Configuring Antivirus on the RV34x Series Router

Objective

The objective of this document is to show you how to configure Antivirus on RV34x series routers.

Introduction

The Antivirus protects network users from infections and malware content received in emails or data. The Antivirus feature supports Simple Mail Transfer Protocol (SMTP), Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), Post Office Protocol version 3 (POP3) and Internet Message Access Protocol (IMAP) protocols.

The Antivirus engine uses two important components: a classifier that knows where to look, and the virus database that knows what to look for. The engine classifies the file by type rather than by relying on the extension. The virus engine looks for viruses in the bodies and attachments of messages received by the system; an attachment’s file type helps determine its scanning.

To learn what malware is, check out this link: What Is Malware?.

To learn how to configure Umbrella, click the link: Configuring Cisco Umbrella RV34x.

Important Note: If the router is currently under a heavy workload, this may exacerbate the issue.

The table below gives expected statistics for performance under various configurations. These values should be used as a guide, as real world performance may differ due to a number of factors.

	Concurrent Connections	Connection Rate	HTTP throughput	FTP throughput
Default Settings	40000	3000	982MB/sec	981MB/sec
Enable APP control	15000-16000	1300	982MB/sec	981MB/sec
Enable Antivirus	**16000**	**1500**	**982MB/sec**	**981MB/sec**
Enable IPS	17000	1300	982MB/sec	981MB/sec
Enable App Control Antivirus & IPS	15000-16000	1000	982MB/sec	981MB/sec

The following fields are defined as:

Concurrent Connections – The total number of concurrent connections For example, if you are downloading a file from one site, that’s one connection, streaming audio from Spotify that will be another connection, making it two concurrent connections.

Connection Rate – The number of connection requests per second it can process.

HTTP/FTP Throughput – The HTTP and FTP throughput are the download rates in MB/sec.

Security licenses have been updated to include Antivirus in addition to existing application and web filtering. A smart account is required in order to have a security license. If you do not already have an active smart account, section 1 of this document will be required.

To learn how to configure Intrusion Prevention System on RV34x, click here.

Applicable Devices

•€€€€€€ RV34x

Software Version

•€€€€€€ 1.0.03.5

Table of Contents

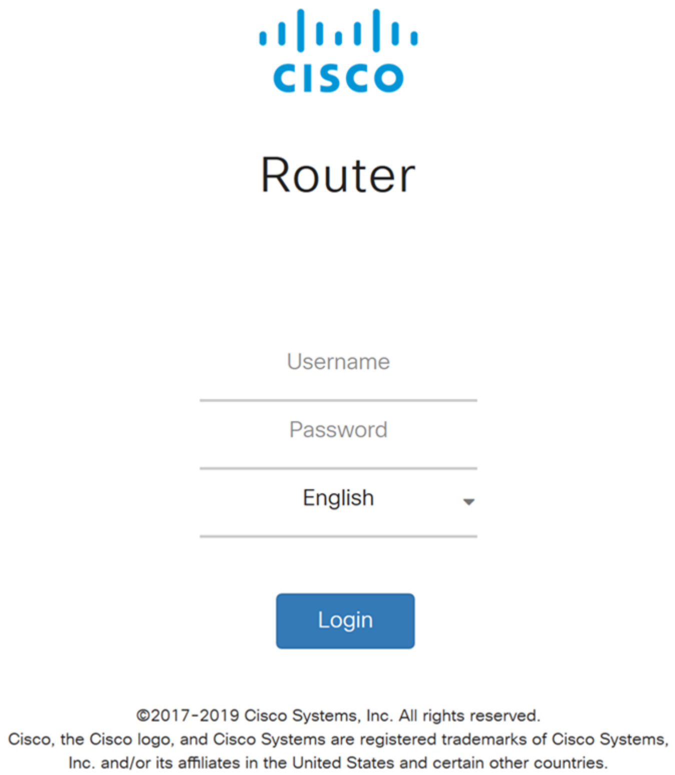
Licensing Structure - Firmware versions 1.0.3.15 and later

Moving forward, AnyConnect will incur a charge for client licenses only.

For additional information on AnyConnect licensing on the RV340 series routers, please see the article on: AnyConnect Licensing for the RV340 Series Routers.

Configuring Antivirus

Step 1. If you haven’t logged into the router, log in to the web configuration page.



