Tanium™ Reputation User Guide

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Reputation overview

With Reputation, you can build a repository of reputation data from various sources, such as Palo Alto WildFire, Recorded Future, ReversingLabs, and VirusTotal. These sources determine threat levels for file hashes. Other Tanium products, such as Tanium™ Threat Response, can use this data to give an indication of potentially malicious files. You can also send reputation data to supported Tanium™ Connect destinations or import reputation data to Tanium™ Trends boards.

The reputation database is a cache that consists of *reputation items*. When configured, reputation items are scanned by a *reputation source*. A reputation source is a service that determines whether a reputation item is considered to be malicious, non-malicious, suspicious, or has an unknown status.

Reputation item life cycle

A reputation item remains in the database as long as the Tanium processes are accessing the status of the item. The status of the reputation items is kept up to date based on the settings for the reputation service and provider.

Reputation items are added to the reputation database

As long as the maximum database size is not exceeded, reputation items get added to the reputation database in the following scenarios:

- When a new hash gets identified by a Tanium process, such as Threat Response.
- When a list of hashes gets sent to Connect from a saved question connection source.

When the reputation items are first added, it is unknown whether they are malicious. The reputation item state most likely starts out as unknown or pending.

Reputation items are scanned

How long it takes for an initial scan of the items depends on your configured reputation service settings.

If you have multiple reputation service providers configured, a reputation item is created for each reputation source. For example, for a single hash, three separate reputation items are created for WildFire, ReversingLabs, and VirusTotal.

WILDFIRE

All reputation items are sent to WildFire as they are received.

RECORDED FUTURE

The settings for Recorded Future determine how many hashes are sent at a time, and how many times the API is called in one minute. For more information about these settings, see Configure Recorded Future reputation source on page 25.

REVERSINGLABS A1000

The settings for ReversingLabs A1000 determine how many hashes are sent at a time, and how many times the API is called in one minute. For more information about these settings, see Configure ReversingLabs A1000 reputation source on page 27.

REVERSINGLABS TITANIUMCLOUD

The settings for ReversingLabs TitaniumCloud determine how many hashes are sent at a time, and how many times the API is called in one minute. For more information about these settings, see Configure ReversingLabs TitaniumCloud reputation source on page 28.

VIRUSTOTAL

The settings for VirusTotal determine how many hashes are sent at a time, and how many times the API is called in one minute. For more information about these settings, see Configure VirusTotal reputation source on page 29.

Reputation items are rescanned

Reputations might change for reputation items over time. When an item is rescanned, it is checked against the reputation sources again. For more information about configuring the rescanning properties, see Configure reputation service settings on page 21.

The **Rescan Item Interval** setting is global for all reputation provider types. The value determines how often items get rescanned. For example, if this value is set to 1 day, all of the items in the database get checked every day.

WILDFIRE

Items are only scanned on the **Rescan Item Interval** value.

RECORDED FUTURE

You can configure items to be rescanned as Recorded Future gets new reputations for hashes.

The **Maximum Age of New Items** setting gets compared with the First Seen attribute in Recorded Future. The First Seen attribute is the date at which Recorded Future first recorded any instance of that hash, from any Recorded Future customer. If the item is less

than the configured maximum, then the item is considered a new item and is rescanned. How often the new items are rescanned is determined by the **Rescan New Item Interval** setting.

REVERSINGLABS A1000

You can configure items to be rescanned as ReversingLabs A1000 gets new reputations for hashes.

The **Maximum Age of New Items** setting gets compared with the First Seen attribute in ReversingLabs A1000. The First Seen attribute is the date at which ReversingLabs A1000 first recorded any instance of that hash. If the item is less than the configured maximum, then the item is considered a new item and is rescanned. How often the new items are rescanned is determined by the **Rescan New Item Interval** setting.

REVERSINGLABS TITANIUMCLOUD

You can configure items to be rescanned as ReversingLabs TitaniumCloud gets new reputations for hashes.

The **Maximum Age of New Items** setting gets compared with the First Seen attribute in ReversingLabs TitaniumCloud. The First Seen attribute is the date at which ReversingLabs TitaniumCloud first recorded any instance of that hash, from any ReversingLabs TitaniumCloud customer. If the item is less than the configured maximum, then the item is considered a new item and is rescanned. How often the new items are rescanned is determined by the **Rescan New Item Interval** setting.

VIRUSTOTAL

If you have a paid API key for VirusTotal, you can configure items to be rescanned as VirusTotal gets new reputations for hashes.

The **Maximum Age of New Items** setting gets compared with the First Seen attribute in VirusTotal. The First Seen attribute is the date at which VirusTotal first recorded any instance of that hash, from any VirusTotal customer. If the item is less than the configured maximum, then the item is considered a new item and is rescanned. How often the new items are rescanned is determined by the **Rescan New Item Interval** setting.

When you are configuring these settings, be careful to keep the number of API calls within the bounds of your agreement with VirusTotal.

Items are removed from the reputation database

When the number of days in the **Remove Item Interval** value passes, and that item has not been queried by a saved question or other Tanium process to check its status, the item is removed from the database.

A reputation item can be re-added to the database if the hash gets found again.

Whitelist/Blacklist

The Reputation Whitelist/Blacklist is a list of reputation hashes that are known to be false detections or known to be malicious. You can add or delete specific hashes from the Whitelist/Blacklist, or you can export and import the entire list.

For more information, see Managing whitelist or blacklist data on page 31.

Integration with other Tanium products

Reputation has built in integration with other Tanium products for additional reporting of related data.

Connect

You can use Tanium Reputation as a connection source or destination in Connect. For more information, see Send data to Connect destinations on page 33 and Exporting connect data on page 33.

Threat Response

You can use configure Tanium Threat Response to search for specific data from Tanium Reputation. For more information, see Tanium Threat Response: Set up the reputation service.

Trends

Reputation features Trends boards that provide data visualization of Reputation concepts.

The **Reputation** board displays how much data is sent to reputation providers, and usage metrics within Reputation. The following sections and panels are in the **Reputation** board:

- Resource Usage
  - Outbound items
  - Outbound processing queue
  - Outbound API requests

    - Successful outbound API requests
    - Failed outbound API requests
    - Reputation database size
- Service Usage
    - Inbound items
    - Total items
    - Purged items
    - Items in Whitelist/Blacklist
    - Whitelist/Blacklist Items in environment

For more information about how to import the Trends boards that are provided by Reputation, see Send data to Trends boards on page 36 and Tanium Trends User Guide: Importing the initial gallery.

Getting started

Step 1: Install and configure Reputation

Install and configure Tanium Reputation.

For more information, see Installing Reputation on page 20.

Step 2: Enable Reputation sources

Configure and enable Reputation sources.

For more information, see Configuring connect sources on page 24.

Step 3: Manage the Whitelist/Blacklist

Manage the Reputation Whitelist/Blacklist.

For more information, see Managing whitelist or blacklist data on page 31.

Step 4: Export data

Export Reputation data.

For more information, see Exporting connect data on page 33.

Reputation requirements

Review the requirements before you install and use Reputation.

Tanium dependencies

Make sure that your environment meets the following requirements.

Component	Requirement
Tanium™ Core Platform	7.2 or later.
Tanium™ Client	No client requirements.
Tanium Connect	If you selected **Install with Recommended Configurations** when you installed Reputation, the Tanium Server automatically installed all your licensed modules at the same time. Otherwise, you must manually install the modules that Reputation requires to function, as described under Tanium Console User Guide: Manage Tanium modules. The following modules are optional, but Reputation requires the specified minimum versions to work with them: • Tanium Connect 4.11 or later • Tanium™ Incident Response for hash data • Tanium Threat Response 1.4 or later • Tanium Trends 2.4 or later

Tanium™ Module Server

Reputation is installed and runs as a service on the Module Server host computer. The impact on the Module Server is minimal and depends on usage.

