

# Week 3: Monitoring and Reporting

## Introduction:

This document presents the monitoring and reporting procedures implemented on the FortiGate firewall as part of Week 3 of the project. Monitoring and reporting are essential components of an effective security strategy, as they provide continuous visibility into network activity, threat detections, and the overall performance of deployed security profiles. By leveraging FortiGate's built-in dashboards, logs, and reporting tools, administrators can assess the effectiveness of Antivirus, Web Filtering, and Application Control profiles configured in previous phases.

This guide outlines the configuration of key monitoring features, methods for analyzing security events, and the process of generating detailed reports. These insights help ensure proactive threat detection, support troubleshooting efforts, and contribute to ongoing optimization of the organization's security posture.

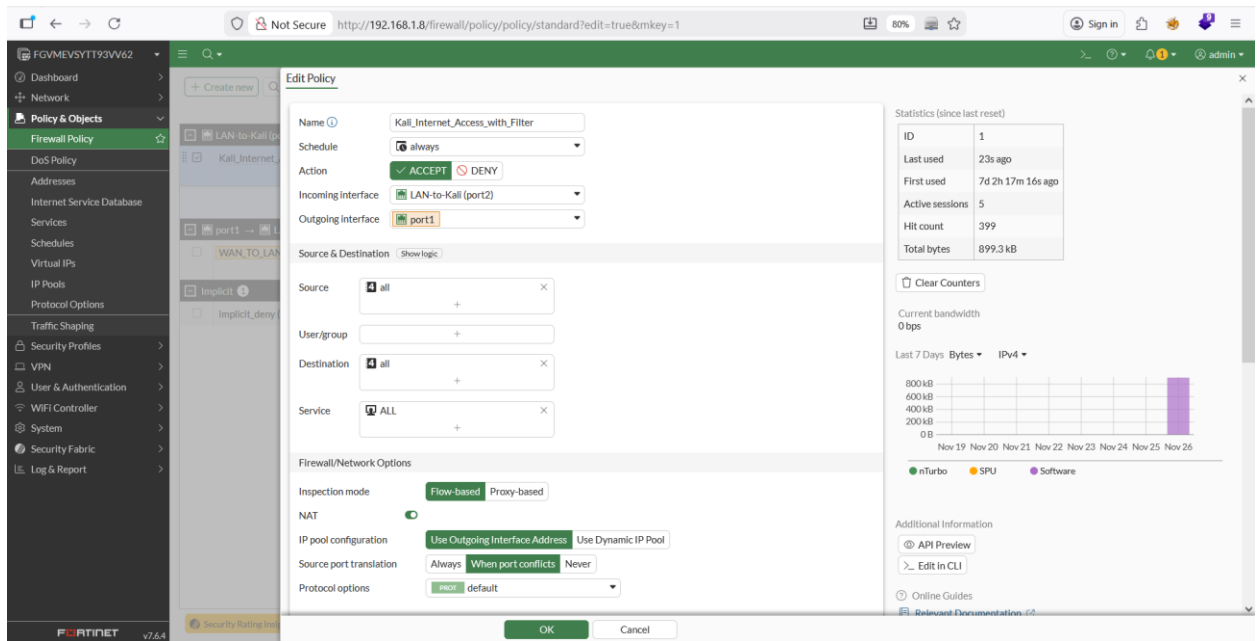
## Objectives

- To enable and configure FortiGate monitoring tools for tracking security events.
- To analyze logs and dashboards to measure the effectiveness of deployed security profiles.
- To generate automated and on-demand reports for security visibility and documentation.
- To evaluate detected threats, blocked activities, and system performance.
- To provide clear configuration details and reporting examples for future reference.
- To support continuous improvement of the network's security controls.

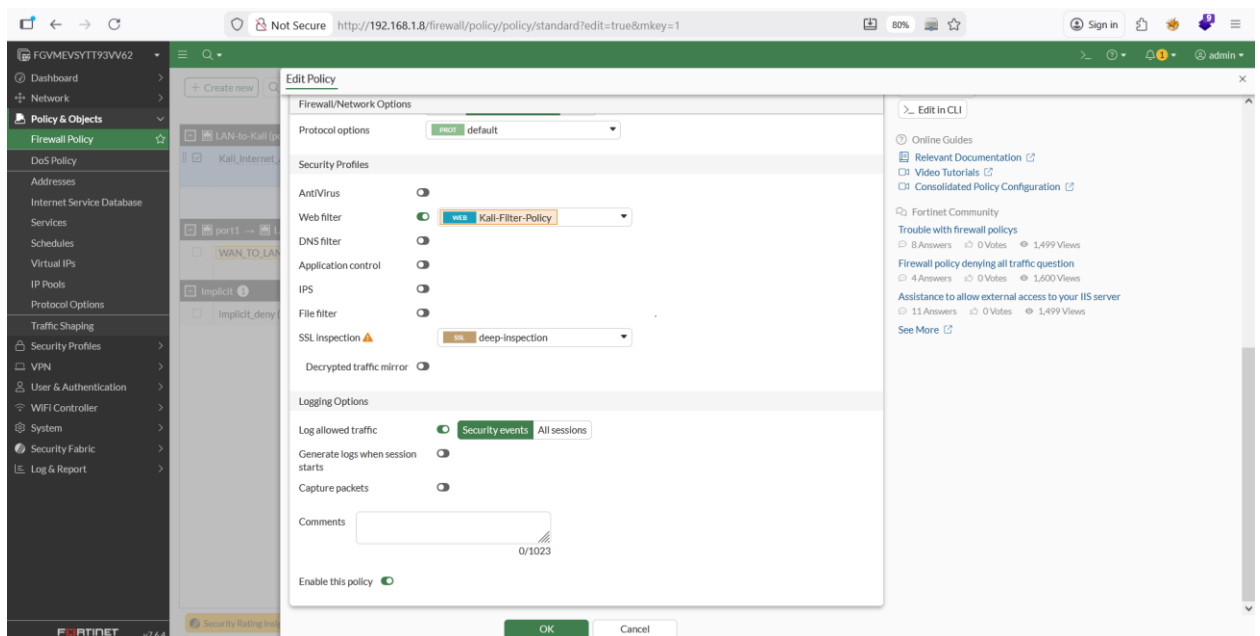
## Monitoring and Reporting

### 1-Web filter :

#### Firewall Policy:



**Firewall Policy Details: Policy Kali\_Internet\_Access\_with\_Filter governing LAN-to-WAN traffic.**



**Logging Configuration: Confirmation of Web Filter enforcement (Kali-Filter-Policy) and Logging Options set to 'Security events All' to ensure comprehensive traffic monitoring and security violation capture**

