main SSID (**SSID1**) profile to the WPS wireless connection.
 (3) The WPS switch is grayed out when wireless LAN is disabled.

Cancel Apply

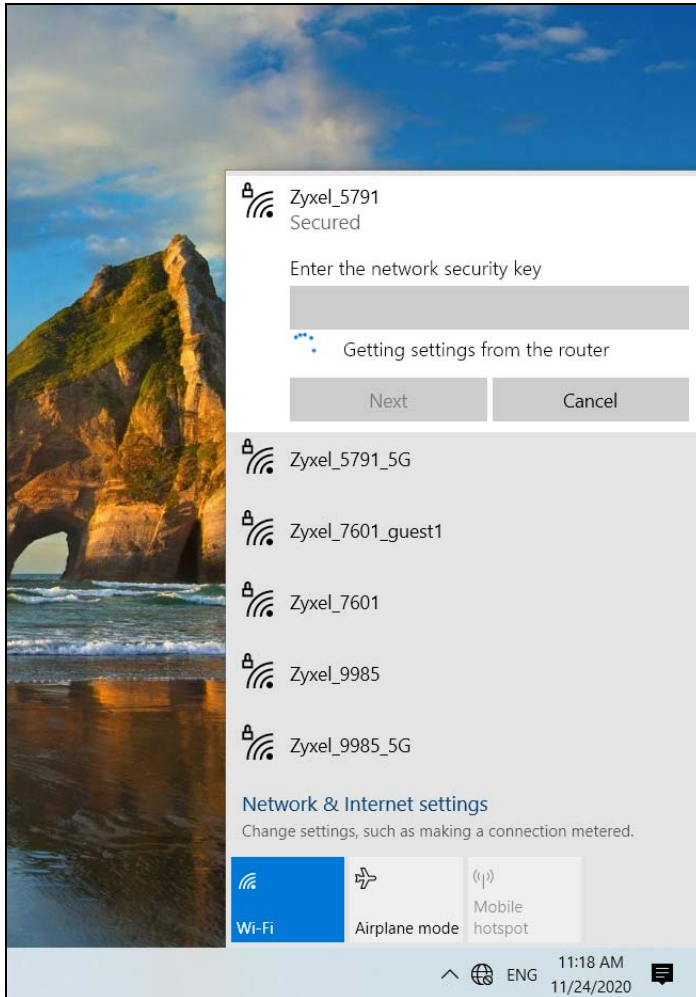
- 4 In Windows 10, click on the Network icon in the system tray to open the list of available WiFi networks.



- 5 Locate the WiFi network of the Zyxel Device. The default WiFi network name is "Zyxel_XXXX" (2.4 GHz) or "Zyxel_XXXX_5G" (5 GHz). Then click **Connect**.



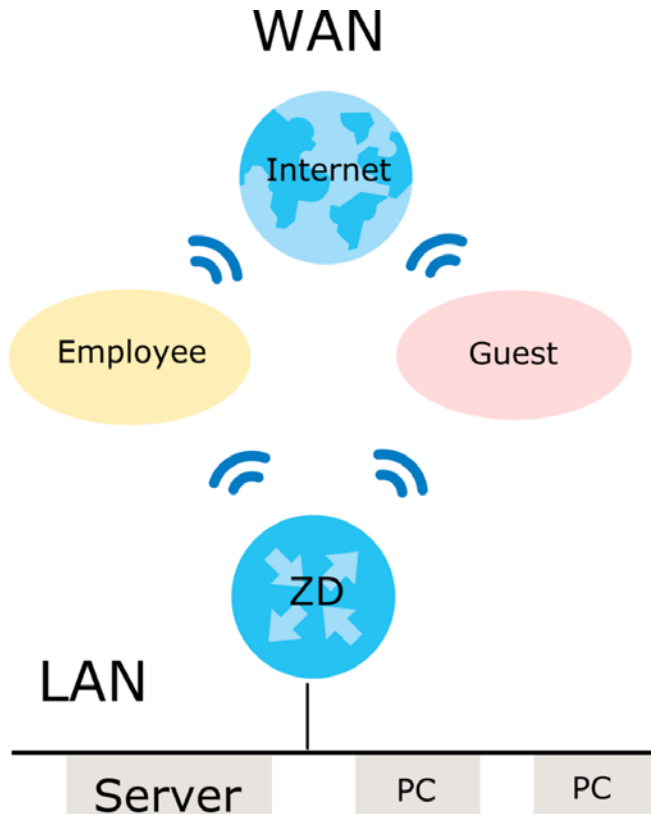
The Zyxel Device sends the WiFi network settings to Windows using WPS. Windows displays "Getting settings from the router".



The WiFi device is then able to connect to the WiFi network securely.

5.4.3 Set Up a Guest Network

The Zyxel Device authenticates the WiFi device using the PIN, and then sends the WiFi network settings to the device using WPS. This process may take up to 2 minutes. The WiFi device is then able to connect to the WiFi network securely. A company wants to create two WiFi networks for different groups of users as shown in the following figure. Each WiFi network has its own SSID and security mode. Both networks are accessible on both 2.4 GHz and 5 GHz WiFi bands.



- Employees using the **General** WiFi network group will have access to the local network and the Internet.
- Visitors using the **Guest** WiFi network group with a different SSID and password will have access to the Internet only.

Use the following parameters to set up the WiFi network groups.

	GENERAL	GUEST
2.4/5G SSID	Employee	Guest
Security Level	More Secure	More Secure
Security Mode	WPA3-SAE/WPA2-PSK	WPA3-Personal-Transition
Pre-Shared Key	ForCompanyOnly123!	Guest123456!

Go to the **Network Setting > Wireless > General** screen. Use this screen to set up the company's general WiFi network group. Configure the screen using the provided parameters and click **Apply**. Note that if you have employees using 2.4 GHz and 5 GHz devices, enable **Keep the same settings for 2.4GHz and 5GHz wireless networks** to use the same SSID and password. Clear it if you want to configure different SSIDs and passwords for 2.4 GHz and 5 GHz bands.

Wireless

General | Guest/More AP | MAC Authentication | WPS | WMM | Others | Channel Status | MESH

Use this screen to enable the Wireless LAN, enter the SSID and select the wireless security mode. We recommend that you select **More Secure** to enable WPA3-SAE/WPA2-PSK data encryption.

Wireless

Wireless ☐ Keep the same settings for 2.4GHz and 5GHz wireless networks ⓘ

Note

To enable MLO, please enable **Keep the same setting for 2.4G and 5G WiFi networks**

MLO ☒

Wireless Network Setup

Band: 2.4GHz

Wireless: ☒

Channel: Auto Current: 9 / 20 MHz

Bandwidth: 20/40MHz

Control Sideband: Upper

Wireless Network Settings

Wireless Network Name: Employee

Max Clients: 64

☐ Hide SSID ⓘ

☒ Multicast Forwarding

Max. Upstream Bandwidth: Kbps

Max. Downstream Bandwidth: Kbps

Note

(1) If you are configuring the Zyxel Device from a computer connected by WiFi and you change the Zyxel Device's SSID, channel or security settings, you will lose your WiFi connection when you press **Apply**. You must change the WiFi settings of your computer to match the new settings on the Zyxel Device.