Endpoints

Reputation does not deploy packages to endpoints. For Tanium Client operating system support, see Tanium Client User Guide: Host system requirements.

Third-party software

With Reputation, you can integrate with several different kinds of third-party software. If no specific version is listed, there are no version requirements for that software.

- Palo Alto Networks WildFire
- Recorded Future
- ReversingLabs A1000
- ReversingLabs TitaniumCloud
- VirusTotal

Host and network security requirements

Specific ports and processes are needed to run Reputation.

Ports

The following ports are required for Reputation communication.

Source	Destination	Port	Protocol	Purpose
Module Server	Module Server (loopback)	17455	TCP	Internal purposes; not externally accessible

Best Practice: Configure firewall policies to open ports for Tanium traffic with TCP-based rules instead of application identity-based rules. For example, on a Palo Alto Networks firewall, configure the rules with service objects or service groups instead of application objects or application groups.

Security exclusions

If security software is in use in the environment to monitor and block unknown host system processes, your security administrator must create exclusions to allow the Tanium processes to run without interference. For a list of all security exclusions to define across Tanium, see Tanium Core Platform Deployment Reference Guide: Host system security exclusions.

Table 1: Reputation security exclusions

Target device	Notes	Process
Module Server		`<Module Server>\services\reputation-service\node.exe`

Internet URLs

If security software is deployed in the environment to monitor and block unknown URLS, your security administrator might need to allow the following URLs.

- recordedfuture.com
- reversinglabs.com
- virustotal.com
- wildfire.paloaltonetworks.com

User role requirements

Table 2: Reputation user role permissions

Permission	Reputation Administrator	Reputation Operator	Reputation Service Account
Show Reputation[1,3] View the Reputation workbench	✓[2]	✓	✗
Reputation Provider Read Read access to the provider configurations	✗	✓[2]	✗
Reputation Provider Write Write access to the provider configurations	✗	✓	✗
Reputation Read[1] Read access to the Reputation shared service	✓[2]	✓[2]	✗

Permission	Reputation Administrator	Reputation Operator	Reputation Service Account
Reputation Write[1] Write access to the Reputation shared service	✓[2]	✓	✗
Reputation Whitelist Blacklist Read[3] Read access to the Reputation whitelist/blacklist data	✓[2]	✓[2]	✗
Reputation Whitelist Blacklist Write[3] Write access to the Reputation whitelist/blacklist data	✓[2]	✓	✗
Reputation Administrator Administrative access to the Reputation shared service	✓	✗	✗
Reputation Service Account Access to module service accounts to read and write data	✗	✗	✓
Connect Plugin Management[4] Access to manage Connect plugins	✗	✗	✓
Trends Integration Service Account[5] Access for module service accounts to read and write data, and to define sources and boards	✗	✗	✓

Permission	Reputation Administrator	Reputation Operator	Reputation Service Account
Trends Api Board Read[5] View boards, sections, and panels for specified content sets	✓	✓	✓[2]
Trends Api Board Write[5] Create, edit, delete, and configure boards, sections, and panels for specified content sets	✓	✓	✓[2]
Trends Api Source Read[5] View and list sources for specified content sets	✓	✓	✓[2]
Trends Api Source Write[5] Create, edit, and delete sources for specified content sets	✓	✓	✓[2]
Trends Data Read[5] Run data queries against sources	✓	✓	✓[2]

Permission	Reputation Administrator	Reputation Operator	Reputation Service Account
Trends Import[5] Import from file or gallery **Note:** Does not grant access to create new or custom boards and sources	✗	✗	✓[2]

[1] If you need access to only the **Malicious Reputations** page, you can add the **Show Reputation** and **Reputation Read** or **Reputation Write** permissions to your user.

[2] Denotes a provided permission.

[3] If you need access to only the **Whitelist/Blacklist** page, you can add the **Show Reputation** and **Reputation Read** or **Reputation Write** permissions to your user.

[4] Denotes a permission when Connect 4.11 or later is installed.

[5] Denotes a permission when Trends 2.4 or later is installed.

Table 3: Provided Reputation Advanced user role permissions

Permission	Content Set for Permission	Reputation Administrator	Reputation Operator	Reputation Service Account
Execute Plugin	Reputation	✓	✓	✓
Execute Plugin	Connect[1]	✗	✗	✓
Execute Plugin	Trends[2]	✓	✓	✓

[1] Denotes a provided permission when Connect 4.12 or later is installed.

[2] Denotes a provided permission when Trends 3.0 or later is installed.

For more information and descriptions of content sets and permissions, see Tanium Core Platform User Guide: Users and user groups.

Installing Reputation

Use the **Tanium Solutions** page to install Reputation and choose either automatic or manual configuration:

- **Automatic configuration with default settings** (Tanium Core Platform 7.4.2 or later only): Reputation is installed with any required dependencies and other selected products. After installation, the Tanium Server automatically configures the recommended default settings. This option is the best practice for most deployments. For more information about the automatic configuration for Reputation, see Import and configure Reputation with default settings on page 20.
- **Manual configuration with custom settings**: After installing Reputation, you must manually configure required settings. Select this option only if Reputation requires settings that differ from the recommended default settings. For more information, see Import and configure Reputation with custom settings on page 21.

Before you begin

- Read the release notes.
- Review the Reputation requirements on page 14.
- If you have Tanium Connect 4.10 or earlier installed, you must first either uninstall Connect or upgrade to Connect 4.11 or later. For more information, see Tanium Connect User Guide: Uninstall Connect or Tanium Connect User Guide: Upgrade Connect.

Import and configure Reputation with default settings

When you import Reputation with automatic configuration, the Reputation service account is set to the account that you used to import the module.

To import Reputation and configure default settings, be sure to select the **Apply Tanium recommended configurations** check box while performing the steps in Tanium Console User Guide: Manage Tanium modules. After the import, verify that the correct version is installed: see Verify Reputation version on page 22.

Import and configure Reputation with custom settings

To import Reputation without automatically configuring default settings, be sure to clear the **Apply Tanium recommended configurations** check box while performing the steps in Tanium Console User Guide: Manage Tanium modules. After the import, verify that the correct version is installed: see Verify Reputation version on page 22.

Configure service account

The service account is a user that runs several background processes for Reputation. This user requires the following roles and access:

- **Reputation Service Account** role
- (Optional) **Connect User** role to send Reputation data to Tanium Connect