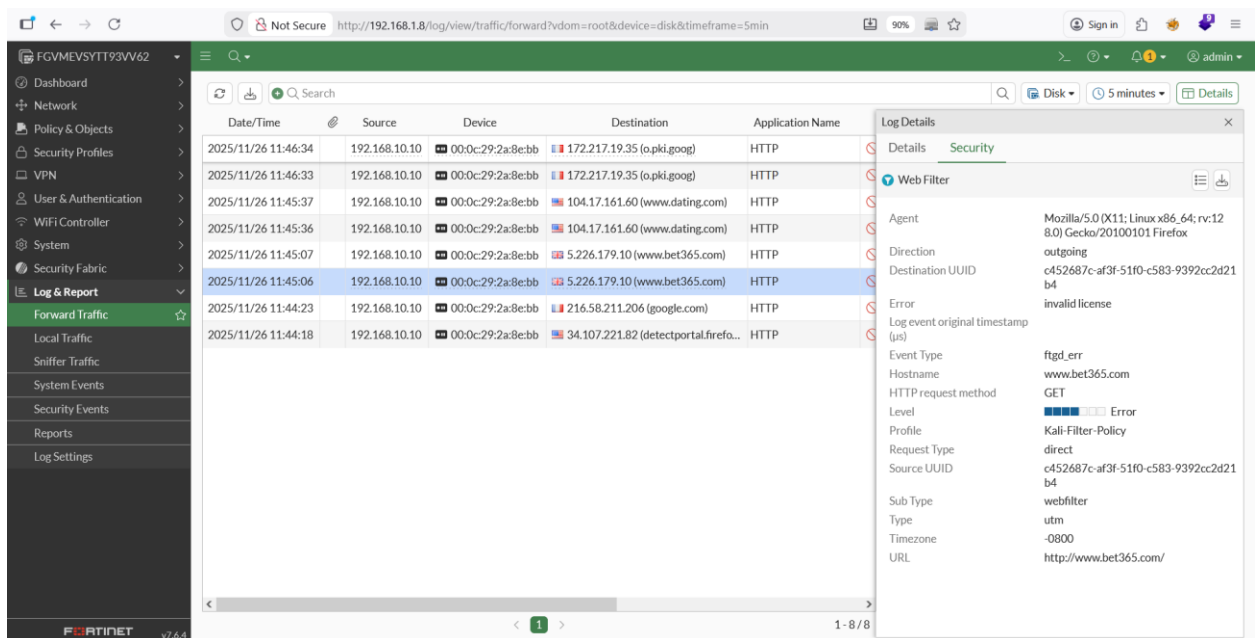
## Log & Report:

### 1.1 Forward Traffic:

Date/Time	Source	Device	Destination	Application Name	Result	Policy ID
2025/11/26 11:46:34	192.168.10.10	00:0c:29:2a:8ebb	172.217.19.35 (o.pki.goog)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:46:33	192.168.10.10	00:0c:29:2a:8ebb	172.217.19.35 (o.pki.goog)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:45:37	192.168.10.10	00:0c:29:2a:8ebb	104.17.161.60 (www.dating.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:45:36	192.168.10.10	00:0c:29:2a:8ebb	104.17.161.60 (www.dating.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:45:07	192.168.10.10	00:0c:29:2a:8ebb	5.226.179.10 (www.bet365.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:45:06	192.168.10.10	00:0c:29:2a:8ebb	5.226.179.10 (www.bet365.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:44:23	192.168.10.10	00:0c:29:2a:8ebb	216.58.211.206 (google.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:44:18	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:26:51	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:26:02	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 11:15:59	192.168.10.10	00:0c:29:2a:8ebb	142.250.201.35 (mrs08s20-in-f3.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 10:52:05	192.168.10.10	00:0c:29:2a:8ebb	142.250.201.46 (mrs08s20-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 10:51:59	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 10:49:54	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 10:47:51	192.168.10.10	00:0c:29:2a:8ebb	142.250.200.238 (mrs08s18-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/26 10:47:51	192.168.10.10	00:0c:29:2a:8ebb	142.250.200.238 (mrs08s18-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)