(2) If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID: 14:36:5E:C8:F6:D8

Security Level

**More Secure
(Recommended)**

Security Mode: WPA3-SAE/WPA2-PSK

Protected Management Frames: Capable

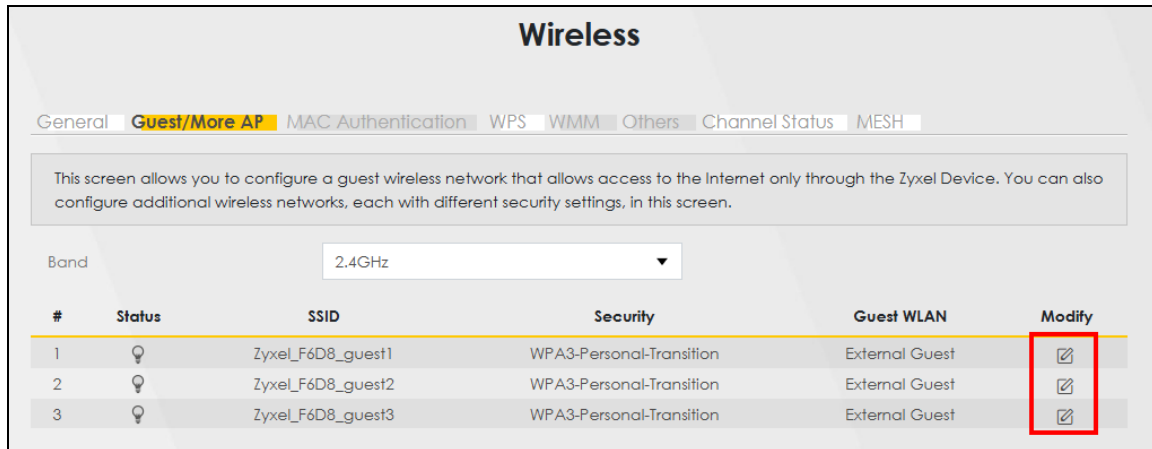
☐ Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password: ForCompanyOnly123! ⓘ

Strength: strong

- 6 Go to the **Network Setting > Wireless > Guest/More AP** screen. Click the **Modify** icon to configure the second WiFi network group. A **Home Guest** can access the Internet, LAN wired devices connected to the Zyxel Device, and other Home Guest WiFi clients. An **External Guest** can just access the Internet through the Zyxel Device.



Wireless

General **Guest/More AP** MAC Authentication WPS WMM Others Channel Status MESH

This screen allows you to configure a guest wireless network that allows access to the Internet only through the Zyxel Device. You can also configure additional wireless networks, each with different security settings, in this screen.

Band: 2.4GHz

#	Status	SSID	Security	Guest WLAN	Modify
1	⚡	ZyxeL_F6D8_guest1	WPA3-Personal-Transition	External Guest	
2	⚡	ZyxeL_F6D8_guest2	WPA3-Personal-Transition	External Guest	
3	⚡	ZyxeL_F6D8_guest3	WPA3-Personal-Transition	External Guest	

- 7 On the **Guest/More AP** screen, click the **Modify** icon to configure the other Guest WiFi network group. Configure the screen using the provided parameters and click **OK**.

More AP Edit

Use this screen to create Guest and additional wireless networks with different security settings.

Wireless Network Setup

Wireless

Wireless Network Settings

Wireless Network Name

Guest

☐

Hide SSID

☒

Guest WLAN

Access Scenario

External Guest

Max. Upstream Bandwidth

Kbps

Max. Downstream Bandwidth

Kbps

Note

If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID

00:00:00:00:00:00

SSID Subnet

Security Level

No Security

More Secure
(Recommended)

Security Mode

WPA2-PSK

Protected Management Frames

Capable

☐

Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password

Guest123456!

Strength

strong

Cancel

OK

- 8** Check the status of **Guest** in the **Guest/More AP** screen. A yellow bulb under **Status** means the SSID is active and ready for WiFi access.

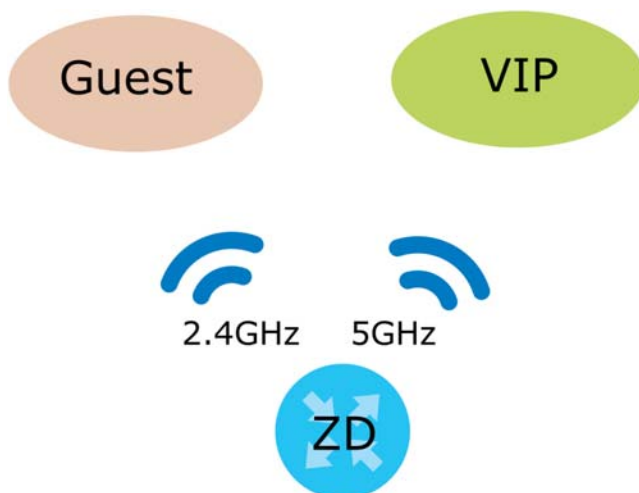
General **Guest/More AP** MAC Authentication WPS WMM Others Channel Status MESH

This screen allows you to configure a guest wireless network that allows access to the Internet only through the Zyxel Device.

#	Status	SSID	Security	Guest WLAN	Modify
1		Guest	WPA2-Personal	External Guest	

5.4.4 Set Up Two Guest WiFi Networks on Different WiFi Bands

In this example, a company wants to create two Guest WiFi networks: one for the **Guest** group and the other for the **VIP** group as shown in the following figure. Each network will have its SSID and security mode to access the internet.



- The **Guest** group will use the 2.4 GHz band.
- The **VIP** group will use the 5 GHz band.

The Company will use the following parameters to set up the WiFi network groups.

Table 30 WiFi Settings Parameters Example

BAND	2.4 GHZ	5 GHZ
SSID	Guest	VIP
Pre-Shared Key	Guest123456!	Zyxel1234@@!

- 1 Go to the **Wireless > General** screen and set **Band** to **2.4GHz** to configure 2.4 GHz Guest WiFi settings for **Guest**. Click **Apply**.

Note: You will not be able to configure the 2.4 GHz and 5 GHz Guest WiFi settings separately if **Keep the same settings for 2.4GHz and 5GHz wireless networks** is enabled.

Use this screen to enable the Wireless LAN, enter the SSID and select the wireless security mode. We recommend that you select **More Secure** to enable **WPA3-SAE/WPA2-PSK** data encryption.

Wireless

Wireless ☒ Keep the same settings for 2.4GHz and 5GHz wireless networks ⓘ

Note

To enable MLO, please enable **Keep the same setting for 2.4G and 5G WiFi networks** and make sure to select **802.11_ax/be Mixed** for **802.11 Mode** in **Wireless > Others: Band:2.4GHz/5GHz**

MLO ☐

Wireless Network Setup

Band 2.4GHz

Wireless ☒

Channel Auto Current: 5 / 20 MHz

Bandwidth 20/40MHz

Control Sideband Upper

Wireless Network Settings

Wireless Network Name Zyxel_E1EB

Max Clients 32

☐ Hide SSID ⓘ

☒ Multicast Forwarding

Max, Upstream Bandwidth Kbps

Max, Downstream Bandwidth Kbps

Note

(1) If you are configuring the Zyxel Device from a computer connected by WiFi and you change the Zyxel Device's SSID, channel or security settings, you will lose your WiFi connection when you press **Apply**. You must change the WiFi settings of your computer to match the new settings on the Zyxel Device.