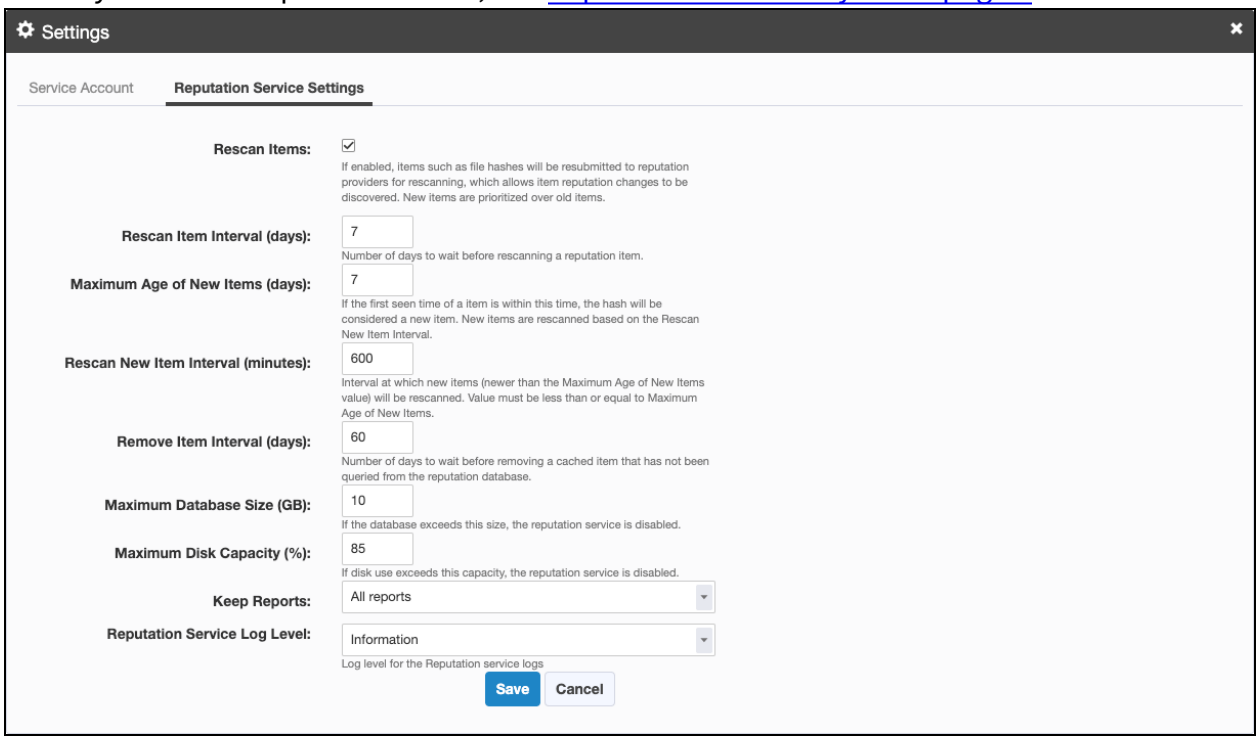
For more information about Reputation permissions, see User role requirements on page 16.

1. From the Main menu, click **Reputation** to open the Reputation **Home** page.
2. Click Settings ⚙ and open the **Service Account** tab.
3. Update the service account settings and click **Save**.

Configure reputation service settings

Reputation service settings determine the contents of the reputation database. These settings determine how often reputation items are scanned in the reputation source, how long to consider items as new, and how long to keep items in the database if their reputation status has not been referenced. For more information about these settings and

how they affect the reputation items, see Reputation item life cycle on page 8.



To update these settings, click Settings and then click **Reputation Service Settings**.

The **Keep Reports** setting determines whether you want the full reports from the reputation source to be kept in the reputation database. You can choose to keep all reports, or only malicious and suspicious reports. Selecting only malicious and suspicious reports saves space in the database. If you are using VirusTotal as a connection source, use the keep all reports option to get the enhanced reporting information.

Upgrade Reputation

For the steps to upgrade Reputation, see Tanium Console User Guide: Manage Tanium modules. After the upgrade, verify that the correct version is installed: see Verify Reputation version on page 22.

Verify Reputation version

After you import or upgrade Reputation, verify that the correct version is installed:

1. Refresh your browser.
2. From the Main menu, go to **Administration > Shared Services > Reputation** to open the Reputation **Overview** page.
3. To display version information, click Info .

What to do next

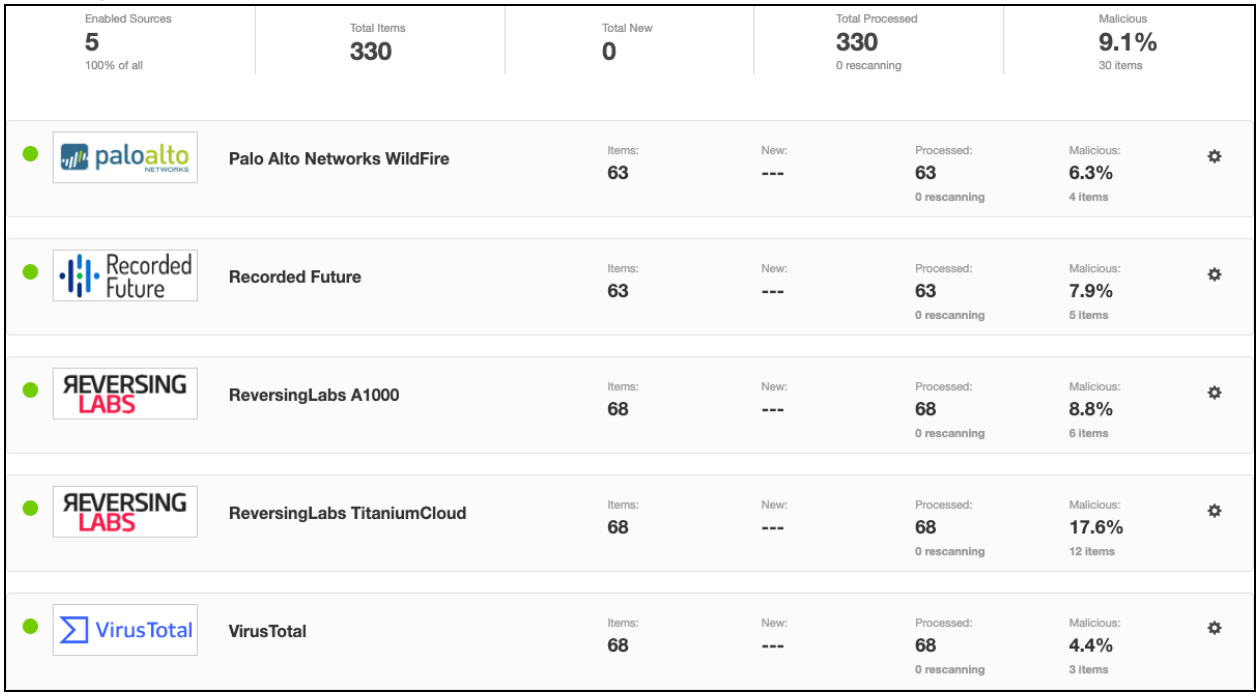
See Getting started on page 13 for more information about using Reputation.

Configuring connect sources

Reputation is a service that queries reputation providers for threat intelligence about given file hashes. You can configure one or more reputation sources to build a repository of reputation data.

View reputation scan status

The Reputation **Home** page displays the total number of reputation items, and the following information about each reputation source:



- **Items**: total number of reputation items on this reputation source
- **New**: reputation items that still need to be scanned on this reputation source
- **Processed**: reputation items that have been scanned on this reputation source
- **Malicious**: percentage of items out of total reputation items that are malicious

Configure Palo Alto Networks WildFire reputation source

You can use Palo Alto Networks firewall security policies to capture suspicious files and forward them to the WildFire system for threat analysis. If the file is malware, the status is reported back to the firewall.

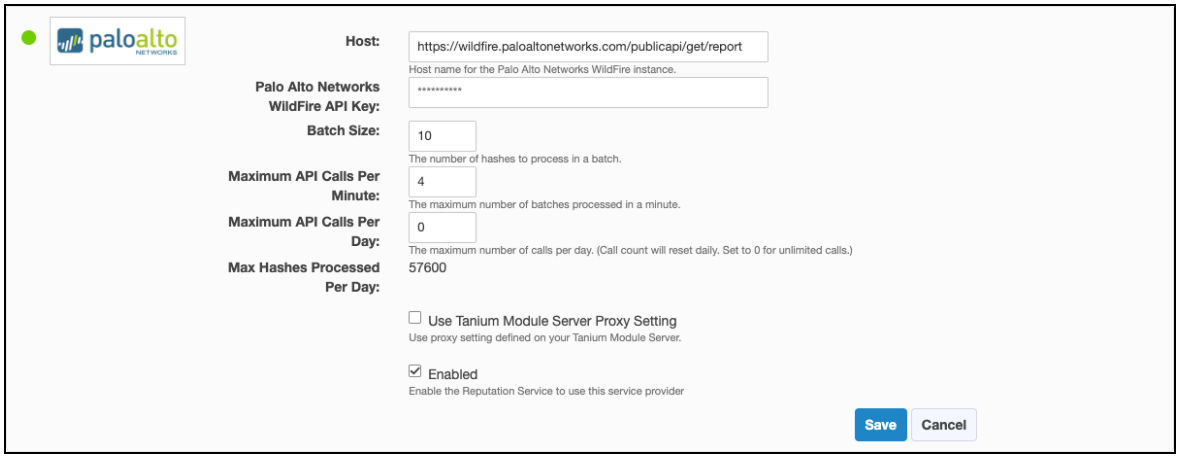
After the WildFire analysis is completed, the reputation service can query the results and update the reputation data.