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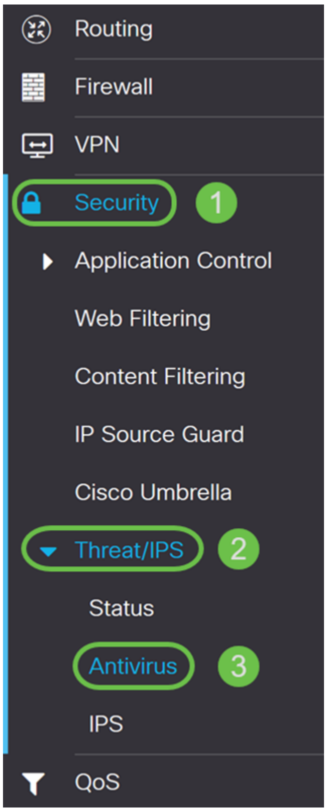
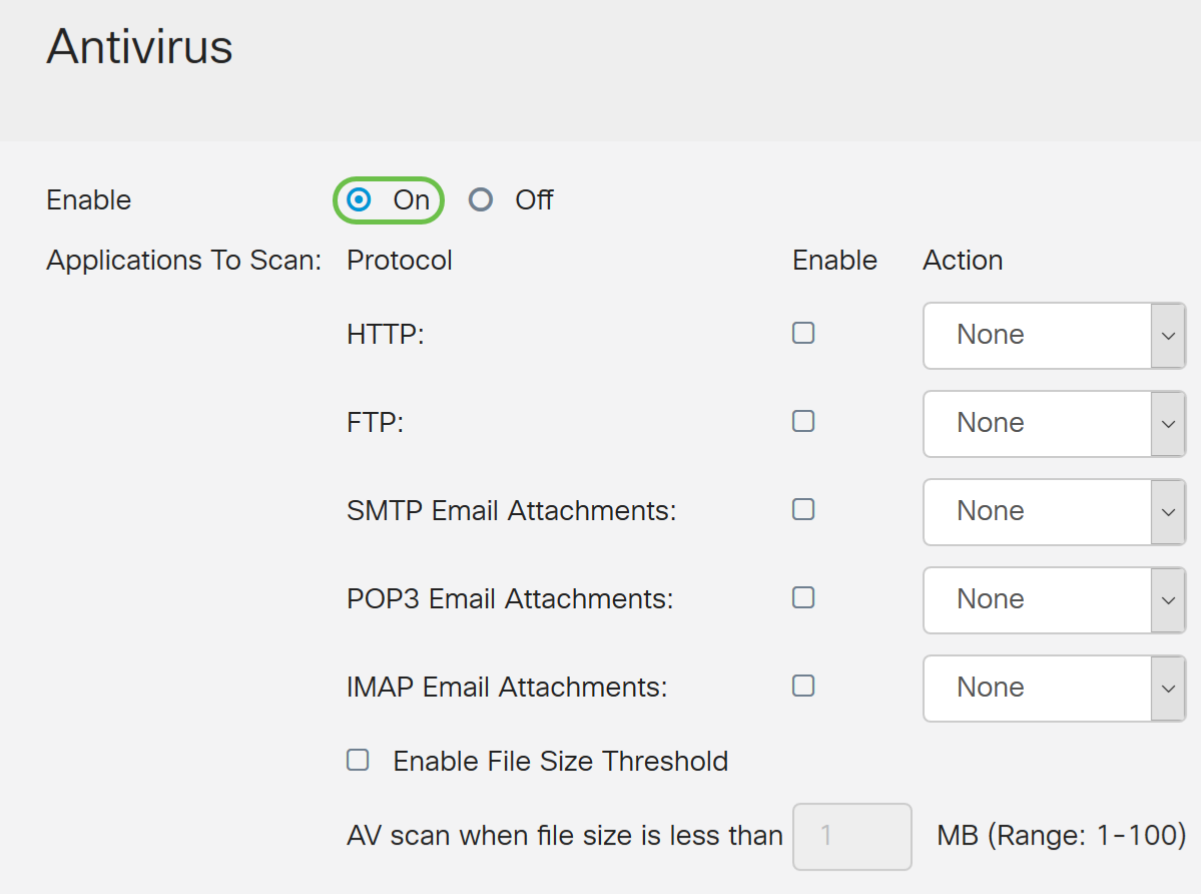
Step 2. Navigate to **Security > Threat/IPS > Antivirus**.



Step 3. Click the **On** radio button to enable the antivirus feature.



Antivirus

Enable ● On ○ Off

Applications To Scan:

Protocol	Enable	Action
HTTP:	□	None
FTP:	□	None
SMTP Email Attachments:	□	None
POP3 Email Attachments:	□	None
IMAP Email Attachments:	□	None

□ Enable File Size Threshold

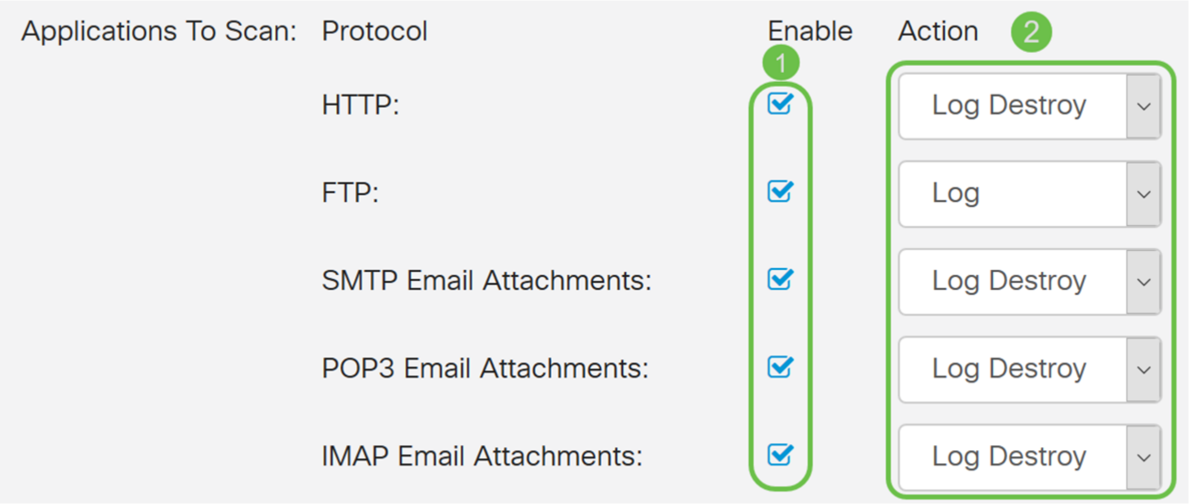
AV scan when file size is less than 1 MB (Range: 1-100)

Step 4. Check the **Enable** checkbox(es) to enable *Applications to Scan* on the protocols. In this example, we have enabled all the protocols (**HTTP, FTP, SMTP, POP3,** and **IMAP**). Then select the appropriate action for it. The following options are defined as:

•€€€€€€ **Log** – Select this option to generate the log only (with client information, signature ID, etc.) when the threats are identified. It does not impact the connection.

•€€€€€€ **Log Destroy** – Select this option to drop the connection when threats are identified and logs the message for deletion.

Note: In the case of an identified threat in an attachment, it will truncate the file during the download process.

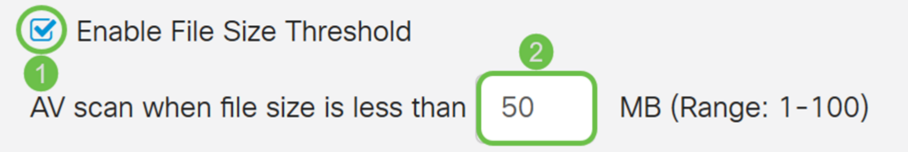


Applications To Scan:

Protocol	Enable	Action
HTTP:	☑	Log Destroy
FTP:	☑	Log
SMTP Email Attachments:	☑	Log Destroy
POP3 Email Attachments:	☑	Log Destroy
IMAP Email Attachments:	☑	Log Destroy

Step 5. If you want the antivirus to have a required file size to scan, check the **Enable File Size Threshold**. Then enter the file size that the antivirus can scan. The range is from 1-100 MB.