(2) If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID 90:9F:22:C7:E1:EB

Security Level

No Security More Secure (Recommended)

☒ strong

Security Mode WPA3-SAE/WPA2-PSK

Protected Management Frames Capable

☐ Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password Admin1234!! ⓘ

Strength strong

Cancel Apply

- Go to the **Wireless > Guest/More AP** screen and click the **Modify** icon. The following screen appears. Configure the **Security Mode** and **Password** using the provided parameters and click **OK**.



More AP Edit

Use this screen to create Guest and additional wireless networks with different security settings.

Wireless Network Setup

Wireless 

Wireless Network Settings

Wireless Network Name

☐ Hide SSID

☒ Guest WLAN

Access Scenario 

Max. Upstream Bandwidth Kbps

Max. Downstream Bandwidth Kbps

Note

If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID

SSID Subnet 

Security Level

No Security More Secure (Recommended)





Security Mode

Protected Management Frames

☐ Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password 

Strength

strong



Cancel 

The 2.4 GHz **Guest** WiFi network is now configured.

Wireless

General **Guest/More AP** MAC Authentication WPS WMM Others Channel Status MESH

This screen allows you to configure a guest wireless network that allows access to the Internet only through the Zyxel Device.

#	Status	SSID	Security	Guest WLAN	Modify
1		Guest	WPA2-Personal	External Guest	

- 3 Go to the **Wireless > General** screen and set **Band** to **5GHz** to configure the 5G Guest WiFi settings for **VIP**. Click **OK**.

Wireless

General Guest/More AP MAC Authentication WPS WMM Others Channel Status

Use this screen to enable the Wireless LAN, enter the SSID and select the wireless security mode. We recommend that you select **More Secure** to enable **WPA2-PSK** data encryption.

Wireless

☐ Keep the same settings for 2.4G and 5G wireless networks

Wireless Network Setup

Band

Wireless ☒

Channel Current: 60 / 160 MHz

Bandwidth

Control Sideband

Wireless Network Settings

Wireless Network Name

Max Clients

☐ Hide SSID

☒ Multicast Forwarding

Max. Upstream Bandwidth Kbps

Max. Downstream Bandwidth Kbps

- 4 Go to the **Wireless > Guest/More AP** screen and click the **Modify** icon. The following screen appears. Configure the **Security Mode** and **Password** using the provided parameters and click **OK**.

More AP Edit

Use this screen to create Guest and additional wireless networks with different security settings.

Wireless Network Setup

Wireless ☒

Wireless Network Settings

Wireless Network Name

☐ Hide SSID

☒ Guest WLAN

Access Scenario

Max. Upstream Bandwidth Kbps

Max. Downstream Bandwidth Kbps

Note

If upstream/downstream bandwidth is empty, the Zyxel Device sets the value automatically. Setting a maximum upstream/downstream bandwidth will significantly decrease wireless performance.

BSSID

SSID Subnet ☐

Security Level

No Security More Secure (Recommended)

Security Mode

Protected Management Frames

☐ Generate password automatically

The password must be at least 8 characters long, including 1 uppercase letter, 1 lowercase letter, 1 number and 1 special character, or 64 hexadecimal digits ("0-9", "A-F")

Password

Strength

strong

Cancel **OK**

The 5G **VIP** WiFi network is now configured.

Wireless

General **Guest/More AP** MAC Authentication WPS WMM Others Channel Status MESH

This screen allows you to configure a guest wireless network that allows access to the Internet only through the Zyxel Device.

#	Status	SSID	Security	Guest WLAN	Modify
1	On	VIP	WPA2-Personal	External Guest	

5.4.5 Configure the Channel and Bandwidth for Each WiFi Band

For optimal WiFi network performance, you can change the bandwidth and channel for a specific band to improve the throughput and minimize the interference. You can refer to [Recommended Application for Each Band](#) for the recommended setup.

In this tutorial, you want to configure the channel to 6 and bandwidth to 20 MHz for 2.4 GHz band.

- 1 Go to **Network Setting > Wireless > General**.
- 2 In **Band**, select **2.4GHz** from the drop-down list.

WiFi Network Setup

Band: 2.4GHz

WiFi: ☒

Channel: 6 Current : 6 / 20 MHz

Bandwidth: 20MHz

- 3 In **Bandwidth**, select **20MHz** from the drop-down list.

WiFi Network Setup

Band: 2.4GHz

WiFi: ☒

Channel: 6 Current : 6 / 20 MHz

Bandwidth: 20MHz

- 4 In **Channel**, select **6** from the drop-down list.

WiFi Network Setup

Band: 2.4GHz

WiFi: ☒

Channel: 6 Current : 6 / 20 MHz

Bandwidth: 20MHz

The table below shows the recommended application for each band, along with the suggested channel and bandwidth.

Table 31 Recommended Application for Each Band

BAND	BANDWIDTH	CHANNEL	APPLICATION
2.4 GHz	20 MHz	1, 6, 11	Web browsing, email, IoT (Internet of Things)

Table 31 Recommended Application for Each Band (continued)

BAND	BANDWIDTH	CHANNEL	APPLICATION
5 GHz	40 MHz	36, 40, 44, 48	HD streaming, online meetings
	80 MHz	36, 40, 44, 48 or 52-128	4K/8K streaming, multiplayer gaming
6 GHz	80 MHz	1-13 or 37-49	Cloud gaming
	160 MHz	1-13 or 37-49	High-speed gaming, AR/VR, 8K streaming

Note: If you are still unsure about this configuration, you can set the **Channel** to **Auto**, allowing the Zyxel Device to automatically determine the proper channel for the selected band.

5.5 USB Applications

This section shows you how to:

- [Set Up File Sharing on Your Zyxel Device](#)
- [Access Your Shared Files From a Computer](#)
- [Configure the Zyxel Device as a Media server](#)

5.5.1 File Sharing

This section shows you how to create a shared folder on your Zyxel Device through a USB device and allow others to access the shared folder with File Sharing services.

5.5.1.1 Set Up File Sharing on Your Zyxel Device

- 1 Before enabling file sharing in the Zyxel Device, please set up your shared folders beforehand in your USB device.
- 2 Connect your USB device to the USB port of the Zyxel Device.
- 3 Go to the **Network Setting > USB Service > File Sharing** screen. Enable **File Sharing Services** and click **Apply** to activate the file sharing function. The Zyxel Device automatically adds your USB device to the **Information** table.

USB Service

FileSharing MediaServer

The device can share Files from your USB flash drive or disk when you attach it to the USB port. You may Start from deciding which folders in the USB disks to share and which users can access the shared folders.

Information

Volume	Capacity	Used Space
usb1_sda1	0 MB	0 MB

Server Configuration

File Sharing Services ☒

Share Directory List

+ Add New Share

Active	Status	Share Name	Share Path	Share Description	Modify
--------	--------	------------	------------	-------------------	--------

Account Management

+ Add New User

Status	User Name
	admin

Cancel

Apply

- 4 Click **+ Add New Share** to add a new share.

USB Service

FileSharing MediaServer

The device can share Files from your USB flash drive or disk when you attach it to the USB port. You may Start from deciding which folders in the USB disks to share and which users can access the shared folders.