Prerequisites

- A subscription to Cloud WildFire (wildfire.paloaltonetworks.com) or a configured WF-500 WildFire appliance.
- Palo Alto Networks Firewall with or without Panorama.

Configure settings

1. From the Reputation **Home** page, click Settings ⚙ in the Palo Alto Networks WildFire section.



2. Specify settings, including the host of your WildFire instance and the API key.
3. Adjust the settings for **Batch Size**, **Maximum Calls Per Minute**, and **Maximum Calls Per Day** according to your agreement with Palo Alto Networks. The **Max Hashes Processed Per Day** value is automatically calculated based on these configured settings.
4. Select **Enabled** to enable the reputation source and click **Save**.

Configure Recorded Future reputation source

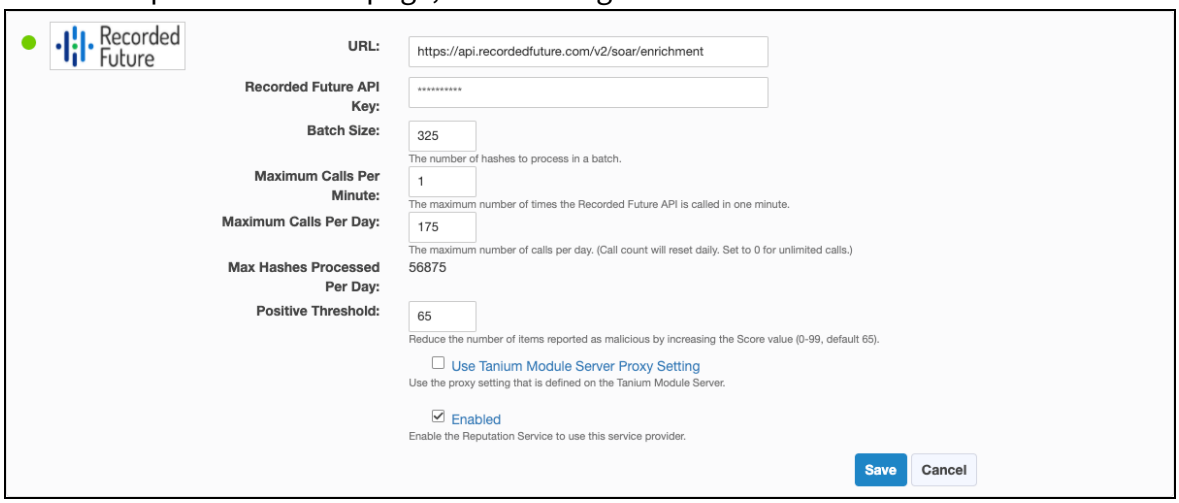
Recorded Future is a cloud-based reputation service provider. The reputation service sends reputation items to the Recorded Future API and returns the results to the reputation database.

Prerequisites

You must already have a Recorded Future API token. If you have not already registered for Recorded Future access, contact their sales team at recordedfuture.com.

Configure settings

1. From the Reputation **Home** page, click Settings ⚙ in the Recorded Future section.



2. Specify settings for Recorded Future, including the URL and API key.
3. Adjust the settings for **Batch Size**, **Maximum Calls Per Minute**, and **Maximum Calls Per Day** according to your agreement with Recorded Future. The **Max Hashes Processed Per Day** value is automatically calculated based on these configured settings.
4. Adjust the **Positive Threshold**, which is the risk score as determined by Recorded Future. The default value is `65`, which means that any hash that has a Recorded Future risk score of 65 or higher is considered malicious by Reputation.

   Recorded Future risk scores are determined as follows:
   - Very Malicious: risk score of 90-99
   - Malicious: risk score of 65-89
   - Suspicious: risk score of 25-64
   - Unusual: risk score of 5-24
   - No current evidence of risk: risk score of zero

   > **Tip:** Setting **Positive Threshold** to `0` results in the maximum number of reports for malicious items. Setting **Threat Level** to `99` results in the fewest number of reports for malicious items.

5. Select **Enabled** to enable the reputation source and click **Save**.

Configure ReversingLabs A1000 reputation source

ReversingLabs is an application that companies can install locally to analyze files and provide reputation results through API requests or a web interface.

Prerequisites

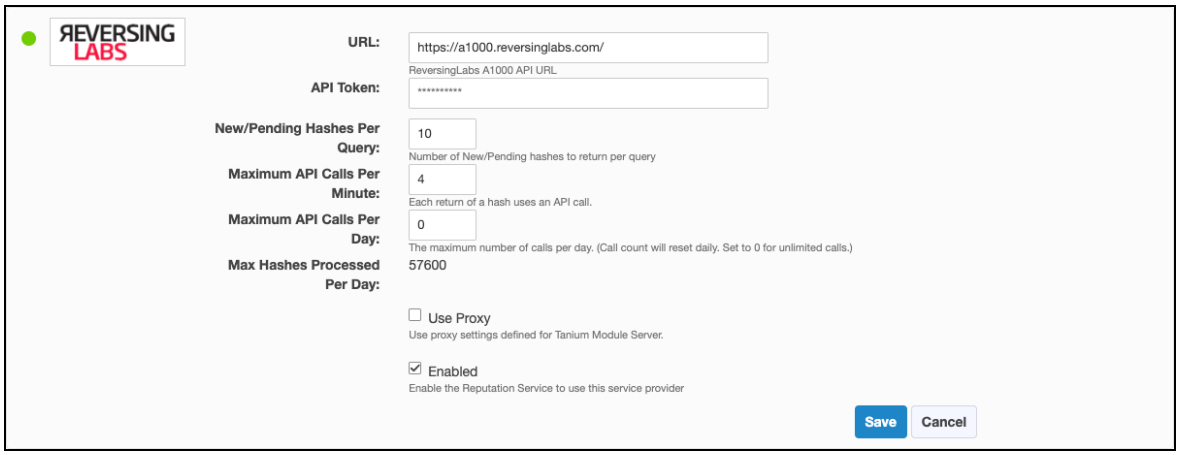
You must already have a ReversingLabs API token. If you have not already registered for ReversingLabs access, contact their sales team at reversinglabs.com.

To get an API key:

1. Sign into ReversingLabs.
2. Click the User Profile icon.
3. Select **Administration**.
4. Click **Tokens**.

Configure settings

1. From the Reputation **Home** page, click Settings ⚙ in the ReversingLabs A1000 section.



2. Add your ReversingLabs A1000 credentials: the **URL** for your API access and your **API Token**.
3. Adjust the settings for **New/Pending Hashes Per Query**, **Maximum API Calls Per Minute**, and **Maximum API Calls Per Day** according to your API agreement with ReversingLabs and your network requirements. The **Max Hashes Processed Per Day** value is automatically calculated based on these configured settings.
4. Select **Enabled** to enable the reputation source and click **Save**.