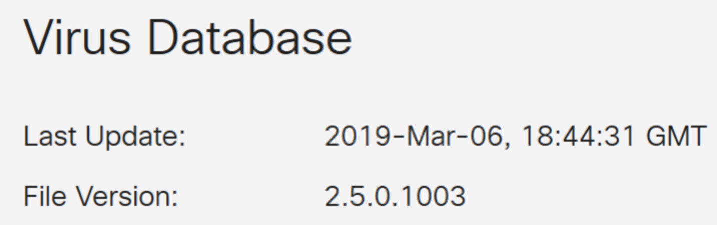
In this example, **50** MB was entered.



☑ Enable File Size Threshold

AV scan when file size is less than 50 MB (Range: 1-100)

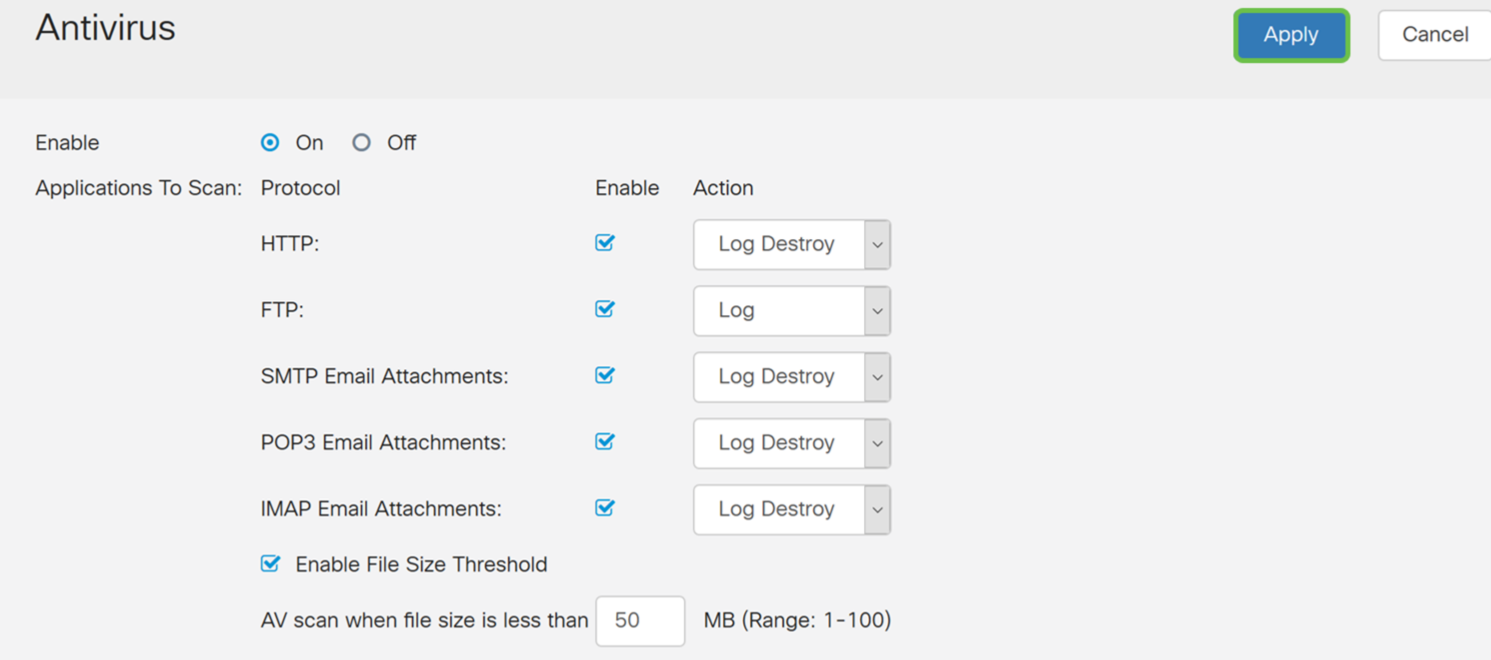
Step 6. In the *Virus Database* section, the *Last update* shows the date and time of the last updated signature. *File version* shows the signature version which is being used.



Virus Database

Last Update:	2019-Mar-06, 18:44:31 GMT
File Version:	2.5.0.1003

Step 7. Click the **Apply** button to save your changes.



Enable ● On ○ Off

Applications To Scan:

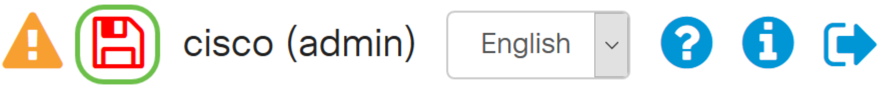
Protocol	Enable	Action
HTTP:	☑	Log Destroy
FTP:	☑	Log
SMTP Email Attachments:	☑	Log Destroy
POP3 Email Attachments:	☑	Log Destroy
IMAP Email Attachments:	☑	Log Destroy

