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FORTINET FG-91G

FortiGate 91G Firewall User Manual

Model: FG-91G | Brand: FORTINET

1. INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, maintenance, and troubleshooting of the FortiGate 91G Firewall. The FortiGate 91G is a high-performance, next-generation firewall designed to provide robust security and networking capabilities for various environments.

Key features of the FortiGate 91G include advanced next-generation firewall (NGFW) functionalities, integration with AI-powered FortiGuard Security Services for comprehensive threat protection, and efficient performance driven by Fortinet's custom SP5 ASIC processor. It also incorporates SD-WAN and Zero Trust Network Access (ZTNA) capabilities to support modern network architectures and secure remote work.



Figure 1: Front view of the FortiGate 91G Firewall, showcasing its compact design and port layout.

2. SETUP GUIDE

2.1 Unpacking and Initial Inspection

Carefully unpack the FortiGate 91G unit and all accessories from the packaging. Verify that all components listed below are present and inspect the unit for any signs of physical damage.

- FortiGate 91G unit
- Power adapter
- Ethernet cable
- Quick Start Guide

2.2 Physical Installation

Proper physical installation is crucial for optimal performance and longevity of the device.

1. **Placement:** Place the FortiGate 91G on a stable, flat surface in a well-ventilated area. Ensure adequate space around the unit for proper airflow to prevent overheating. Avoid placing it near heat sources or in direct sunlight.
2. **Power Connection:** Connect the provided power adapter to the FortiGate 91G's power input port and then plug it into a suitable electrical outlet.
3. **Network Connections:**
 - **WAN Ports (WAN1, WAN2):** Connect your internet service provider's modem or router to the WAN ports using Ethernet cables.
 - **Internal Ports (1-6, A, B):** Connect your internal network devices (computers, switches, access points) to these LAN ports.
 - **SFP Ports (SFP+1, SFP+2):** For fiber optic connections, insert compatible SFP transceivers and connect fiber cables.
 - **Console Port:** For initial command-line interface (CLI) access, connect a console cable from your management workstation to the FortiGate's console port.
 - **USB Port:** For future use, such as external storage or 3G/4G modem connectivity.



Figure 2: Rear view of the FortiGate 91G Firewall, showing the various network and console ports.

2.3 Initial Configuration

After physical installation, proceed with the initial software configuration.

1. **Accessing the Device:**

- **Web-based Manager:** Connect a computer to one of the internal LAN ports. By default, the FortiGate unit's internal interface is configured with an IP address of 192.168.1.99. Open a web browser and navigate to <https://192.168.1.99>.
- **Command Line Interface (CLI):** Use a terminal emulator (e.g., PuTTY) to connect to the console port with settings: 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control.

2. **Default Credentials:** The default username is **admin** with no password. You will be prompted to create a new password upon first login.

3. **Basic Network Settings:** Configure the WAN interface settings (DHCP, Static IP, PPPoE) to establish internet connectivity. Set up internal network segments and DHCP server if required.

3. OPERATING INSTRUCTIONS

3.1 Powering On/Off

- **Power On:** Once the power adapter is connected, the unit will automatically power on. The Power LED indicator will illuminate.
- **Power Off:** To properly shut down the device, it is recommended to use the shutdown command from the CLI or the web-based manager to prevent data corruption. Alternatively, disconnect the power adapter.

3.2 Status Indicators (LEDs)

The FortiGate 91G features several LED indicators on its front panel to provide real-time status information:

- **PWR (Power):**
 - **Green:** Device is powered on.
 - **Off:** Device is powered off.
- **STATUS:**
 - **Green:** System is operating normally.
 - **Amber:** System warning or error. Consult logs for details.
 - **Off:** System is not ready or powered off.
- **LINK/ACT (Per Port):**
 - **Green:** Link established.
 - **Blinking Green:** Activity (data transmission).
 - **Off:** No link.

3.3 Basic Network Configuration

After initial setup, you can configure more advanced network settings:

- **WAN Interface Configuration:** Configure IP addresses, DNS servers, and gateway settings for your external network connections.
- **LAN Interface Configuration:** Define IP subnets for your internal networks and configure VLANs if necessary.
- **DHCP Server:** Enable and configure the DHCP server on internal interfaces to automatically assign IP addresses to connected devices.
- **Static Routes:** Add static routes for specific network segments that are not directly connected.

3.4 Security Features

The FortiGate 91G offers a comprehensive suite of security features:

- **Firewall Policies:** Create and manage firewall policies to control traffic flow between different network interfaces and zones.
- **VPN (Virtual Private Network):** Configure IPsec or SSL VPNs for secure remote access or site-to-site connectivity.
- **Intrusion Prevention System (IPS):** Enable IPS to detect and block malicious network traffic and exploit attempts.
- **Antivirus/Malware Protection:** Utilize integrated antivirus and anti-malware engines to scan traffic for threats.
- **Web Filtering:** Control access to websites based on categories or custom blacklists/whitelists.
- **Application Control:** Identify and control specific applications running on your network.

4. MAINTENANCE

4.1 Firmware Updates

Regularly updating the firmware ensures your FortiGate 91G has the latest features, security patches, and performance improvements.

- **Checking for Updates:** Log in to the web-based manager and navigate to *System > Firmware* to check for available updates.
- **Performing Updates:** Download the appropriate firmware file from the Fortinet support portal. Follow the on-screen instructions to upload and install the new firmware. Ensure a stable power supply during the update process.