Configure ReversingLabs TitaniumCloud reputation source

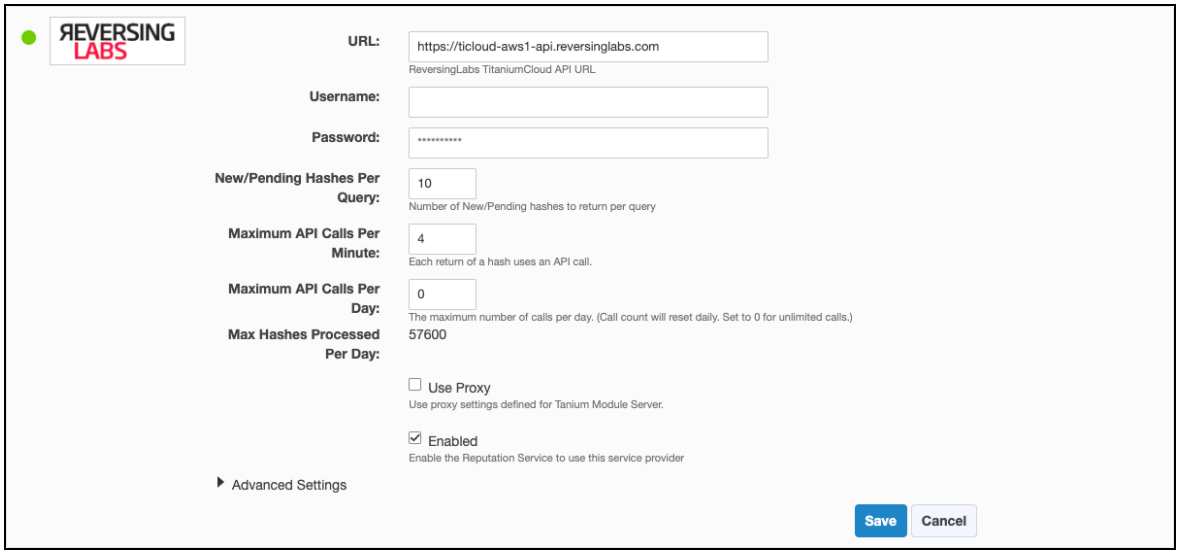
ReversingLabs TitaniumCloud is an online service that analyzes files, hashes, and URLs to identify viruses, worms, trojans, and other kinds of malicious content that is detected by antivirus engines and website scanners. The reputation service sends reputation items to the ReversingLabs API and returns the results to the reputation database.

Prerequisites

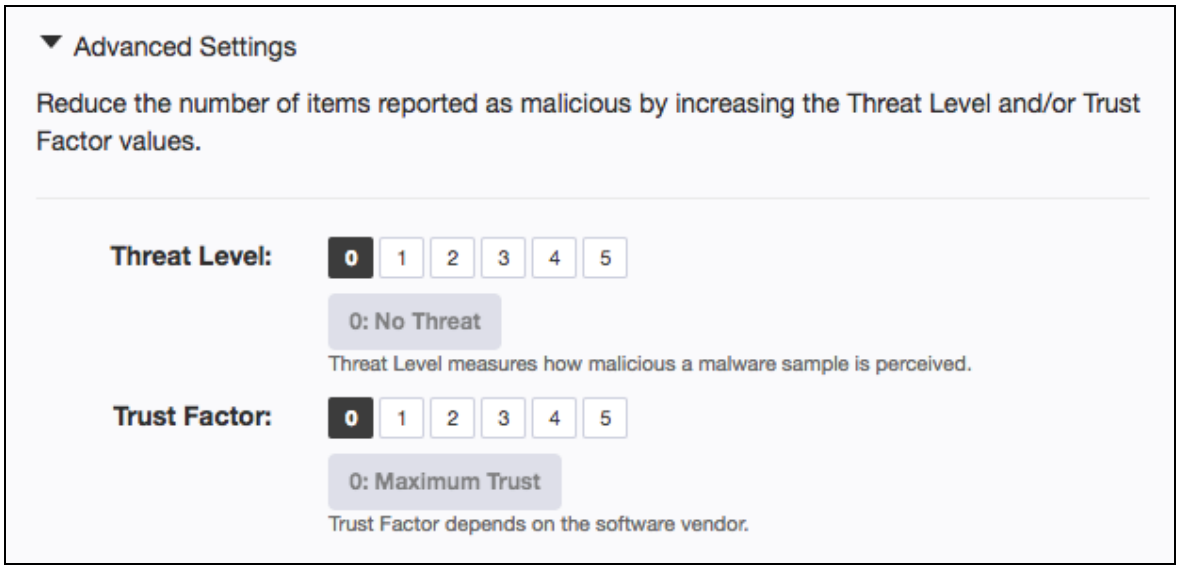
You must already have a ReversingLabs TitaniumCloud account. If you have not already registered for ReversingLabs TitaniumCloud access, contact their sales team at reversinglabs.com.

Configure settings

1. From the Reputation **Home** page, click Settings ⚙ in the ReversingLabs TitaniumCloud section.



2. Add your ReversingLabs TitaniumCloud credentials: the **URL** for your API access, your **Username**, and your **Password**.
3. Adjust the settings for **New/Pending Hashes Per Query**, **Maximum API Calls Per Minute**, and **Maximum API Calls Per Day** according to your API agreement with ReversingLabs and your network requirements. The **Max Hashes Processed Per Day** value is automatically calculated based on these configured settings.
4. To reduce the number of items reported as malicious, expand **Advanced Settings** and adjust the settings for **Threat Level** and **Trust Factor**.



> **Tip:** Setting **Threat Level** to `0` and **Trust Factor** to `0` results in the maximum number of reports for malicious items. Setting **Threat Level** to `5` and **Trust Factor** to `5` results in the fewest number of reports for malicious items.

5. Select **Enabled** to enable the reputation source and click **Save**.

Configure VirusTotal reputation source

VirusTotal is an online service that analyzes files, hashes, and URLs to identify viruses, worms, trojans, and other kinds of malicious content that is detected by antivirus engines and website scanners. The reputation service sends reputation items to the VirusTotal API and returns the results to the reputation database.

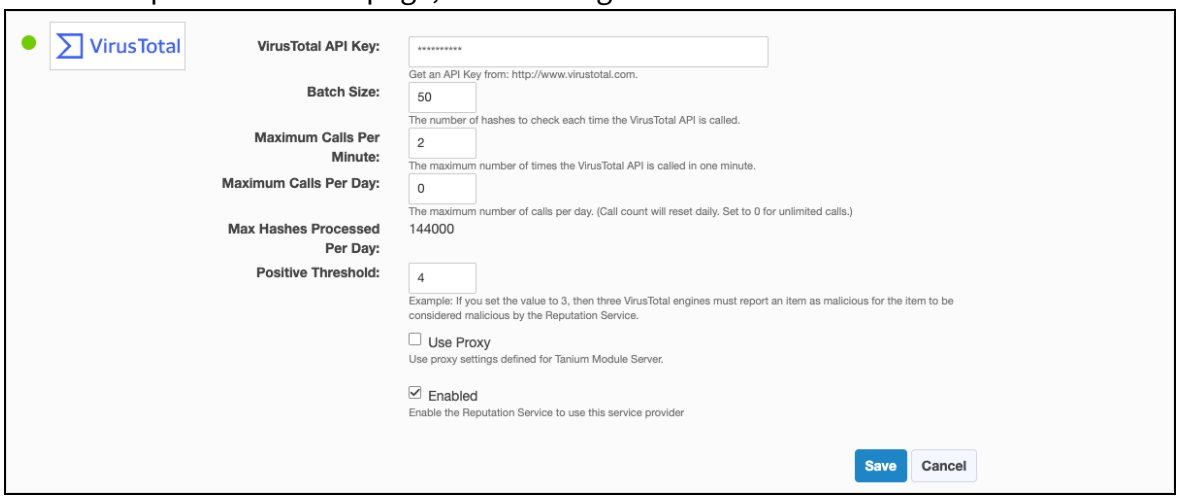
Prerequisites

Register for a VirusTotal API key at virustotal.com. VirusTotal makes their catalog available for query with an API key. Refer to the VirusTotal API use policy to determine which type of API key is appropriate.