☑ Enable File Size Threshold

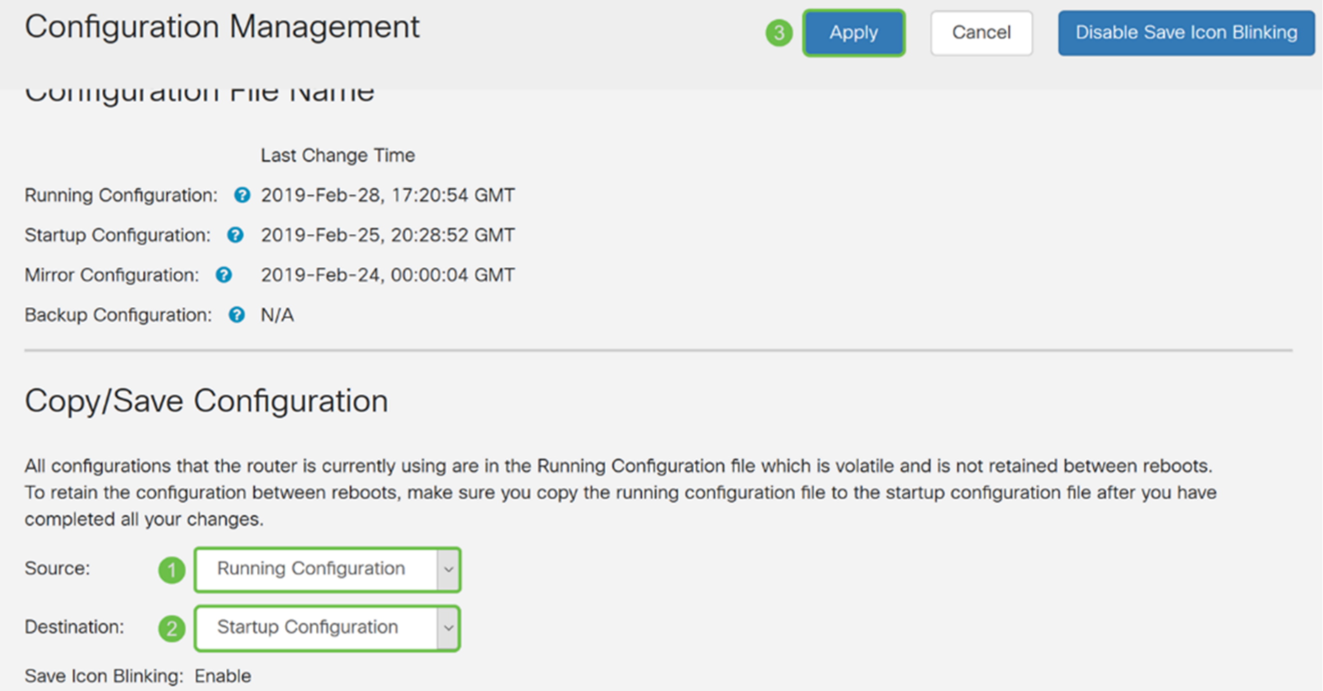
AV scan when file size is less than 50 MB (Range: 1-100)

Pressing **Apply** only saves your configuration to the running configuration. You will need to copy your running configuration to the startup configuration if you want to keep your configuration between reboots.

Step 8. Click the **Floppy Disk (Save)** icon at the top of the page. This will redirect you to the *Configuration Management* to copy your running configuration to the startup configuration.



Step 9. In the *Configuration Management*, scroll down to the *Copy/Save Configuration* section. Ensure that the *Source* is **Running Configuration** and the *Destination* is **Startup Configuration**. Click **Apply**. This will copy the running configuration file to the startup configuration file to retain the configuration between reboots.



Configuration File Name

	Last Change Time
Running Configuration:	2019-Feb-28, 17:20:54 GMT
Startup Configuration:	2019-Feb-25, 20:28:52 GMT
Mirror Configuration:	2019-Feb-24, 00:00:04 GMT
Backup Configuration:	N/A

Copy/Save Configuration

All configurations that the router is currently using are in the Running Configuration file which is volatile and is not retained between reboots. To retain the configuration between reboots, make sure you copy the running configuration file to the startup configuration file after you have completed all your changes.