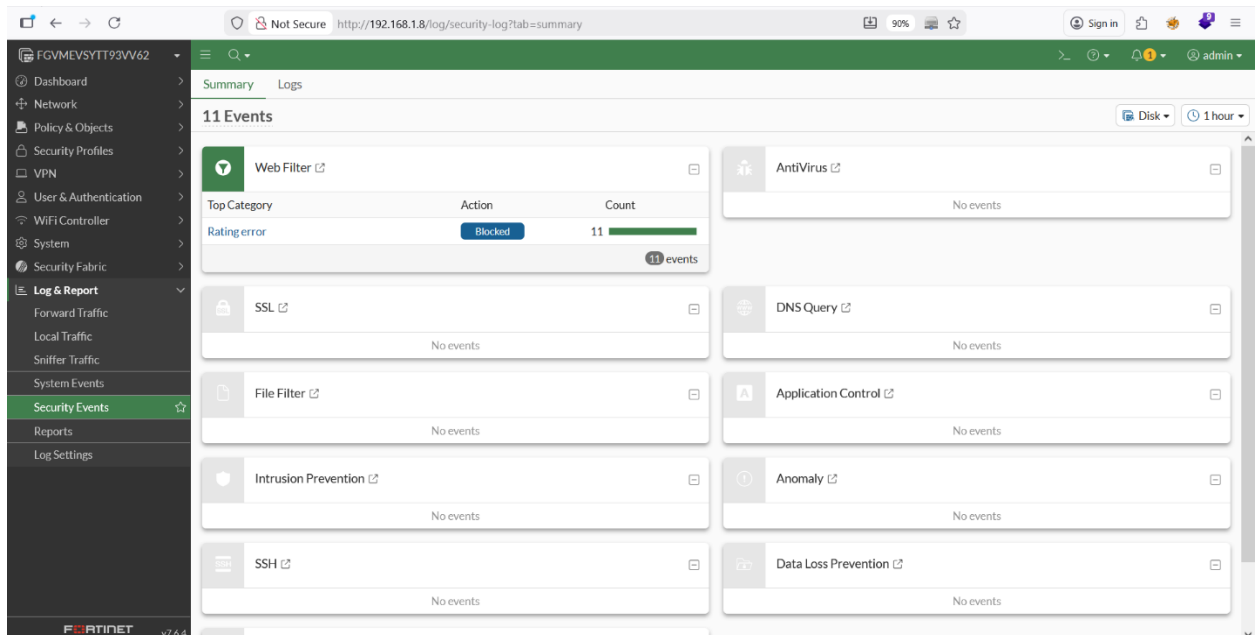
**Forward Traffic Logs: Logs filtered by the firewall policy, showing multiple HTTP sessions from the source IP (192.168.10.10) resulting in a Deny (Deny: UTM Blocked) action, confirming security profile enforcement.**

Date/Time	Source	Device	Destination	Application Name	Log Details
2025/11/26 11:46:34	192.168.10.10	00:0c:29:2a:8ebb	172.217.19.35 (o.pki.goog)	HTTP	Details Security
2025/11/26 11:46:33	192.168.10.10	00:0c:29:2a:8ebb	172.217.19.35 (o.pki.goog)	HTTP	Web Filter
2025/11/26 11:45:37	192.168.10.10	00:0c:29:2a:8ebb	104.17.161.60 (www.dating.com)	HTTP	Agent Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox
2025/11/26 11:45:36	192.168.10.10	00:0c:29:2a:8ebb	104.17.161.60 (www.dating.com)	HTTP	Direction outgoing
2025/11/26 11:45:07	192.168.10.10	00:0c:29:2a:8ebb	5.226.179.10 (www.bet365.com)	HTTP	Destination UUID c452687c-af3f-51f0-c583-9392cc2d21b4
2025/11/26 11:45:06	192.168.10.10	00:0c:29:2a:8ebb	5.226.179.10 (www.bet365.com)	HTTP	Error invalid license
2025/11/26 11:44:23	192.168.10.10	00:0c:29:2a:8ebb	216.58.211.206 (google.com)	HTTP	Log event original timestamp (us)
2025/11/26 11:44:18	192.168.10.10	00:0c:29:2a:8ebb	34.107.221.82 (detectportal.firefox.com)	HTTP	Event Type ftgdt_err
					Hostname www.dating.com
					HTTP request method GET
					Level Error
					Profile Kali-Filter-Policy
					Referrer URI http://www.dating.com/
					Request Type referral
					Source UUID c452687c-af3f-51f0-c583-9392cc2d21b4
					Sub Type webfilter
					Type utm
					Timezone -0800
					URL http://www.dating.com/favicon.ico



Log Detail View: Detailed view of a blocked session (e.g., dating.com), confirming the action was taken by the 'Kali-Filter-Policy' security profile, consistent with the productivity policy.

## 1.2 Security Events:



Security Events Summary: Web Filter events dashboard highlighting 11 Blocked actions recorded under the 'Rating error' (or other blocked category), demonstrating active violation enforcement.

Summary Logs

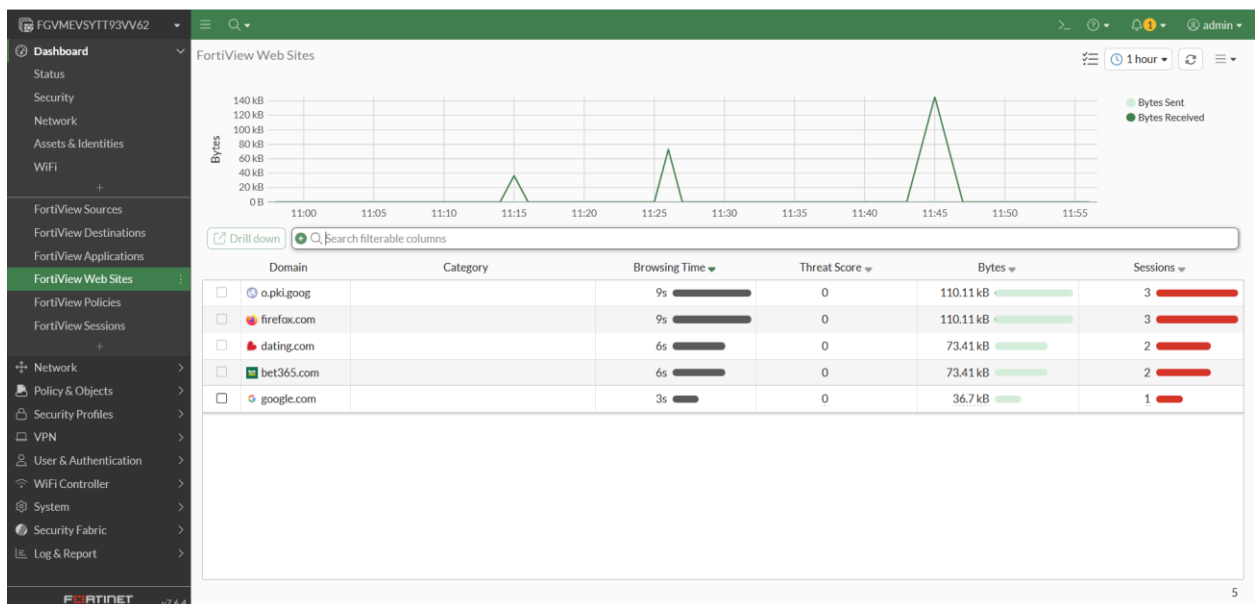
Date/Time 2025-11-26 10:53:13 -> 2025-11-26 11:53:13 Search