To get the API key on the VirusTotal website, sign in and click ***your_user_image*** **> Settings > API Key**.

Configure settings

1. From the Reputation **Home** page, click Settings ⚙ in the VirusTotal section.



2. Specify settings for VirusTotal, including the API key.
3. Adjust the settings for **Batch Size**, **Maximum Calls Per Minute**, and **Maximum Calls Per Day** according to your agreement with VirusTotal. The **Max Hashes Processed Per Day** value is automatically calculated based on these configured settings.
4. Adjust the **Positive Threshold**, which is a number of positive reports that must be on the hash to be considered a potential threat or malware.

   > **Tip:** The likelihood that VirusTotal reports might include false positive indicators is higher when the value is set lower.

   Example: If you set the value to `3`, then three VirusTotal engines must report an item as malicious for the item to be sent to Connect.

   Setting the value to `0` disables the threshold. If any VirusTotal engine reports that item as malicious, the item is sent to Reputation.

   Reputation results for VirusTotal are determined as follows:

   - Malicious: if the number of positives is greater than the threshold
   - Suspicious: if the number of positives is greater than zero, but less than the threshold
   - Non-malicious: if the number of positives is zero
   - Unknown: if there is no data

5. Select **Enabled** to enable the reputation source and click **Save**.

Managing whitelist or blacklist data

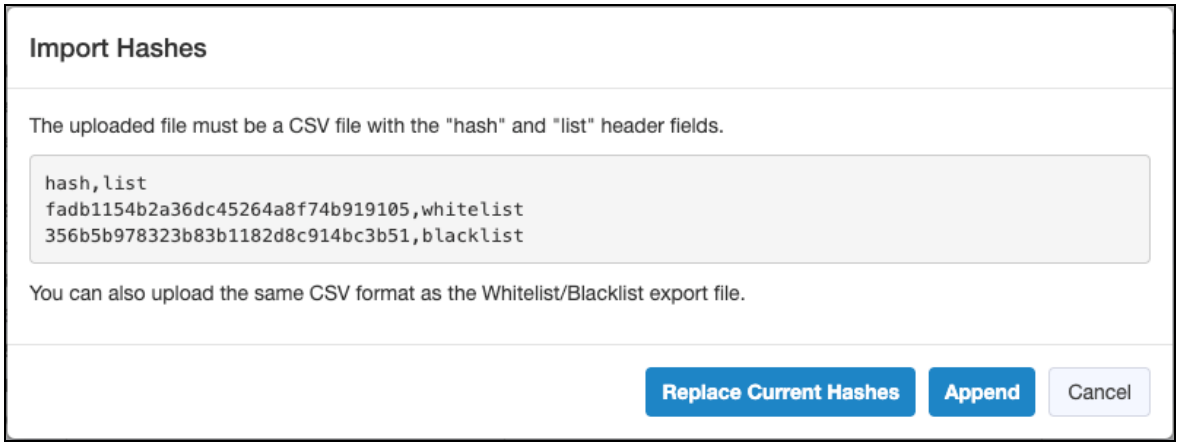
To view a list of hashes that have been whitelisted or blacklisted, click **Whitelist/Blacklist** from the Reputation **Home** page. You can also search for file hashes and add, import, export, or delete reputation data hashes.

Add data hashes

1. From the Reputation **Home** page, click **Whitelist/Blacklist** and then click **Add Hashes**.
2. To add hashes that are known to be malicious to the blacklist, enter a hash, select **blacklist**, and click **Save to Blacklist**.
3. To add hashes that are known to be false detections to the whitelist, enter a hash, select **whitelist**, and click **Save to Whitelist**.

Import hashes

1. From the Reputation **Home** page, click **Whitelist/Blacklist** and then click **Import Hashes**.



2. To replace the current hashes, click **Replace Current Hashes** and select your file in CSV format or a previously exported Whitelist/Blacklist file.
3. To append to the current hashes, click **Append** and select your file in CSV format or a previously exported Whitelist/Blacklist file.

Note: Reputation automatically handles consolidating duplicate records by learning from service providers when different types of hashes represent the same file.

If you want to manually consolidate hashes, you can export the existing Whitelist/Blacklist file, edit the file to add hashes in the appropriate columns for a specific row, and then import the updated file using the **Replace Current Hashes** option.

Export hashes

1. From the Reputation **Home** page, click **Whitelist/Blacklist**.
2. To export specific hashes, select one or more hashes and click Export.
3. To export all hashes, click **Download All**.

Edit notes

1. From the Reputation **Home** page, click **Whitelist/Blacklist**.
2. Select a hash and click **Edit Note**.

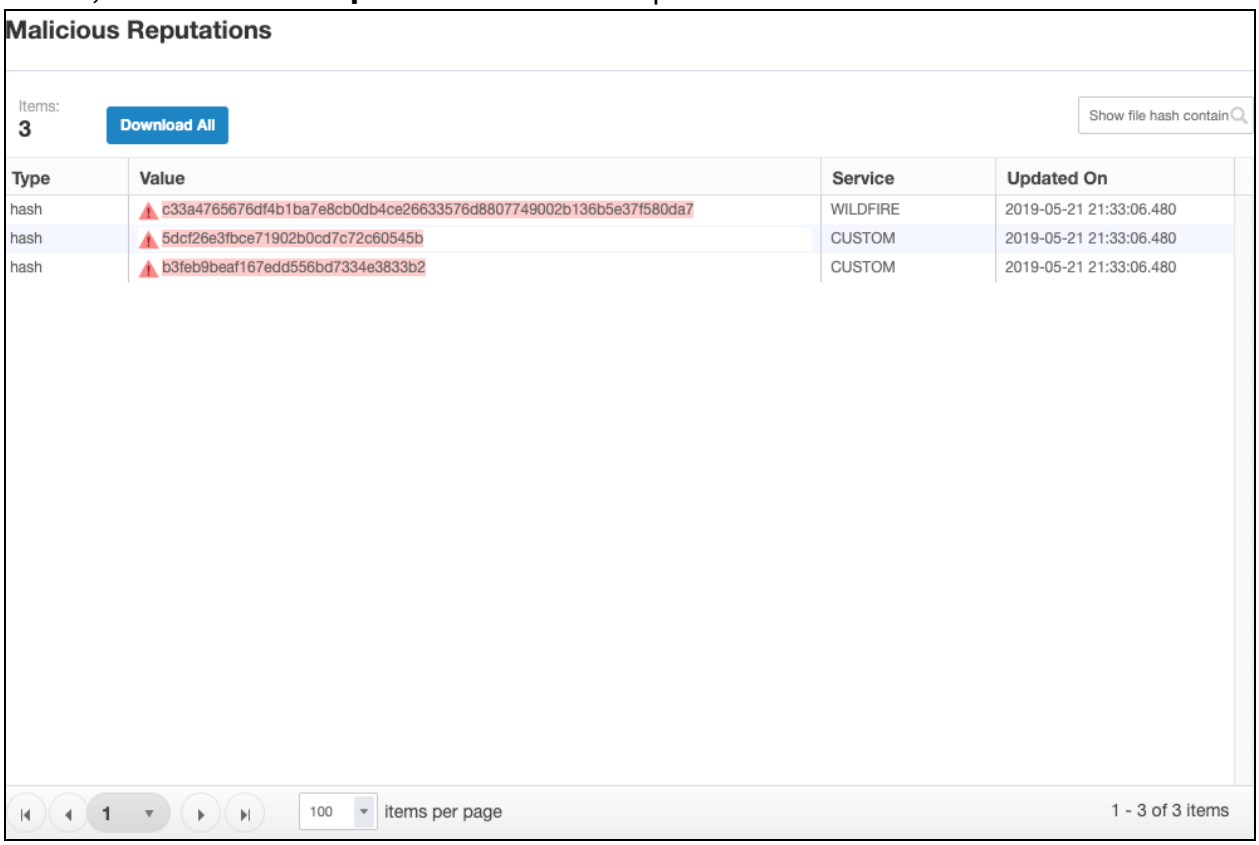
Delete hashes

1. From the Reputation **Home** page, click **Whitelist/Blacklist**.
2. To delete specific hashes, select one or more hashes and click Delete.
3. To delete all hashes, click **Delete All**.