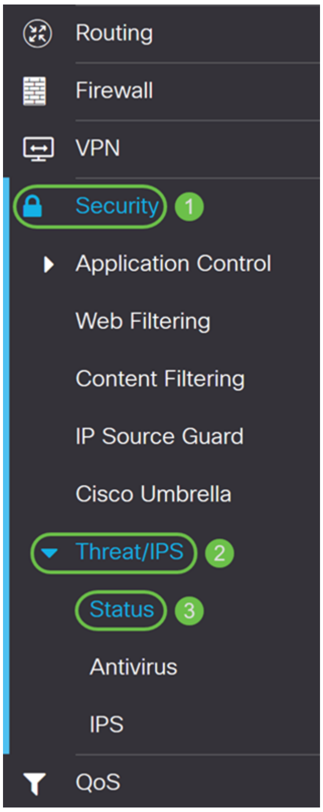
Source: Running Configuration

Destination: Startup Configuration

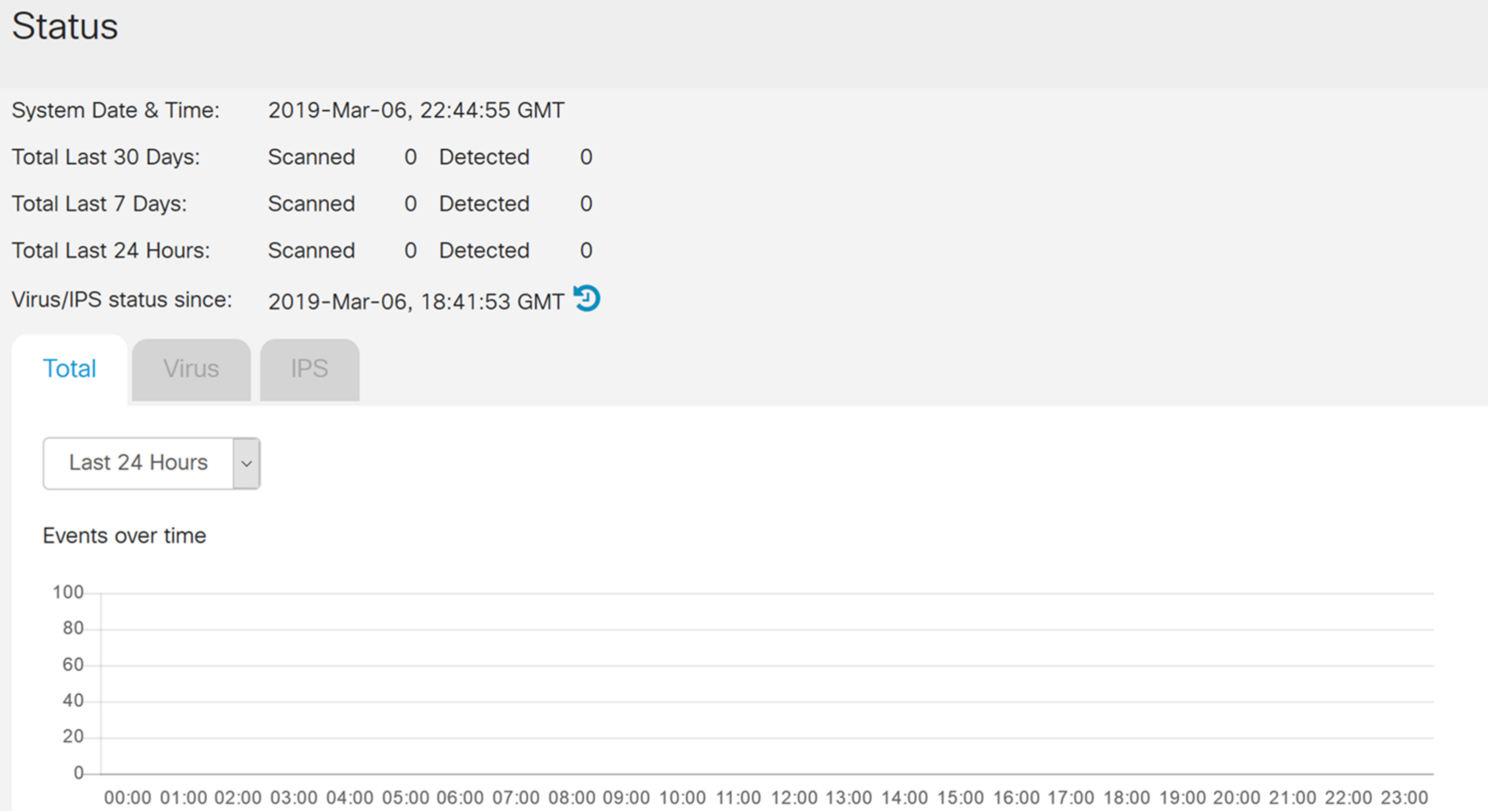
Save Icon Blinking: Enable

Threat/IPS Status

Step 1. Navigate to **Security > Threat/IPS > Status**.



Step 2. In the *Status* page, you can see the system date and time, scanned and detected threats, and attacks of the selected tab. By default, you can see the Total tab's status.



Status

System Date & Time: 2019-Mar-06, 22:44:55 GMT

Total Last 30 Days: Scanned 0 Detected 0

Total Last 7 Days: Scanned 0 Detected 0

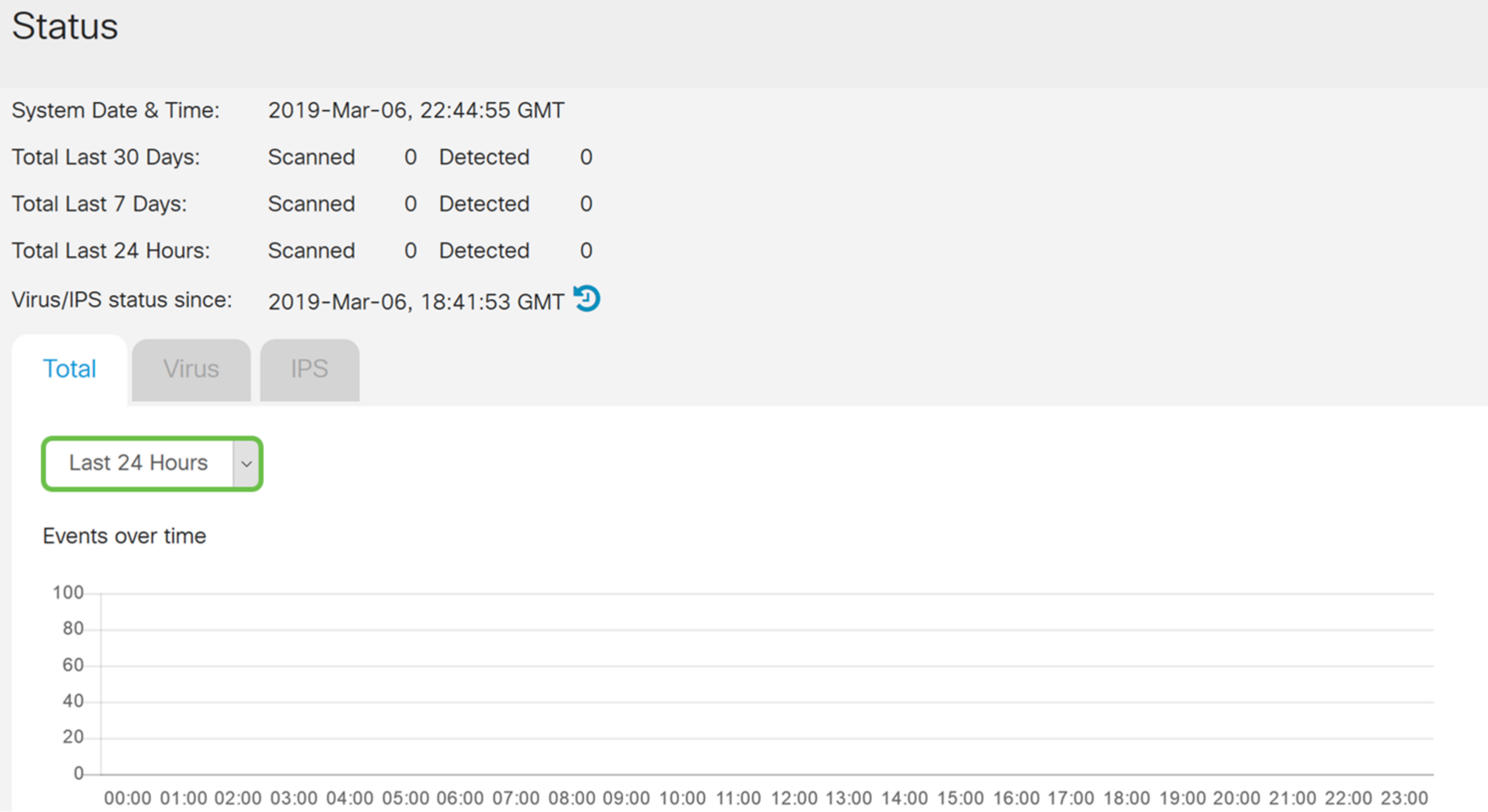
Total Last 24 Hours: Scanned 0 Detected 0

Virus/IPS status since: 2019-Mar-06, 18:41:53 GMT

Last 24 Hours

Events over time

Step 3. In the drop-down list under *Total* tab, you can select **Last 24 hours**, **Week**, or **Month** to display the events.