Information

Volume	Capacity	Used Space
usb1_sda1	0 MB	0 MB

Server Configuration

File Sharing Services ☒

Share Directory List

[+ Add New Share](#)

Active	Status	Share Name	Share Path	Share Description	Modify

Account Management

[+ Add New User](#)

Status	User Name
	admin

[Cancel](#)
[Apply](#)

5 The **Add New Share** screen appears.

- Select your USB device from the **Volume** drop-down list box.
- Enter a **Description** name for the added share to identify the device.
- Click **Browse** and the **Browse Directory** screen appears.

Add New Share

Volume usb1_sda1

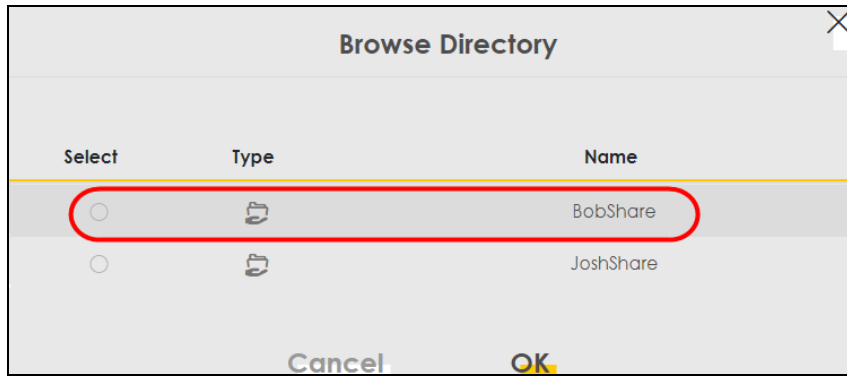
Share Path BobShare Browse

Description Bob

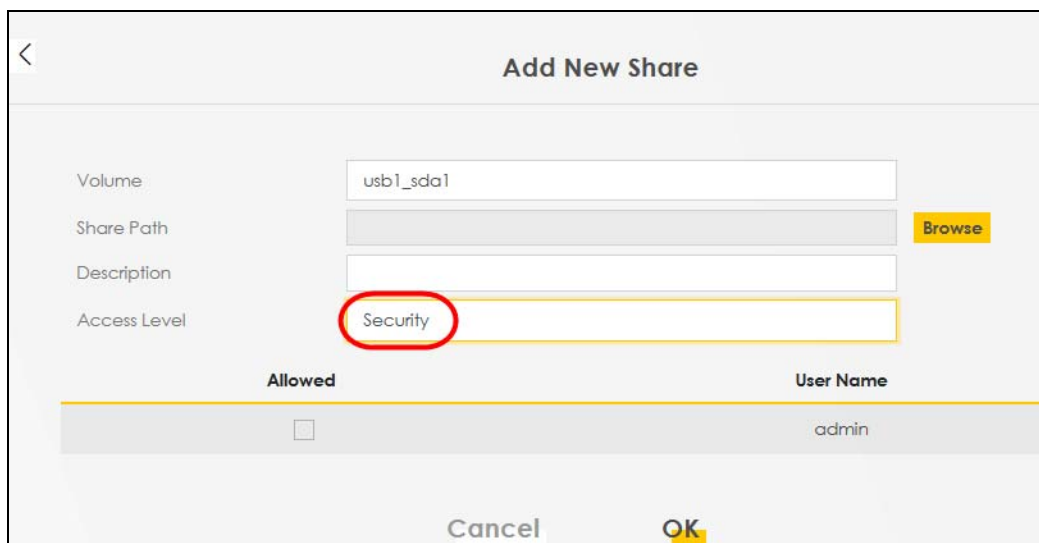
Access Level Public

[Cancel](#)
[OK](#)

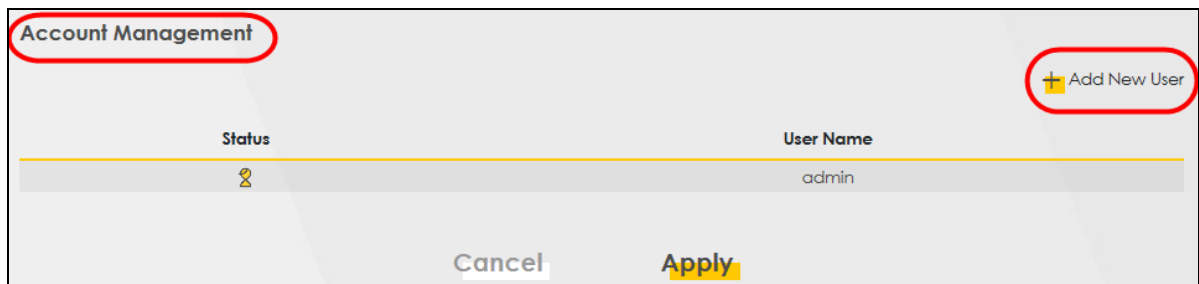
- On the **Browse Directory** screen, select the folder that you want to add as a share. In this example, select **BobShare** and then click **OK**.



- In **Access Level**, select **Public** to let the share to be accessed by all users connected to the Zyxel Device. Otherwise, select **Security** to let the share to be accessed by specific users to access only. Click **OK** to save the settings.



- 6 To set **Access level** to **Security**, you need to create one or more users accounts. Under **Account Management**, click **+ Add New User** to open the **User Account** screen.



- 7 After you create a new user account, the screen looks like the following.

Account Management

Add New User

Status	User Name
	admin
	Zyxel

Cancel

Apply

- 8** File sharing is now configured. You can see the USB storage device listed in the table below.

Share Directory List						+ Add New Share	
Active	Status	Share Name	Share Path	Share Description	Modify		
☒		BobShare	/mnt/usb1_sda1/BobShare	Bob	 		
☒		JoshShare	/mnt/usb1_sda1/JoshShare	Josh	 		

5.5.1.2 Access Your Shared Files From a Computer

You can use Windows Explorer to access the USB storage devices connected to the Zyxel Device.

Note: This example shows you how to use Microsoft Windows 10 to browse shared files in a share called (usb1_sda)Zoey's file. Refer to your operating system's documentation for how to browse your file structure.

- 1 Open Windows Explorer.
- 2 In the Windows Explorer's address bar, enter a double backslash "\\" followed by the IP address of the Zyxel Device (the default IP address of the Zyxel Device is 192.168.1.1)
- 3 Double-click on **(usb1_sda)Zoey's file**, and then enter the share's username and password if prompted.
- 4 After you access **(usb1_sda)Zoey's file** through your Zyxel Device, you do not have to log in again unless you restart your computer.

5.5.2 Media Server

Use the media server feature to play files on a computer or on your television.

This section shows you how the media server feature works using the following:

- Microsoft (MS) Windows Media Player
Media Server works with Windows 10. Make sure your computer is able to play media files (music, videos and pictures).
- A digital media adapter
You need to set up the media adapter to work with your television (TV).

Before you begin, connect the USB storage device containing the media files you want to play to the USB port of your Zyxel Device.

5.5.2.1 Configure the Zyxel Device as a Media server

To use your Zyxel Device as a media server, follow the steps below.

- 1 Go to the **Network Setting > USB Service > Media Server** screen.