Date/Time	User	Source	Action	URL	Category	Initiator	Sent / Received
2025/11/26 11:46:04		192.168.10.10	Blocked	http://o.pki.goog/wr2			427 B / 0 B
2025/11/26 11:46:03		192.168.10.10	Blocked	http://o.pki.goog/wr2			427 B / 0 B
2025/11/26 11:45:06		192.168.10.10	Blocked	http://www.dating.com/favicon.ico			351 B / 0 B
2025/11/26 11:45:05		192.168.10.10	Blocked	http://www.dating.com/			334 B / 0 B
2025/11/26 11:44:37		192.168.10.10	Blocked	http://www.bet365.com/favicon.ico			351 B / 0 B
2025/11/26 11:44:36		192.168.10.10	Blocked	http://www.bet365.com/			334 B / 0 B
2025/11/26 11:43:53		192.168.10.10	Blocked	http://google.com/			330 B / 0 B
2025/11/26 11:43:48		192.168.10.10	Blocked	http://detectportal.firefox.com/success.txt?ipv4			310 B / 0 B
2025/11/26 11:26:21		192.168.10.10	Blocked	http://detectportal.firefox.com/success.txt?ipv4			310 B / 0 B
2025/11/26 11:25:32		192.168.10.10	Blocked	http://detectportal.firefox.com/success.txt?ipv4			310 B / 0 B
2025/11/26 11:15:29		192.168.10.10	Blocked	http://o.pki.goog/wr2			427 B / 0 B

Web Filter Blocked Logs: Detailed log view showing multiple distinct URLs (dating.com, bet365.com) from the source 192.168.10.10 resulting in a 'Blocked' action.

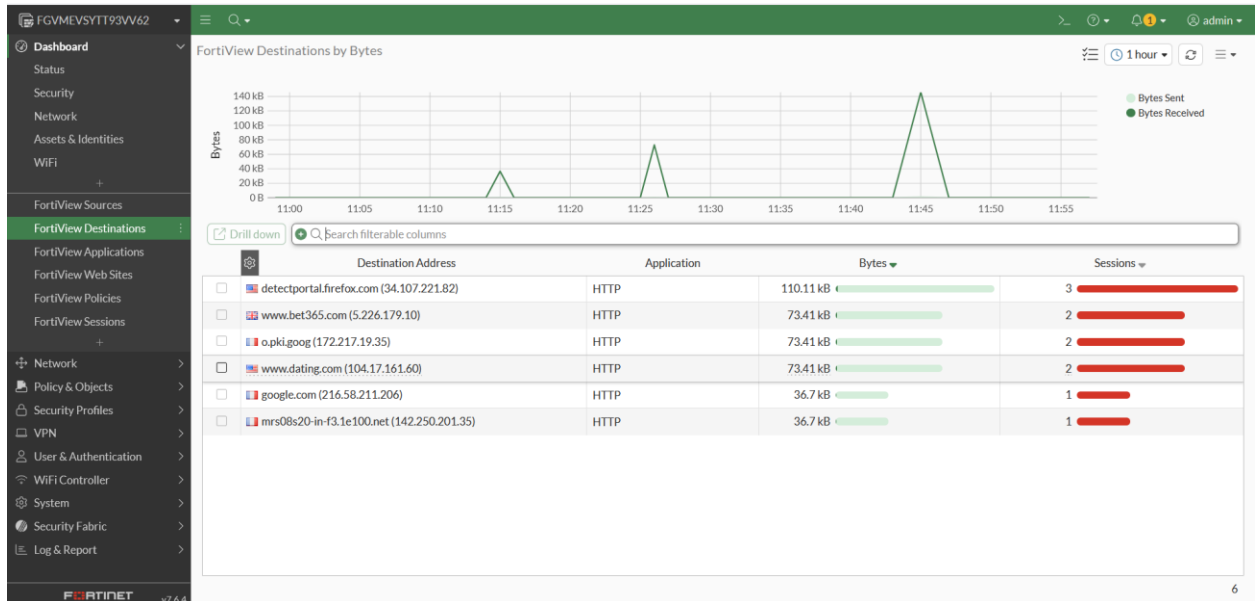
## 2- Dashboard

### 2.1 FortiView Web Sites



FortiView Web Sites: Dashboard view showing the attempted access to prohibited domains such as 'dating.com' and 'bet365.com' with corresponding session count, which were subsequently blocked by the applied Web Filter policy.