Exporting connect data

View reputation data

To view a list of the malicious hashes that Reputation has pulled from the reputation services, click **Malicious Reputations** from the Reputation menu.



Only hashes with a malicious or pending status are listed.

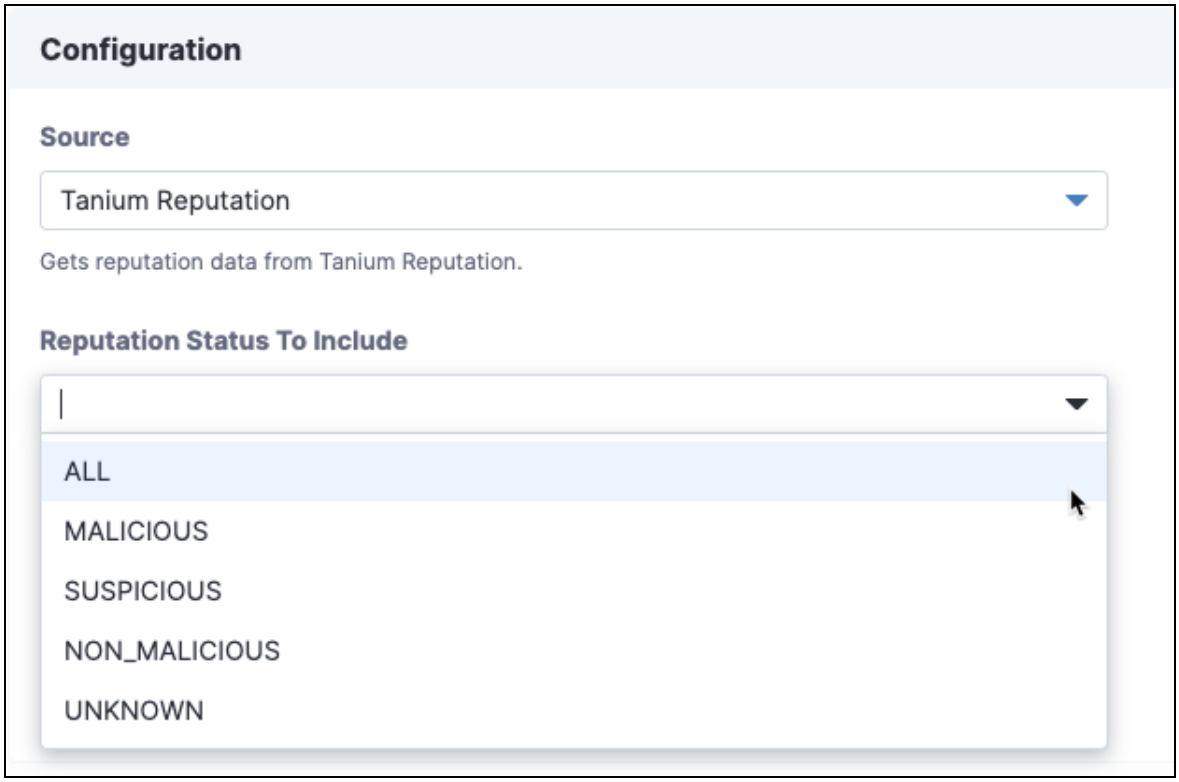
In Trace, you can view the ratings on hashes for Live Endpoints or Snapshots. For more information, see Tanium Trace User Guide: How reputation data works with Trace.

Send data to Connect destinations

You can use Connect 4.11 or later to create a connection to send the data that is in the reputation database to any Connect destination. For example, you might configure a connection to create an email notification when a malicious item is found.

1. From the Connect **Overview** page, click **Create Connection**.
2. Specify a name and description.

3. For the source, select **Tanium Reputation**.



   You can also select the reputation status to include.
4. Configure the destination settings for the connection.

> **Note:** The first run of a connection that uses **Tanium Reputation** as a source retrieves all available reputation items. Subsequent runs of that connection retrieve only the reputation changes since the last time the connection ran.

For more information, see Tanium Connect User Guide: Managing connections.

Send data to the reputation service

If you want to pre-populate reputation data with hashes from your environment, you can send data to the reputation service as a connection destination. When this content is pre-populated, the reputation service can start querying about the status of the items from the reputation sources.

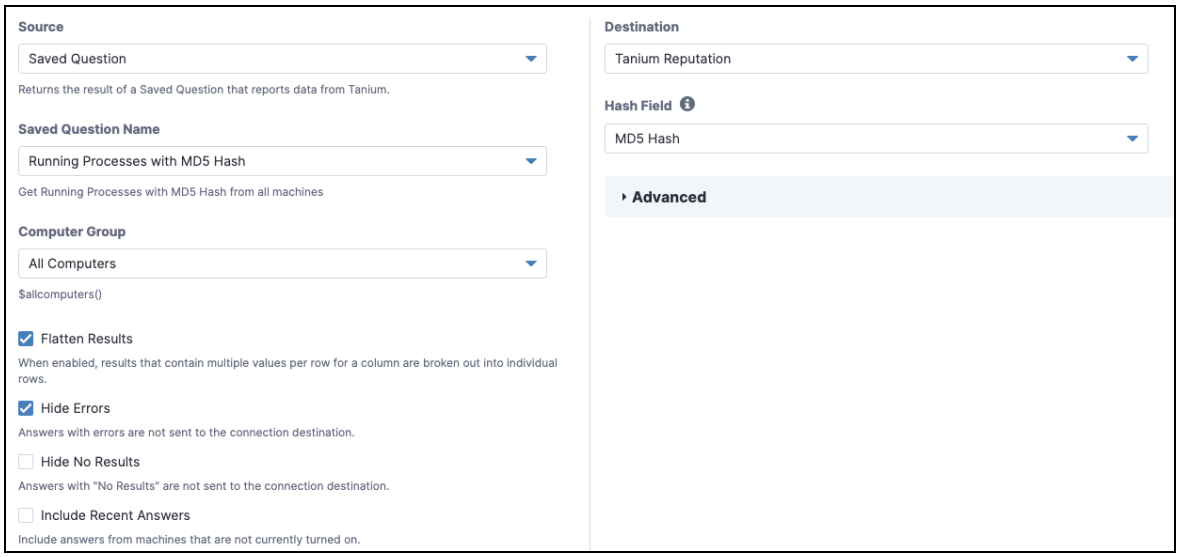
1. From the Connect **Overview** page, click **Create Connection**.
2. Specify a name and description.