USB Service

File Sharing **Media Server**

The media server feature lets anyone on your network play video, music, and photos from the USB storage device connected to your Zyxel Device without having to copy them to another computer. The Zyxel Device can function as a DLNA-compliant media server, where the Zyxel Device streams files to DLNA-compliant media clients like Windows Media Player. The Digital Living Network Alliance (DLNA) is a group of personal computer and electronics companies that works to make products compatible in a home network.

Media Server ☐

Interface Default ▼

Volume All USB Devices ▼

Media Library Path /mnt/ Browse

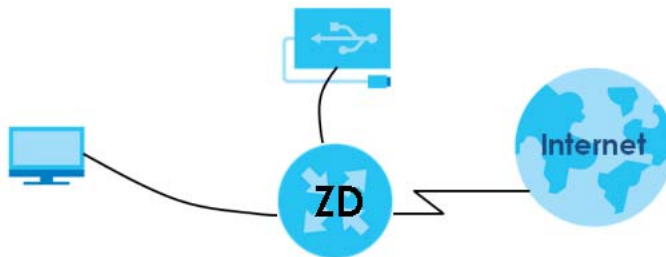
Cancel Apply

- 2 Enable **Media Server**, and then select an interface on which you want to enable the media server function.
- 3 Enter the path clients use to access the media files on a USB storage device connected to the Zyxel Device, and click **Apply**.

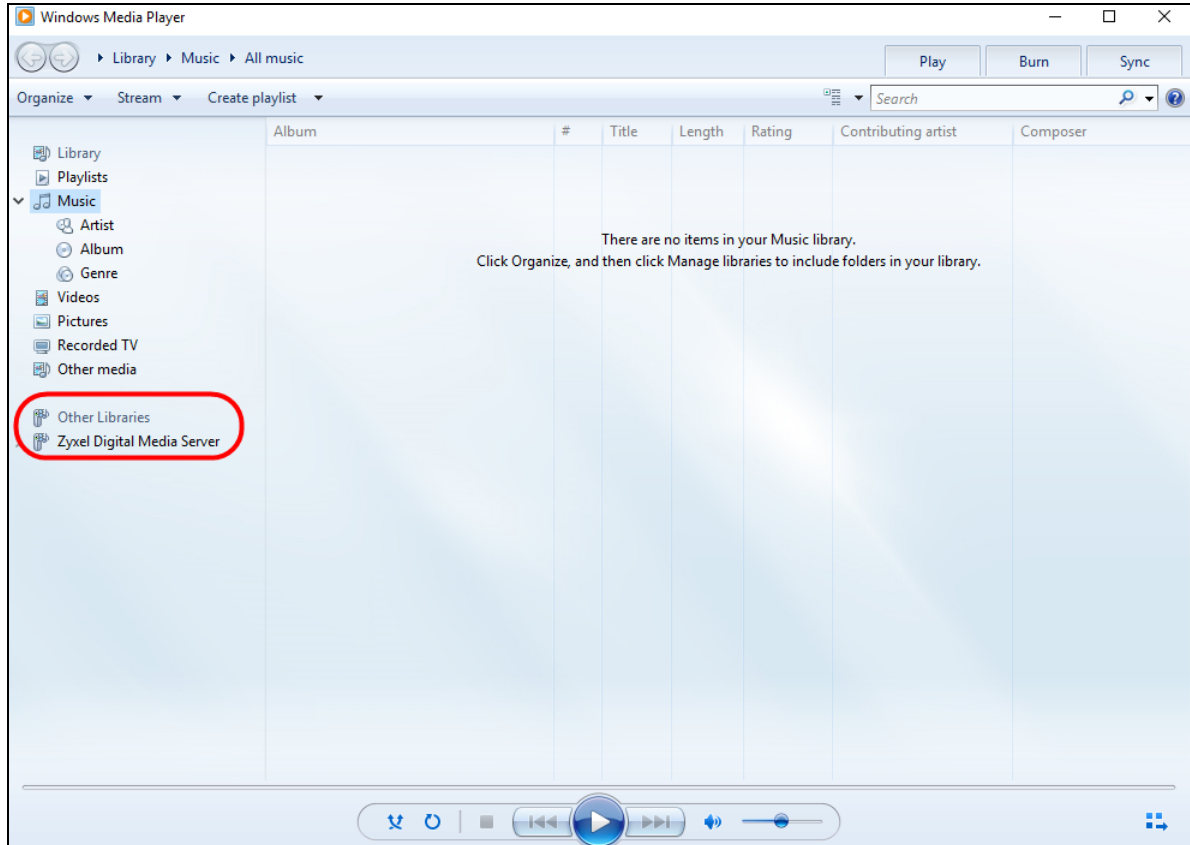
This enables DLNA-compliant media clients to play the video, music and image files in your USB storage device.

5.5.2.2 Playing Media Using Windows Media Player on Windows 10

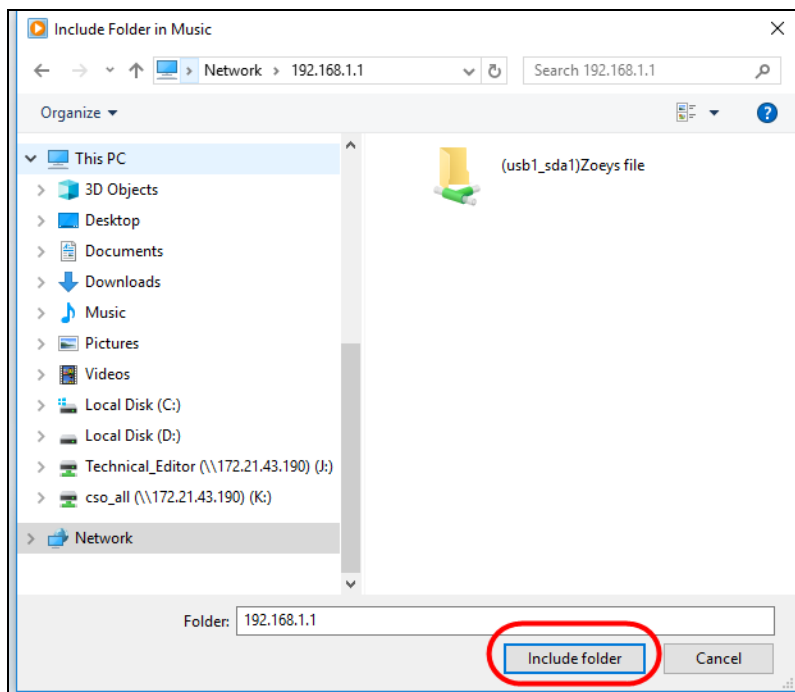
This section shows you how to play the media files on the USB storage device connected to your Zyxel Device using Windows Media Player.