Status

System Date & Time: 2019-Mar-06, 22:44:55 GMT

Total Last 30 Days: Scanned 0 Detected 0

Total Last 7 Days: Scanned 0 Detected 0

Total Last 24 Hours: Scanned 0 Detected 0

Virus/IPS status since: 2019-Mar-06, 18:41:53 GMT

Last 24 Hours

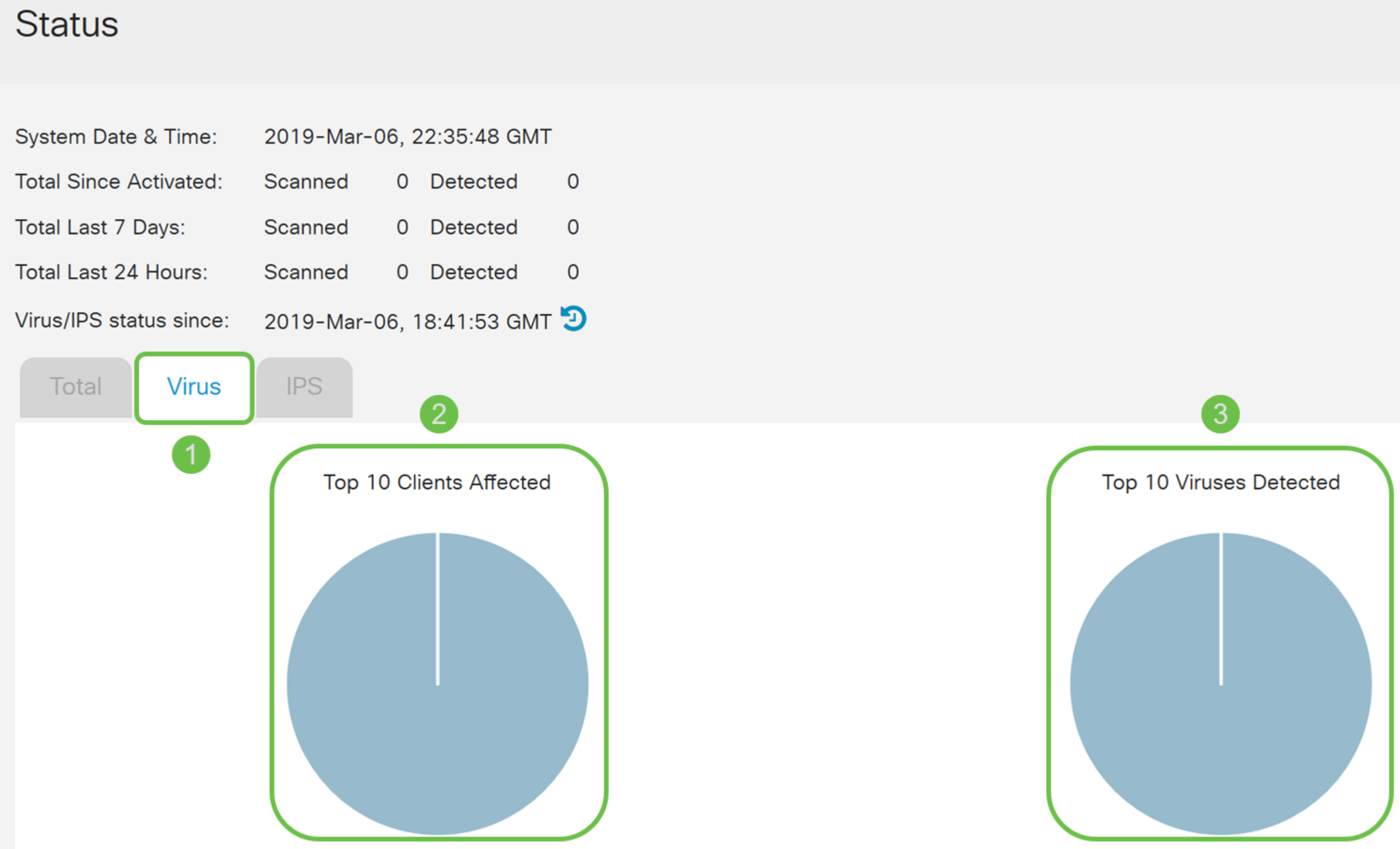
Events over time

Step 4. Click the **Virus** tab. In the *Virus* tab, it will display the following:

•€€€€€€ **Top 10 Clients Affected** – the list of mac addresses who are affected.

•€€€€€€ **Top 10 Viruses Detected** – the list of threats detected.

Note: You can hover your mouse over the pie chart for more details.