3. For the source, choose a saved question that returns a hash, such as **Running Processes with MD5 Hash**.

   You can use the following settings for saved questions:

Setting	Description
Flatten Results	You might want to enable the **Flatten Results** setting to process results as individual records. For example, you might want to get notified when you see a new MD5 hash on a machine. Without the **Flatten Results** setting enabled, the entire data set that is retrieved by the saved question from a machine, such as all MD5 hashes, is considered to be a single record. Any change that is made to this data set shows up in the destination. By enabling the **Flatten Results** setting, Connect processes the new hashes on an individual basis (one MD5 hash from one machine) instead of all hashes from a machine as a single record.
Hide Errors	If the saved question returns an error, you can use the **Hide Errors** setting to prevent the error results from getting sent to the destination.
Hide No Results	If the saved question returns `[No results]`, you can use the **Hide No Results** setting to prevent this result from being sent to the destination.
Include Recent Results	If you want to include results from machines that are offline, select **Include Recent Results**, which returns the most recent answer to the saved question for the offline endpoint.
Answer Complete Percent	Results are returned when the saved question returns the configured complete percent value. Any results that come in after the configured percent value has passed are not sent to the destination. If you are finding that the data returned from the saved question is incomplete in your destination, you can disable this setting by setting it to 0. If disabled, all data is returned after the timeout passes.
Timeout	Minutes to wait for clients to reply before returning processed results when **Answer Complete Percent** is set to 0. If the **Answer Complete Percent** value is not met at the end of the time limit, then the connection run is marked as a failure.
Batchsize	Number of rows that are returned for the saved question results at one time. This setting might vary depending on your destination.

4. For the destination, choose **Tanium Reputation** and select the appropriate hash type for the **Hash Field**.

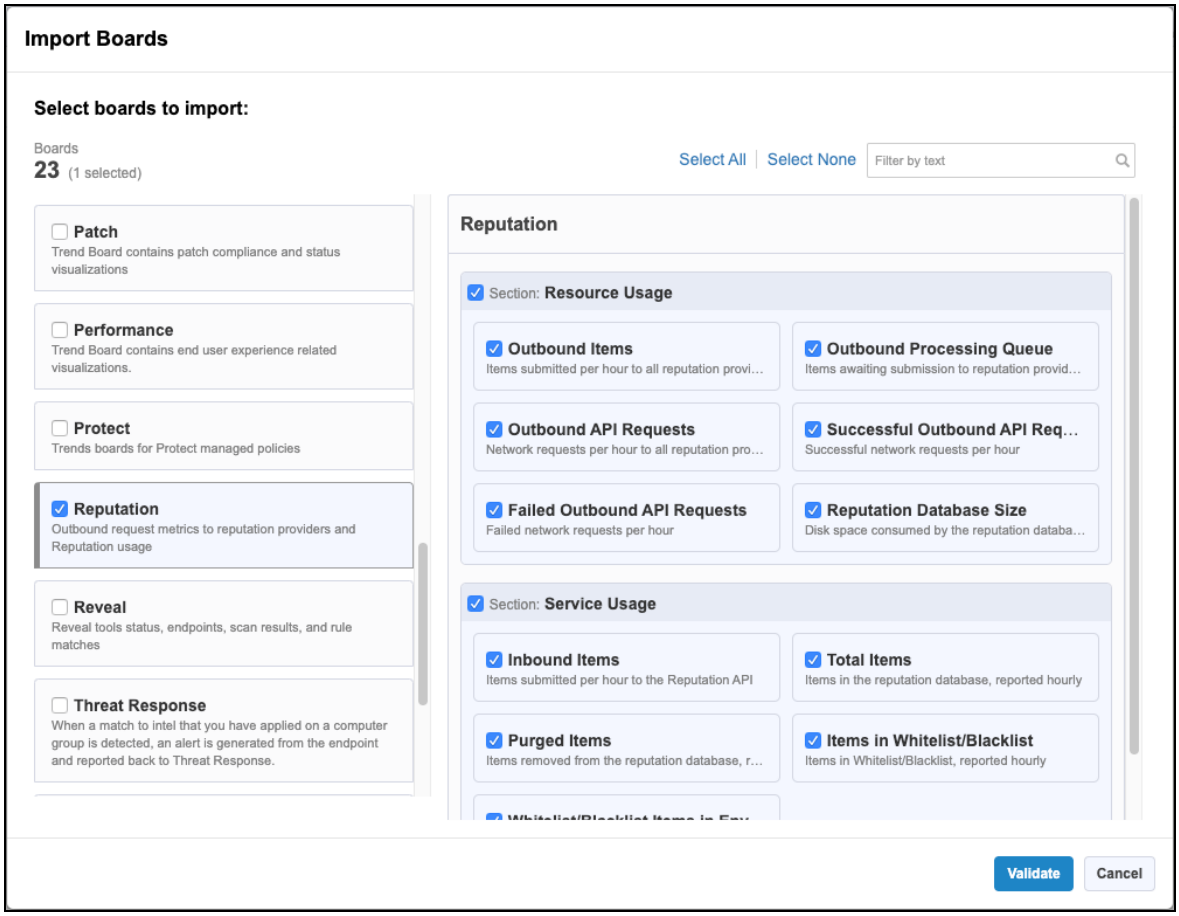


IMPORTANT: Each reputation service connection destination is configured for a specific hash column name. You must use a separate destination for each hash type that you are populating. For example, if you are populating both MD5 and SHA1 hashes from different saved questions, create two connection destinations with different values for the **Hash Field** field.

Send data to Trends boards

You can use Trends 2.4 or later to import a board that contains different panels of reputation metrics.

1. From the Trends menu, click **Boards** and then click **Import > Gallery**.
2. Select **Reputation** and then select which sections or panels you want to import.



   By default, everything is selected.
3. Click **Validate**.

   > **Note:** If you see a warning about missing content sets, select **Reputation**.

4. Click **Import**.

For more information, see Tanium Trends User Guide: Importing the initial gallery.

Troubleshooting Reputation

To collect and send information to Tanium for troubleshooting, collect logs and other relevant information.

Collect logs

The information is saved as a ZIP file that you can download with your browser.

1. From the Reputation **Home** page, click Help, then the **Troubleshooting** tab.
2. Click **Download**.
   A `reputation-support.[timestamp].zip` file downloads to the local download directory.
3. Contact Tanium Support to determine the best option to send the ZIP file. For more information, see Contact Tanium Support on page 39.

Tanium Reputation maintains logging information in the `reputation-service.log` file in the `<Module Server>services\reputation-service` directory.

Check the Trends metrics for potential problems

1. From the Trends menu, click **Boards** and then click **Reputation**.
2. If the **Failed Outbound API Requests** panel displays failures, verify that your reputation sources are configured correctly.
3. If data shows up faster in the **Inbound Items** panel than it does in the **Outbound Items** panel and the **Outbound Processing Queue** panel is consistently high, configure your reputation sources to send fewer hashes.

Uninstall Reputation

The basic Reputation shared service uninstallation is designed so that the data you have collected is restored if you later decide to reinstall Reputation. In some cases, you might want to start "clean" and not restore the data. To do this, you must manually remove some files.

IMPORTANT: Consult with your TAM before you uninstall or reinstall Reputation.

Uninstall Reputation so data is restored on reinstall

1. Sign into the Tanium Console as a user with the Administrator role.
2. From the Main menu, click **Tanium Solutions**.
3. In the **Tanium Solutions** section, select the **Reputation** row and click **Uninstall Solution**.
4. Review the summary and click **Proceed with Uninstall**.
5. When prompted to confirm, enter your password.

If you later import the Reputation shared service, the previous data is restored.

Uninstall Reputation so you start fresh when you reinstall

1. Uninstall Reputation so data is restored on reinstall on page 39.
2. Manually delete the `<Module Server>\services\reputation-files\` directory.

Deleting the `reputation-files` directory removes all existing Reputation data. All logs, output, the Reputation database, and any other Reputation data is deleted. If you later import the Reputation shared service, the previous data is not restored.

Contact Tanium Support

To contact Tanium Support for help, send an email to support@tanium.com.