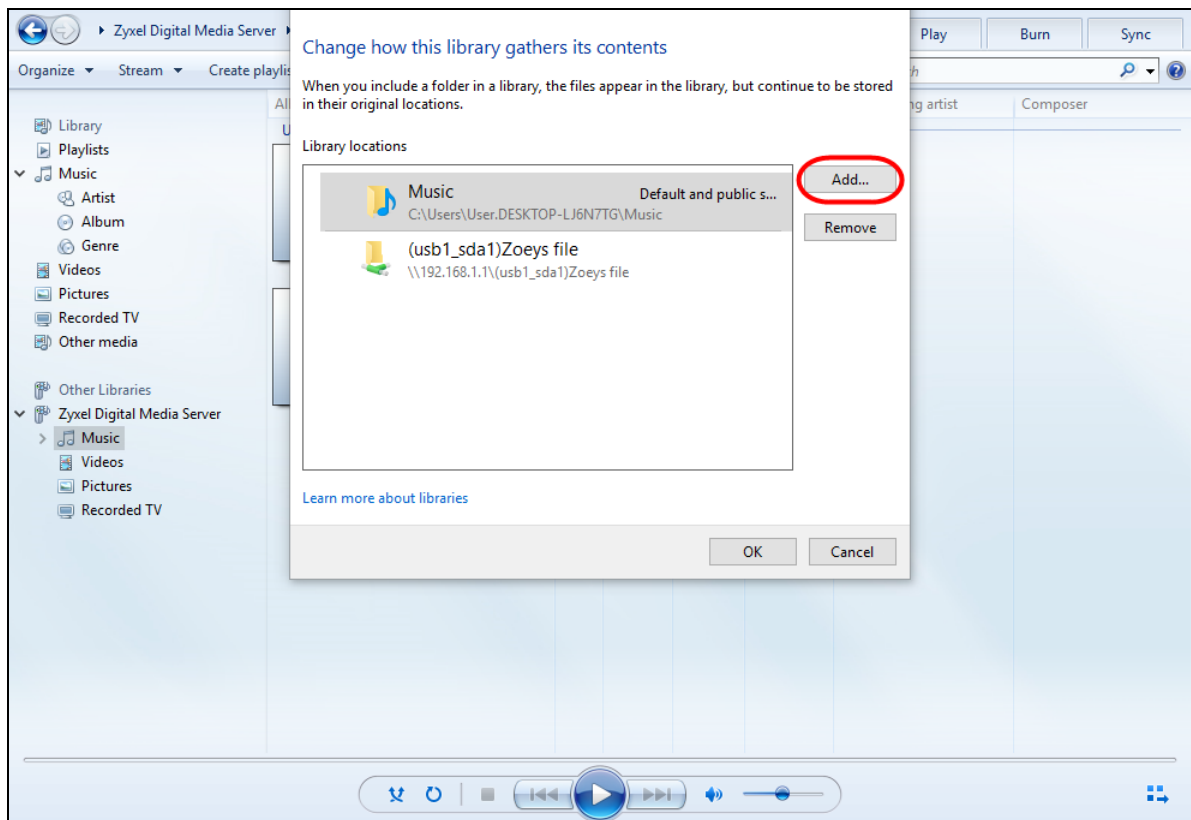
- 1 Open Windows Media Player. It automatically detects the Zyxel Device.



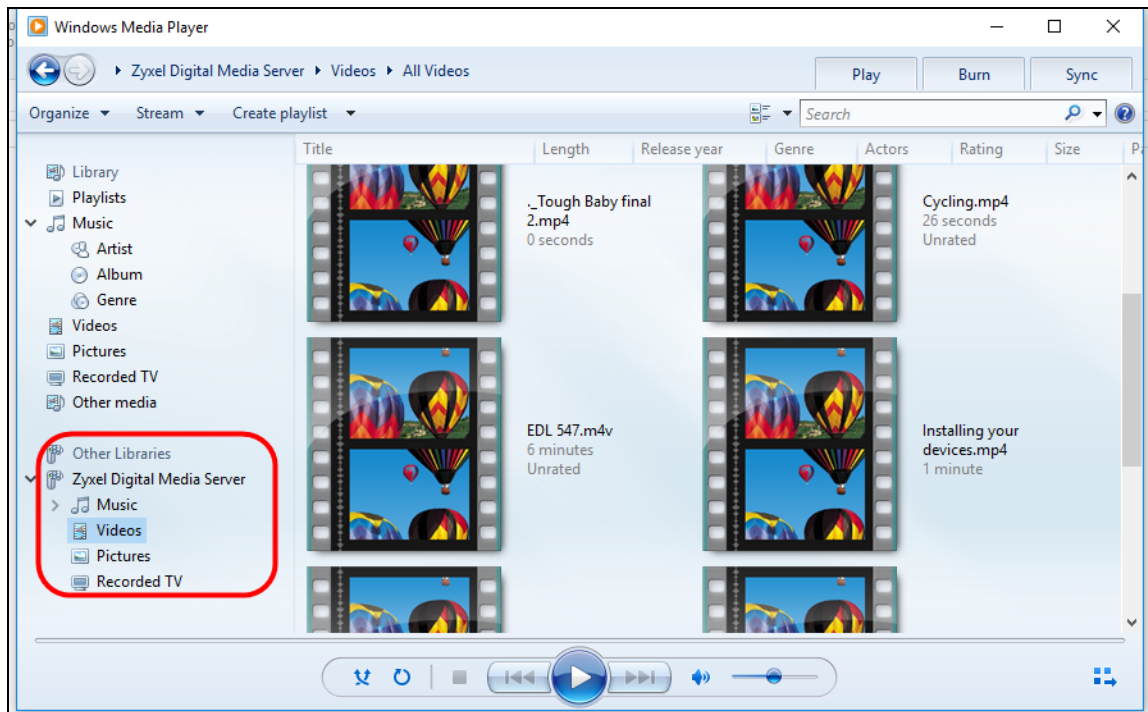
- 2 If you cannot see the Zyxel Device in the left panel as shown above, go to **Organize > Manage Libraries > Music > Add** on the Windows Media Player Home screen. In the Windows Explorer's address bar, enter **\\192.168.1.1**. The following screen appears. Select the folder containing the media you wish to upload to Windows Media Player, and then click **Include Folder**.



- 3 Select the shared folder, and then click **Add** to add it to your Media Library. Click **OK** to save the settings.



- 4 In the right panel, you can browse and play the files available in the USB storage device based on the category (**Music**, **Video**, **Pictures**, **Recorded TV**) you selected.

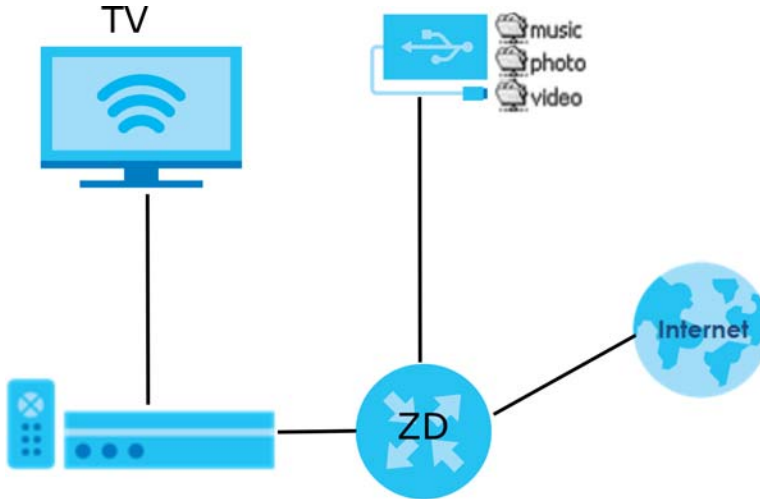


5.5.2.3 Using a Digital Media Player

This section shows you how you can use the Zyxel Device with a hardware digital media player to play media files stored in the USB storage device on your TV screen.