4.2 Backup and Restore

Regularly back up your FortiGate's configuration to prevent data loss and facilitate quick recovery in case of issues.

- **Configuration Backup:** From the web-based manager, go to *System > Configuration > Backup* to save the current configuration to your local computer.
- **Restoring Configuration:** To restore a saved configuration, go to *System > Configuration > Restore* and upload the backup file.

4.3 Cleaning

To maintain optimal performance and extend the lifespan of your device:

- Use a soft, dry cloth to wipe the exterior of the unit.
- Ensure ventilation openings are free from dust and obstructions. Do not use liquid cleaners or aerosol sprays directly on the unit.

5. TROUBLESHOOTING

5.1 Common Issues

- **No Power:**
 - Verify the power adapter is securely connected to both the FortiGate unit and a working electrical outlet.
 - Check the power outlet with another device.
- **No Network Connectivity:**

- Check the Link/Act LEDs on the connected ports. If off, reseat the Ethernet cable or try a different cable/port.
- Verify IP address configurations on both the FortiGate and the connected device.
- Check firewall policies to ensure traffic is allowed.

- **Slow Performance:**

- Check CPU and memory utilization from the dashboard.
- Review security logs for any unusual activity or attacks.
- Ensure firmware is up to date.

5.2 Diagnostic Tools

The FortiGate 91G provides various tools to diagnose network issues:

- **Command Line Interface (CLI):** Use commands like `get system status`, `diagnose debug flow`, `execute ping`, `execute traceroute` for detailed diagnostics.
- **Log Analysis:** Review system, traffic, and security logs in the web-based manager for error messages or unusual patterns.
- **Network Tools:** Utilize built-in network tools such as packet capture and policy lookup.

6. TECHNICAL SPECIFICATIONS

Feature	Detail
Model Number	FG-91G
Brand	FORTINET
Voltage	100 Volts
Interface Type	SFP, RJ45
Number of Ports	10
Switch Type	Managed, Layer 3
Item Weight	5.4 pounds
Package Dimensions	11 x 9 x 6 inches
UPC	195875216851
Manufacturer	Fortinet
Compatible Devices	Networking Devices

7. WARRANTY INFORMATION

Fortinet products typically come with a standard limited hardware warranty. For specific warranty terms and conditions applicable to your FortiGate 91G, please refer to the warranty card included with your product or visit the official Fortinet website.

Extended protection plans may also be available for purchase to provide additional coverage beyond the standard warranty period. Examples of such plans include:

- 4-Year Protection Plan
- Complete Protect: One plan covers all eligible past and future purchases

Please consult your reseller or Fortinet's official channels for details on available protection plans and their terms.

8. SUPPORT AND RESOURCES

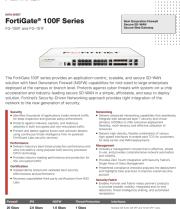
For further assistance, technical support, or additional resources, please utilize the following channels:

- **Fortinet Support Portal:** Access the official Fortinet support portal for knowledge base articles, documentation, software downloads, and to open support tickets.
- **Online Documentation:** Comprehensive product documentation, including administration guides and release notes, is available on the Fortinet website.
- **Community Forums:** Engage with other Fortinet users and experts in the official Fortinet community forums.
- **Fortinet Store:** For product information and related offerings, you can visit the [official FORTINET Store on Amazon](#).

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Related Documents - FG-91G

  <p>QuickStart Guide FortiGate 90G Series FG-900, FG-910</p>	<p>FortiGate 90G Series QuickStart Guide: Setup and Configuration</p> <p>A concise guide to setting up and configuring the FortiGate 90G and 91G series network security appliances, covering essential setup, package contents, front and rear panel details, and regulatory information.</p>
  <p>QuickStart Guide FortiGate 90G Series FG-900, FG-910</p>	<p>FortiGate 90G Series QuickStart Guide</p> <p>A quick start guide for the FortiGate 90G Series, including FG-90G and FG-91G models. This guide covers initial setup, essential information, and regulatory compliance.</p>

	<p><u>FortiGate 100F Series: Next Generation Firewall, Secure SD-WAN, and Secure Web Gateway Data Sheet</u></p> <p>Data sheet detailing the Fortinet FortiGate 100F Series (FG-100F, FG-101F), a scalable and secure SD-WAN solution with Next Generation Firewall (NGFW) and Secure Web Gateway capabilities for mid-sized to large enterprises. Features include system-on-a-chip acceleration, advanced threat protection, and comprehensive management.</p>
	<p><u>Fortinet Secure SD-WAN Ordering Guide</u></p> <p>This ordering guide provides detailed information on Fortinet's Secure SD-WAN solutions, including product offerings for branches and hubs, bundles, virtual machine support, management platforms, and professional services. It helps users select the appropriate FortiGate models and configurations for their network needs.</p>
	<p><u>FortiGate 90G Series QuickStart Guide: Setup, Configuration, and Features</u></p> <p>Get started quickly with the FortiGate 90G Series firewall. This guide covers setup, essential features, front/rear panel descriptions, and regulatory information for the FG-90G and FG-91G models.</p>
	<p><u>FortiGate FortiWiFi 40F Series: Next-Generation Firewall and SD-WAN Solutions</u></p> <p>Explore the FortiGate FortiWiFi 40F series, a powerful and versatile solution for secure networking. Discover its advanced security features, high performance, and SD-WAN capabilities, ideal for distributed enterprises.</p>