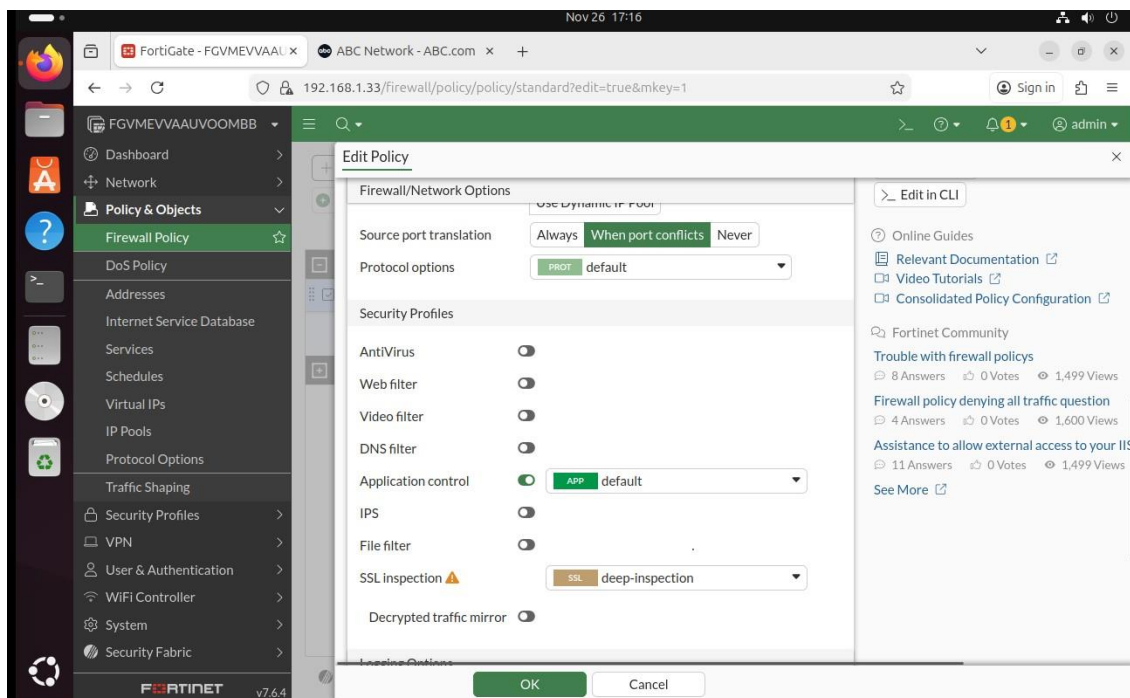
## 2.2 FortiView Destinations



FortiView Destinations: Analysis of network destinations, confirming connections attempted towards the IP addresses associated with restricted websites like '[bet365.com](#)' and '[www.dating.com](#)'

## 2-Application Control

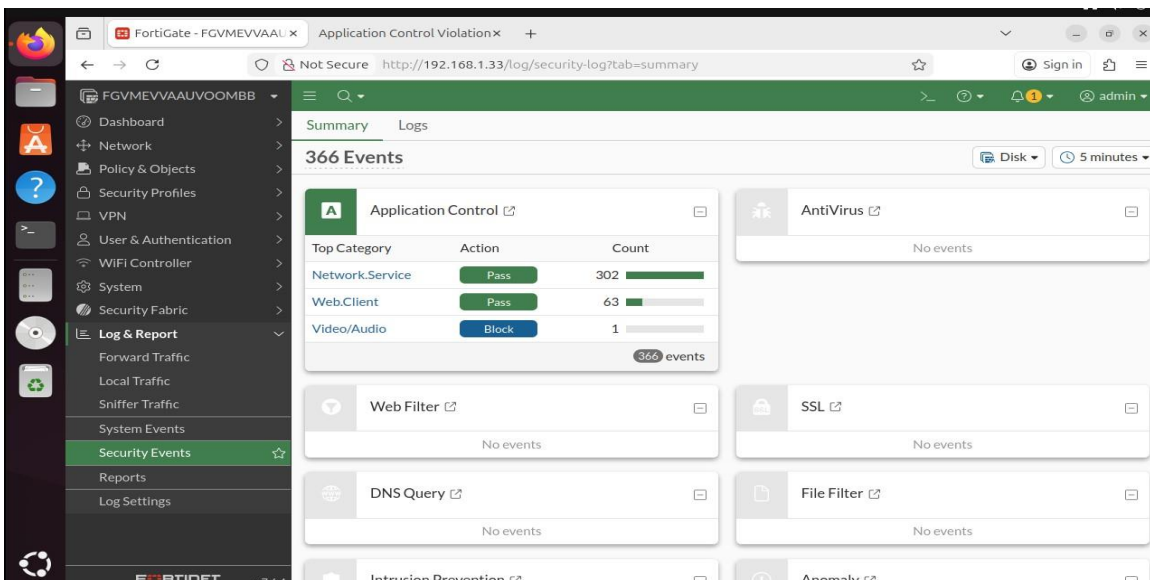
### Firewall Policy:



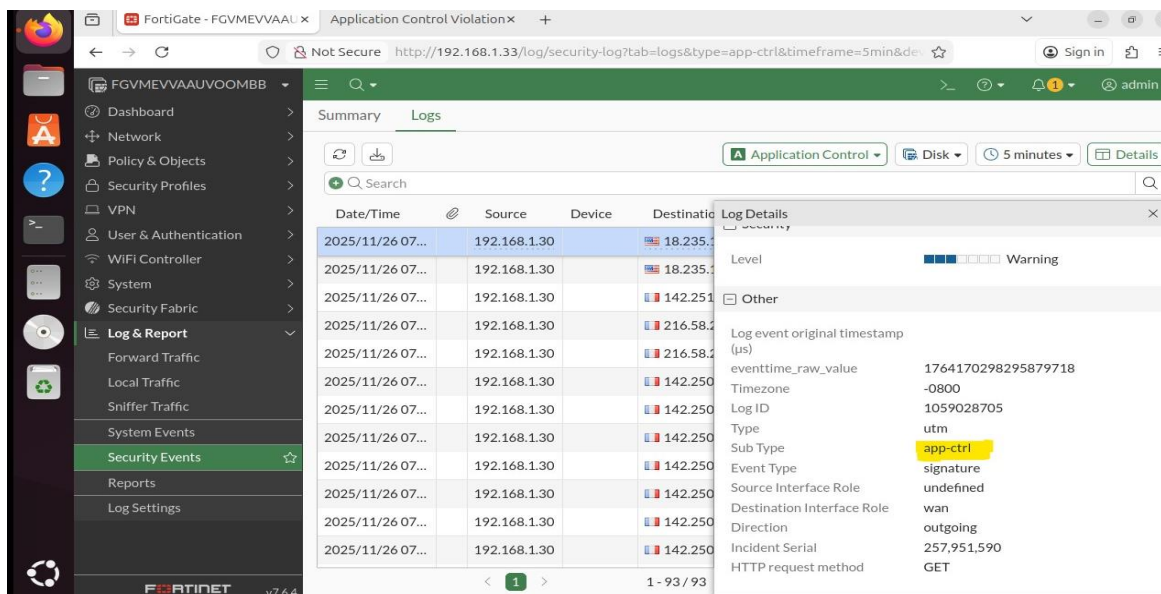
Application control enforcement (default profile) and Logging Options set to 'Security events All' to ensure comprehensive traffic monitoring and security violation capture related to application usage.