Note: For this tutorial, your digital media player is already connected to the TV.

- 1 Connect the digital media player to an available LAN port on your Zyxel Device.



- 2 Turn on the TV and wait for the digital media player **Home** screen to appear. Select the Zyxel Device as your media server.





- 3 The screen shows you the list of available media files in the USB storage device. Select the file you want to open and push the **Play** button on the remote control.



5.6 Network Security

This section shows you how to:

- [Configure a Firewall Rule](#)
- [Set Up Parental Control](#)
- [Configure a MAC Address Filter for Wired LAN Connections](#)

5.6.1 Configure a Firewall Rule

You can enable the firewall to protect your LAN computers from malicious attacks from the Internet.

- 1 Go to the **Security > Firewall > General** screen.
- 2 Select **IPv4 Firewall/IPv6 Firewall** to enable the firewall, and then click **Apply**.

General Protocol Access Control DoS

The firewall blocks unauthorized access to your network. Drag and drop the indicator to set a security level. Also note that a higher firewall level means more restrictions to the Internet activities you want to perform.

IPv4 Firewall ☒

IPv6 Firewall ☒

Low Medium (Recommended) High

	Low	Medium (Recommended)	High
LAN to WAN	✓	✓	✗
WAN to LAN	✓	✗	✗

Note

(1) LAN to WAN: Allow access to all internet services

(2) WAN to LAN: Allow access from other computers on the internet

(3) When the security level is set to "High", access to the following services is allowed:
Telnet, FTP, HTTP, HTTPS, DNS, IMAP, POP3, SMTP and IPv6 Ping

Cancel Apply

- 3 Open the **Access Control** screen, click **+ Add New ACL Rule** to create a rule.

Firewall

General Protocol **Access Control** DoS

An Access Control List (ACL) rule is a manually-defined rule that can accept, reject, or drop incoming or outgoing packets from your network based on the type of service. For example, you could block users using Instant Messaging in your network. This screen displays a list of the configured incoming or outgoing filtering rules. Note the order in which the rules are listed.

The ordering of your rules is very important as rules are applied in turn.

Rules Storage Space Usage 0%

 Add New ACL Rule

#	Name	Src IP	Dest IP	Service	Action	Modify
---	------	--------	---------	---------	--------	--------

- 4 Use the following fields to configure and apply a new ACL (Access Control List) rule.

Add New ACL Rule

Filter Name:

Order:

Select Source IP Address:

Source IP Address: [prefix length]

Select Destination Device:

Destination IP Address: [prefix length]

IP Type:

Select Service:

Protocol:

Custom Source Port: -

Custom Destination Port: -

Policy:

Direction:

Enable Rate Limit: ☐

packet(s) per (1-512)

Scheduler Rules:

- **Filter Name:** Enter a name to identify the firewall rule.:
- **Source IP Address:** Enter the IP address of the computer that initializes traffic for the application or service.
- **Destination IP Address:** Enter the IP address of the computer to which traffic for the application or service is entering.
- **Protocol:** Select the protocol (**ALL**, **TCP/UDP**, **TCP**, **UDP**, **ICMP** or **ICMPv6**) used to transport the packets.
- **Policy:** Select whether to (**ACCEPT**, **DROP**, or **REJECT**) the packets.
- **Direction:** Select the direction (**WAN to LAN**, **LAN to WAN**, **WAN to ROUTER**, or **LAN to ROUTER**) of the traffic to which this rule applies.

5 Select **Enable Rate Limit** to activate the rules you created. Click **OK**.

5.6.2 Set Up Parental Control

This section shows you how to configure rules for accessing the Internet using parental control.

Note: The style and features of your parental control vary depending on the Zyxel Device you are using.

5.6.2.1 Configure Parental Control Schedule and Filter

Parental Control Profile (**PCP**) allows you to set up a rule for:

- Internet usage scheduling.
- Websites and URL keyword blocking.

Use this feature to:

- Limit the days and times a user can access the Internet.
- Limit the websites a user can access on the Internet.

This example shows you how to block a user from accessing the Internet during time for studying. It also shows you how to stop a user from accessing specific websites.

Use the parameters below to configure a schedule rule and a URL keyword blocking rule.

PROFILE NAME	INTERNET ACCESS SCHEDULE	NETWORK SERVICE	SITE/URL KEYWORD
Study	Day: Monday to Friday Time: 8:00 to 11:00 13:00 to 17:00	Network Service Setting: Block Service Name: HTTP Protocol: TCP Port: 80	Block or Allow the Web Site: Block the web URLs Website: gambling

Parental Control Screen

Open the **Parental Control** screen. Select **Enable** under **General** to enable parental control. Then click **+ Add New PCP** to add a rule.

Parental Control

Parental control allows you to limit the time a user can access the Internet and prevent users from viewing inappropriate content or participating in specified online activities.

Use this screen to enable parental control and view parental control rules and schedules. You can limit the time a user can access the Internet and prevent users from viewing inappropriate content or participating in specified online activities. These rules are defined in a Parental Control Profile (PCP).

General

Parental Control ☒ Enable ☐ Disable (Settings are invalid when disable)

Parental Control Profile(PCP)

+ Add New PCP

#	Status	PCP Name	Home Network User MAC	Internet Access Schedule	Network Service	Website Blocked	Modify
Cancel Apply							

Add New PCP Screen

- Go to **Parental Control > Add New PCP**. Under **General**:
 - Select **Enable** to enable the rule you are configuring.
 - Enter the **Parental Control Profile Name** given in the above parameter.
 - Select an user this rule applies to in **Home Network User**, then click **Add**. You will see the MAC address of the user you just select in **Rule List**.

General

Active ☒ Enable ☐ Disable (Settings are invalid when disable)

Parental Control Profile Name

Home Network User

Rule List

User MAC Address	Delete
DC-4A-3E-40-EC-67	Delete

- Under **Internet Access Schedule**:
 - Click **+ Add New Time** to add a second schedule.
 - Use the parameter given above to configure the time settings of your schedule.

Internet Access Schedule

Day: Mon, Tue, Wed, Thu, Fri, Sat, Sun

+ Add New Time

Time (Start-End): 08:00 - 11:00, 13:00 - 17:00

3 Under **Network Service**:

- In **Network Service Setting**, select **Block**.
- Click **+ Add New Service**, then use the parameter given above to configure settings for the Internet service you are blocking.

Network Service

Network Service Setting: Block

+ Add New Service

#	Service Name	Protocol:Port	Modify
1	http	TCP:80	[Edit] [Delete]

4 Under **Site / URL Keyword**:

- Select **Block the web URLs** in **Block or Allow the Web Site**.
- Click **Add**, then use the parameter given above to configure settings for the URL keyword you are blocking.
- Select **Redirect blocked site to Zyxel Family Safety page** to redirect the web browser to the Zyxel Family Safety page if he or she tries to access a website with the blocked URL keyword.

Site/URL Keyword

Block or Allow the Web Site: Block the web URLs

+ Add

#	Website	Modify
1	gambling	[Edit] [Delete]

☒ Redirect blocked site to Zyxel Family Safety page. Zyxel Family Safety page will replace any sites from the above list in the browser.