Status

System Date & Time: 2019-Mar-06, 22:35:48 GMT

Total Since Activated: Scanned 0 Detected 0

Total Last 7 Days: Scanned 0 Detected 0

Total Last 24 Hours: Scanned 0 Detected 0

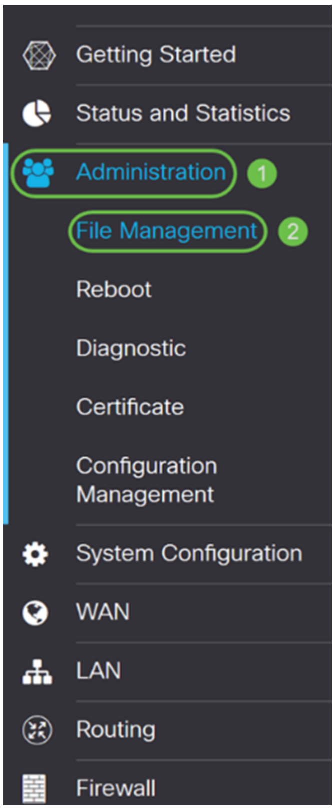
Virus/IPS status since: 2019-Mar-06, 18:41:53 GMT

Updating Antivirus Definitions

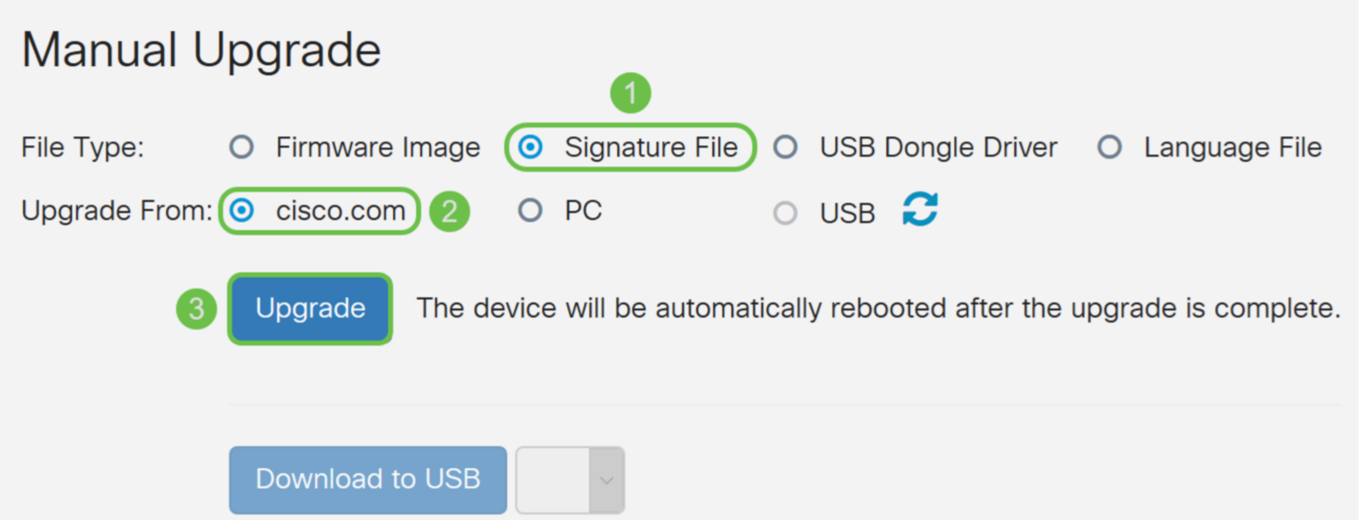
You can update the Antivirus database either manually or automatically. Steps 1-2 will show you how to update the Antivirus database manually while Steps 3-6 will show you how to update the Antivirus database automatically.

Best Practice: It is recommended to update the security signatures automatically on a weekly basis.

Step 1. To manually update Antivirus database, navigate to **Administration > File Management**.



Step 2. Scroll down to the *Manual Upgrade* section in the *File Management* page. Choose **Signature File** for *File Type* and **cisco.com** for *Upgrade From*. Then press **Upgrade**. This will download the latest security signature and install it.



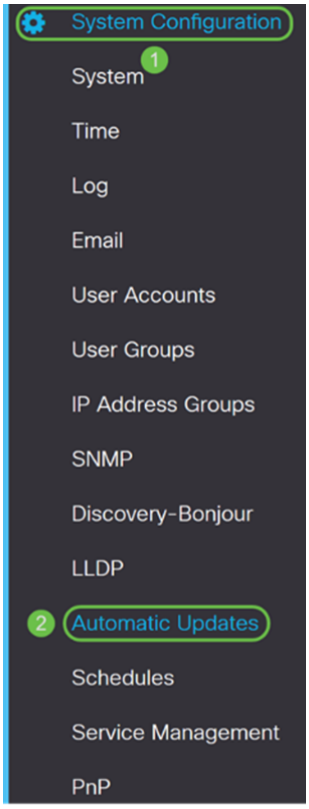
Manual Upgrade

File Type: ○ Firmware Image ● Signature File ○ USB Dongle Driver ○ Language File

Upgrade From: ● cisco.com ○ PC ○ USB

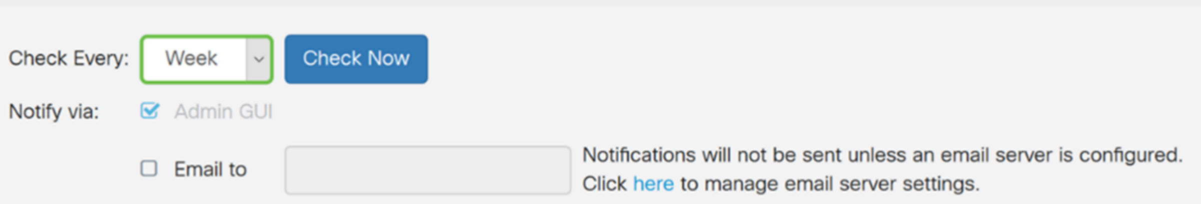
The device will be automatically rebooted after the upgrade is complete.

Step 3. To automatically update the Antivirus database, navigate to **System Configuration > Automatic Updates**.



Step 4. The *Automatic Updates* page opens. You have the option of checking for updates either on a weekly or monthly basis. You can have the router notify via email or the Web UI. In this example, we will be selecting to check every week.

Note: It is recommended to update security signatures automatically on a weekly basis.