Log & Report:

## 1-Security Events:



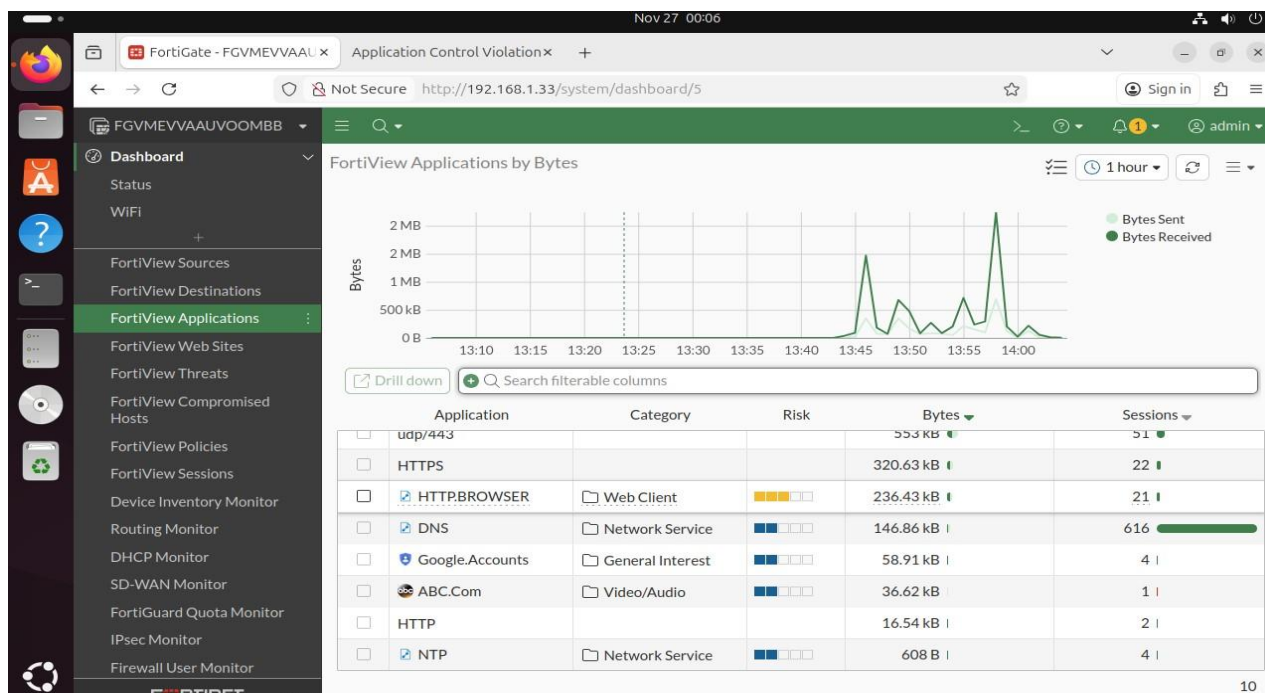
**Security Events Summary:** Web Filter events dashboard highlighting 11 Blocked actions recorded under the 'Rating error' (or other blocked category), demonstrating active violation enforcement.