5 Click **OK** to save your settings.

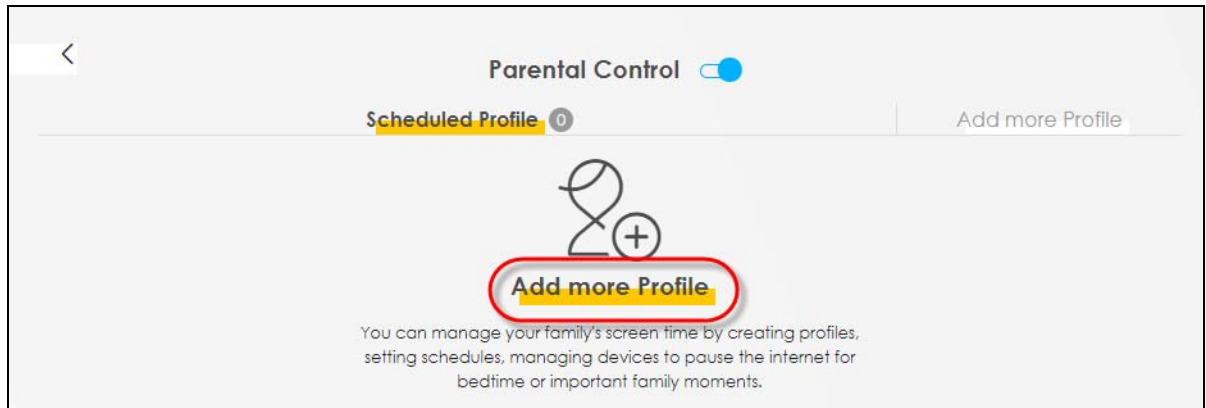
5.6.2.2 Configuring a Parental Control Schedule

Parental Control Profile allows you to set up a schedule rule for Internet usage. Use this feature to limit the days and times a user can access the Internet.

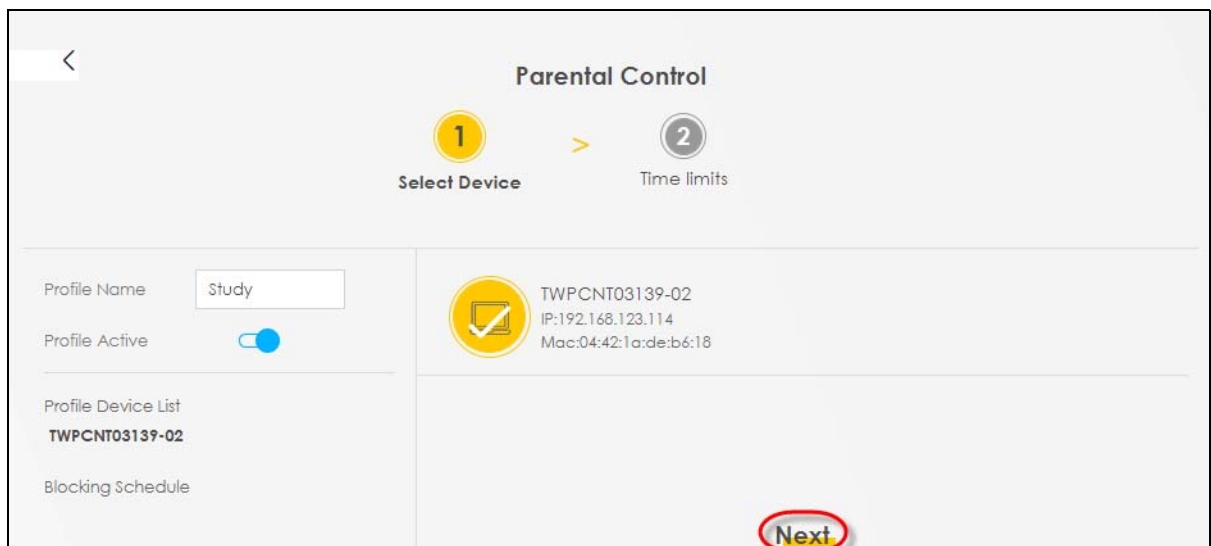
This example shows you how to block an user from accessing the Internet during time for studying. Use the parameter below to configure a schedule rule.

PROFILE NAME	START BLOCKING	END BLOCKING	REPEAT ON
Study	8:00 am	11:00 am	from Monday to Friday
	1:00 pm	5:00 pm	from Monday to Friday

- 1 Click **Add more Profile** to open the **Parental Control** screen.



- 2 Use this screen to add a Parental Control rule.
 - Enter the **Profile Name** given in the above parameter.
 - Click on the switch to enable **Profile Active**.
 - Select a device, and then click **Next** to proceed.



- 3 Use this screen to edit the Parental Control schedule.
 - Click **Add New Schedule** to add a second schedule.
 - Use the parameter given above to configure the time settings of your schedules.
 - Click **Save** to save the settings.

Parental Control

1 Select Device > 2 Time limits

Profile Name: Study

Profile Active: ☒

Profile Device List: TWPCNT03139-02

Blocking Schedule:

- Mon, Tue, Wed, Thu, Fri From 13:00 to 17:00
- Mon, Tue, Wed, Thu, Fri From 08:00 to 11:00

Schedule + Add New Schedule

Start blocking: From 13:00 To 17:00 (hh:mm)

End blocking: To 17:00 (hh:mm)

Repeat On: Mon, Tue, Wed, Thu, Fri, Sat, Sun

Whole Day ☐ Whole Week ☐

Start blocking: From 08:00 To 11:00 (hh:mm)

End blocking: To 11:00 (hh:mm)

Repeat On: Mon, Tue, Wed, Thu, Fri, Sat, Sun

Whole Day ☐ Whole Week ☐

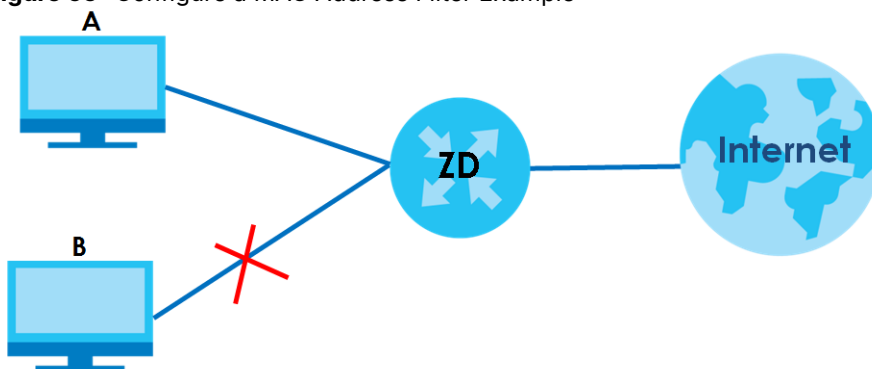
Back Save

5.6.3 Configure a MAC Address Filter for Wired LAN Connections

You can use a MAC address filter to exclusively allow or permanently block someone from the wired LAN network.

This example shows that computer B is not allowed access to the wired LAN network.

Figure 65 Configure a MAC Address Filter Example



- 1 Go to the **Security > MAC Filter > MAC Filter** screen. Under **MAC Address Filter**, select **Enable**.