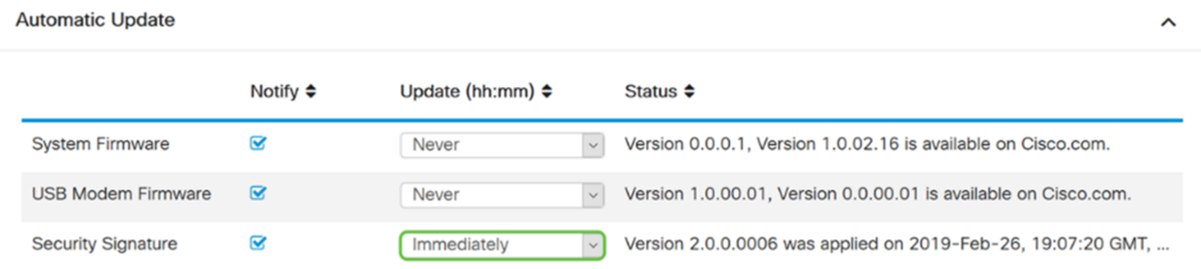
Check Every: Week

Notify via: ☑ Admin GUI

□ Email to

Notifications will not be sent unless an email server is configured.
Click here to manage email server settings.

Step 5. Scroll down to the *Automatic Update* section and look for the *Security Signature* field. In the *Security Signature Update* drop-down list, select the time that you want to automatically update. In this example, we will be selecting **Immediately**.

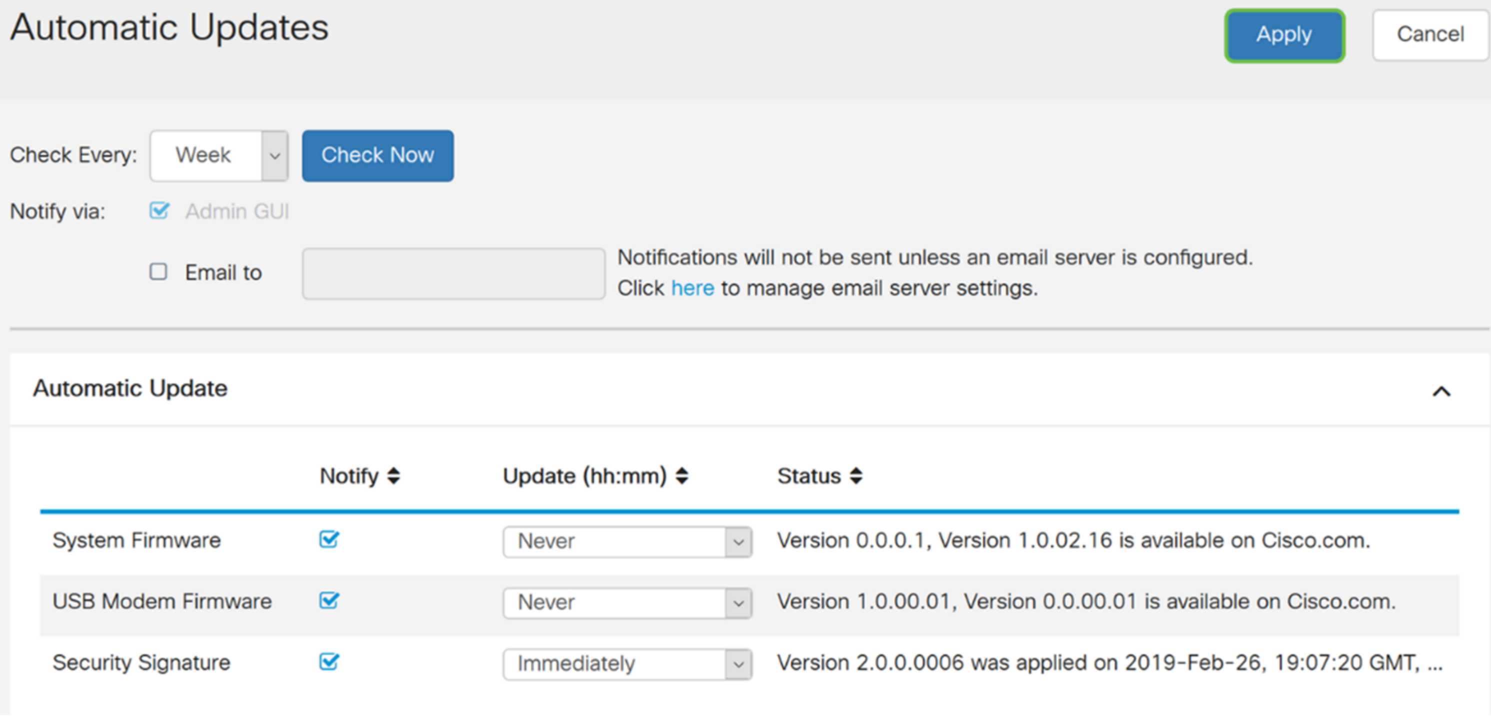


Automatic Update

	Notify	Update (hh:mm)	Status
System Firmware	☑	Never	Version 0.0.0.1, Version 1.0.02.16 is available on Cisco.com.
USB Modem Firmware	☑	Never	Version 1.0.00.01, Version 0.0.00.01 is available on Cisco.com.
Security Signature	☑	Immediately	Version 2.0.0.0006 was applied on 2019-Feb-26, 19:07:20 GMT, ...

Step 6. Click **Apply** to save the changes to the running configuration file.

Note: Remember to click the **Floppy Disk** icon on the top to navigate to the *Configuration Management* page to copy your running configuration file to the startup configuration file. This will help retain your configurations between reboots.



Automatic Updates

Check Every: Week

Notify via: ☑ Admin GUI

□ Email to

Notifications will not be sent unless an email server is configured.
Click here to manage email server settings.

Automatic Update

	Notify	Update (hh:mm)	Status
System Firmware	☑	Never	Version 0.0.0.1, Version 1.0.02.16 is available on Cisco.com.
USB Modem Firmware	☑	Never	Version 1.0.00.01, Version 0.0.00.01 is available on Cisco.com.
Security Signature	☑	Immediately	Version 2.0.0.0006 was applied on 2019-Feb-26, 19:07:20 GMT, ...

Conclusion

You should now have configured Antivirus on your RV34x Series Router.

For additional information, check out the following resources.

•€€€€€€ **Router Community:** Cisco Small Business Support Community

•€€€€€€ **FAQ about RV34x Series:** RV34x Series Router FAQs