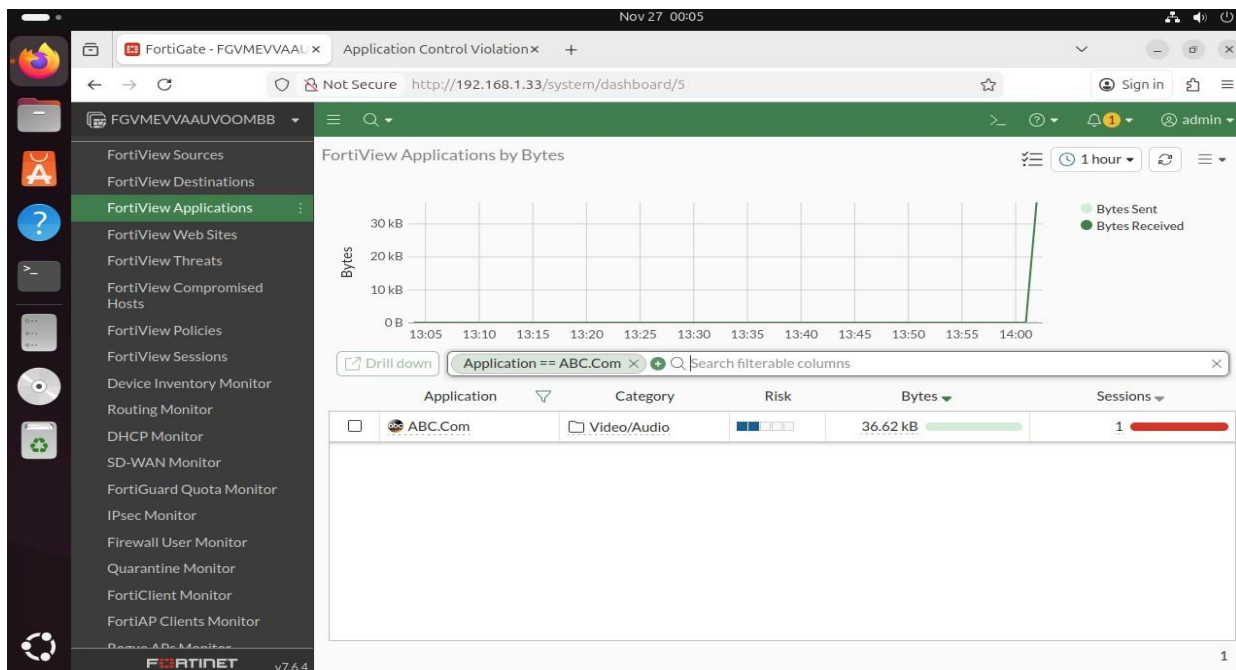


**Application Control Blocked Logs:** The detailed log view shows multiple entries. The system attempted to identify an application named ABC.com, which falls under the Video/Audio category. This activity resulted in a 'Block' action, enforced by the Lan-to-Wan (1) firewall policy, with the log type identified as app-ctrl at a Warning level.

## 2-Dashboard

- **FortiView Applications**

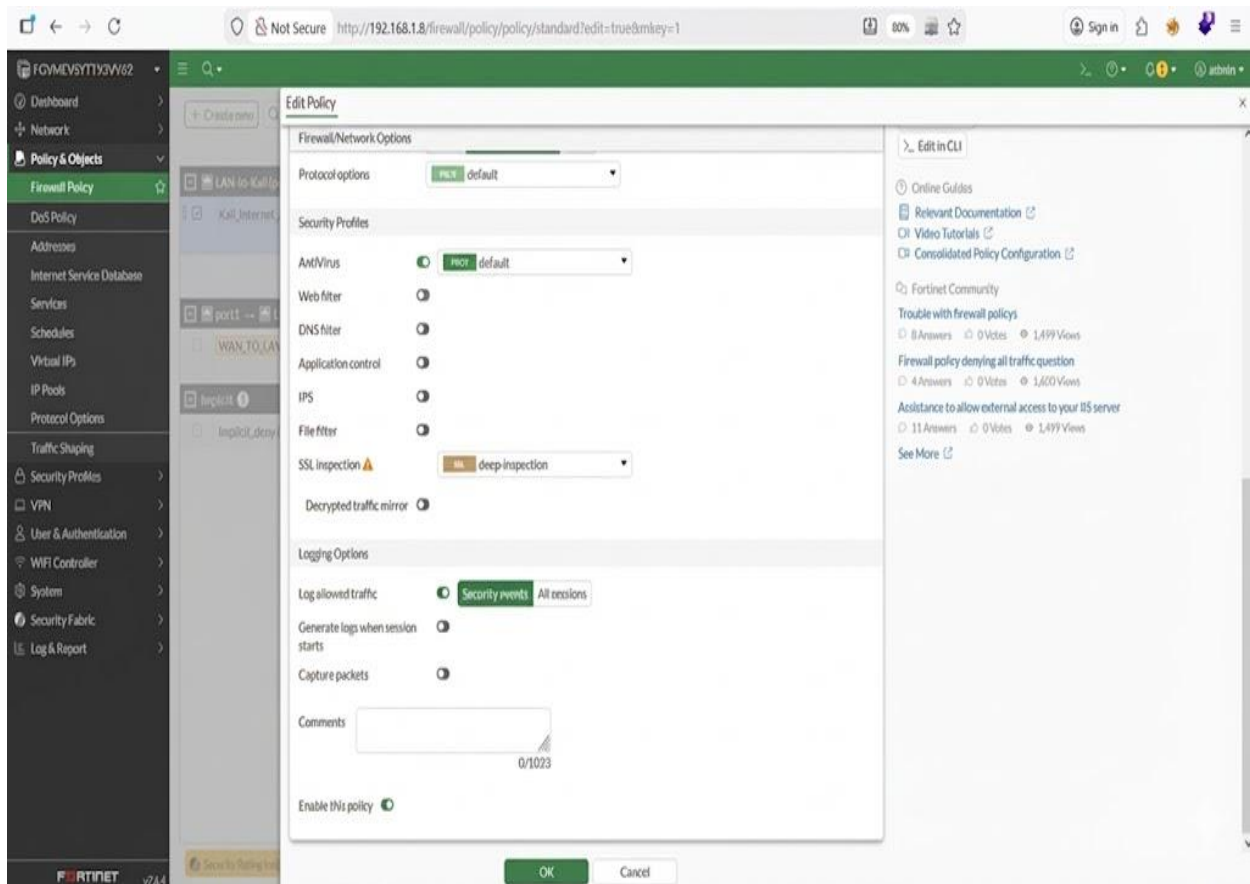




**FortiView Application:** The dashboard view shows the applications consuming bandwidth during the specified timeframe. The display captures an attempt to access the ABC.com application (categorized under Video/Audio) consuming 36.62 KB over 1 Session, aligning with the attempts that were subsequently blocked by the applied Application Control policy as seen in the logs.

### **3-Anti-Virus:**

Firewall Policy Details: Policy Kali\_Internet\_Access\_with\_AV governing LAN-to-WAN traffic. This policy has the AntiVirus security profile enabled to scan and block malicious files during HTTP/HTTPS sessions.



Logging Configuration: Confirmation of AntiVirus profile enforcement and Logging Options set to 'Security events' or 'All sessions' to ensure comprehensive traffic monitoring and capture of any virus detection events.

Date/Time	Source	Device	Destination	Application Name	Result	Policy ID
2025/11/06 11:46:34	192.168.10.10	000c:29:2a:8c:b6	172.217.19.35 (google.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:46:33	192.168.10.10	000c:29:2a:8c:b6	172.217.19.35 (google.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:45:37	192.168.10.10	000c:29:2a:8c:b6	104.17.161.40 (www.dating.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:45:36	192.168.10.10	000c:29:2a:8c:b6	104.17.161.40 (www.dating.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:45:07	192.168.10.10	000c:29:2a:8c:b6	5.226.879.10 (www.bet365.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:45:06	192.168.10.10	000c:29:2a:8c:b6	5.226.879.10 (www.bet365.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:44:23	192.168.10.10	000c:29:2a:8c:b6	216.58.211.206 (google.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:44:18	192.168.10.10	000c:29:2a:8c:b6	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:26:55	192.168.10.10	000c:29:2a:8c:b6	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:26:02	192.168.10.10	000c:29:2a:8c:b6	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 11:15:59	192.168.10.10	000c:29:2a:8c:b6	143.250.201.35 (news0020-in-f3.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 10:52:06	192.168.10.10	000c:29:2a:8c:b6	142.250.201.46 (news0020-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 10:51:59	192.168.10.10	000c:29:2a:8c:b6	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 10:49:54	192.168.10.10	000c:29:2a:8c:b6	34.107.221.82 (detectportal.firefox.com)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 10:47:51	192.168.10.10	000c:29:2a:8c:b6	142.250.200.238 (news0018-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)
2025/11/06 10:47:51	192.168.10.10	000c:29:2a:8c:b6	142.250.200.238 (news0018-in-f14.1e100.net)	HTTP	Deny (Deny: UTM Blocked)	Kali_Internet_Access_with_Filter (1)

**Forward Traffic Logs:** Logs filtered by the firewall policy, showing HTTP sessions from the source IP (e.g., 192.168.10.10) resulting in a **Deny (Deny: UTM Blocked)** action, confirming that the Antivirus profile successfully detected and blocked the test file EICAR).

Date/Time	Source	Device	Destination	Application Name	Result	Log Details
2025/11/26 10:26:51	10.0.11.50		100.65.0.254	HTTP	Deny (Deny: UTM Blocked)	Details Security
2025/11/26 10:24:41	10.0.11.50		100.65.0.254	HTTP	Deny (Deny: UTM Blocked)	Agent Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:132.0) Gecko/20100101 Firefox/132.0
2025/11/26 10:23:42	100.65.0.101		34.117.188.166 (spocs.getpocket.com)	HTTPS	Accept (1.06 kB / 3.38 kB)	Submitted to FortiSandbox false
2025/11/26 10:23:42	100.65.0.101		34.110.138.217 (merino.services.mozilla.com)	HTTPS	Accept (1.06 kB / 3.42 kB)	Direction incoming
2025/11/26 09:31:26	10.0.11.50		100.65.0.254	FTP	Accept (1.82 kB / 1.73 kB)	Destination UUID 7bcb7d34-7916-51e7-3d5b-71812a61b98e
2025/11/26 09:31:08	10.0.11.50		100.65.0.254	tcp/45809	Deny (Deny: UTM Blocked)	DetectIn Type cached
2025/11/26 09:31:08	10.0.11.50		100.65.0.254	tcp/6467	Deny (Deny: UTM Blocked)	Log event original timestamp 1,732,645,609.813,322.200
2025/11/26 09:31:03	10.0.11.50		100.65.0.254	tcp/50796	Deny (Deny: UTM Blocked)	HTTP request method GET

Security

Level  Warning

Threat Level Critical

Threat Score 50

**Log Detail View:** Detailed view of a blocked session, confirming the action was taken by the **AntiVirus** security profile due to a detected threat (Virus: EICAR\_TEST\_FILE), consistent with the security policy.

Date/Time	Service	Service	File Name	Virus/Botnet	User	Details	Action	Infection Type
2025/11/26 09:31:03	FTP	10.0.11.50	eicar.com	EICAR_TEST_FILE		Host: 100.65.0.254	Blocked	Malicious
2025/11/26 09:31:03	FTP	10.0.11.50	eicar.com	EICAR_TEST_FILE		Host: 100.65.0.254	Blocked	Malicious
2025/11/26 09:31:03	FTP	10.0.11.50	eicar.com	EICAR_TEST_FILE		Host: 100.65.0.254	Blocked	Malicious

Action

Action Blocked

Threat 2

Policy ID Internet (1)

Policy UUID b11ac58c-791b-51e7-4600-12f829a689d9

Policy Type Firewall

Security

Level  Warning

Threat Level Critical

Threat Score 50

**Security Events Summary:** Antivirus events dashboard highlighting **Blocked** actions recorded under the 'Virus' category, demonstrating active protection against malware downloads.

Date/Time	Service	Source	File Name	Virus/Botnet	User	Details	Action	Infection
2024/11/26 10:26:50	HTTP	10.0.11.50	eicar.com.txt	EICAR_TEST_FILE		URL: http://100.65.0.254/eicar.com.txt	Blocked	Malicious
2024/11/26 10:24:40	HTTP	10.0.11.50	eicar.com.txt	EICAR_TEST_FILE		URL: http://100.65.0.254/eicar.com.txt	Blocked	Malicious

**FortiView Threats:** Dashboard view showing the attempted access to malicious files (identified as EICAR Test File) from the source device, which were subsequently blocked by the applied Antivirus policy.



## Conclusion:

Monitoring and reporting are critical for maintaining a secure, well-managed network environment. Through the configuration and use of FortiGate's monitoring tools, administrators gain real-time visibility into threats, user activity, and the behavior of security profiles. The reports generated during this phase provide valuable insights into the effectiveness of Antivirus, Web Filtering, and Application Control, enabling informed decisions and timely responses to emerging risks.

By completing the monitoring and reporting tasks outlined in this document, the organization strengthens its ability to detect threats early, respond efficiently, and maintain a proactive security posture. These capabilities form a key part of ongoing security management and support the long-term reliability of the network.

