



## Red Hat Insights 2023

# Using Cloud Connector to remediate issues across your Red Hat Satellite infrastructure

A guide to remediating RHEL system issues throughout your Satellite infrastructure from the Red Hat Insights application



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## Abstract

This guide is for Red Hat Insights users who want to use Cloud Connector to remediate issues on RHEL systems managed by Red Hat Satellite. Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright's message.

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## Table of Contents

<b>CHAPTER 1. CLOUD CONNECTOR OVERVIEW</b> .....	<b>3</b>
<b>CHAPTER 2. CONFIGURATION OVERVIEW</b> .....	<b>4</b>
<b>CHAPTER 3. CONFIGURING YOUR SATELLITE INFRASTRUCTURE TO COMMUNICATE WITH INSIGHTS</b> .	<b>5</b>
3.1. UPLOADING YOUR HOST INVENTORY FROM SATELLITE TO INSIGHTS FOR RED HAT ENTERPRISE LINUX	5
3.2. INSTALLING THE INSIGHTS FOR RED HAT ENTERPRISE LINUX CLIENT ON HOSTS MANAGED BY SATELLITE	5
3.3. CONFIGURING CLOUD CONNECTOR ON SATELLITE SERVER	6
3.3.1. Configuring Cloud Connector after upgrading Satellite Server	7
3.4. CONFIGURING INSIGHTS RECOMMENDATIONS ON SATELLITE	7
<b>CHAPTER 4. REMEDIATING ISSUES ON RHEL SYSTEMS MANAGED BY SATELLITE</b> .....	<b>9</b>
4.1. USING INSIGHTS FOR RED HAT ENTERPRISE LINUX TO CREATE A REMEDIATIONS PLAYBOOK	9
4.2. EXECUTING THE REMEDIATIONS PLAYBOOK	9
4.3. USING RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX TO MONITOR REMEDIATION STATUS	10
<b>PROVIDING FEEDBACK ON RED HAT DOCUMENTATION</b> .....	<b>12</b>



## CHAPTER 1. CLOUD CONNECTOR OVERVIEW

Red Hat Insights analyzes Red Hat Enterprise Linux systems for configuration or security issues, recommends actions to remediate those issues, and enables you to create Ansible Playbooks to automate remediations.

If you use Red Hat Satellite to manage your systems, you can upload your host inventory from Satellite to [Red Hat Hybrid Cloud Console](#) so that Satellite can report issues on your Satellite-managed hosts. You can then create and run remediation playbooks to fix issues on hosts across multiple Satellite Servers directly from the Red Hat Hybrid Cloud Console.

## CHAPTER 2. CONFIGURATION OVERVIEW

To remediate issues across your Satellite infrastructure, you will configure your Satellite infrastructure to communicate with Insights for Red Hat Enterprise Linux, then start remediating issues in Insights. The following prerequisites are comprehensive for Satellite configuration and Insights remediations:

### Prerequisites

- Remediations Cloud Connector requires a [Red Hat Smart Management](#) subscription.
- Satellite must be version 6.9 or later.
- You must have permissions to create and execute playbooks from the Red Hat Insights for Red Hat Enterprise Linux Remediations service.
- Import a Subscription Manifest into Satellite. Only hosts in organizations with a valid Red Hat certificate can be connected to [Red Hat Hybrid Cloud Console](#). For more information, see [Importing a Subscription Manifest into Satellite Server](#) in the Red Hat Satellite *Content Management Guide*.
- Register your hosts to Satellite using an activation key to attach Red Hat subscriptions. For more information, see [Registering Hosts](#) in the Red Hat Satellite *Managing Hosts* guide.
- Enable remote execution on your hosts so that Satellite can run remediation playbooks on them. For more information, see [Distributing SSH Keys for Remote Execution](#) in the Red Hat Satellite *Managing Hosts* guide.



## CHAPTER 3. CONFIGURING YOUR SATELLITE INFRASTRUCTURE TO COMMUNICATE WITH INSIGHTS

Before you can remediate issues in your Satellite infrastructure, you must connect your hosts to Insights for Red Hat Enterprise Linux and configure Cloud Connector on Satellite Server.

### 3.1. UPLOADING YOUR HOST INVENTORY FROM SATELLITE TO INSIGHTS FOR RED HAT ENTERPRISE LINUX

Use this procedure to upload your host inventory from Red Hat Satellite to Red Hat Insights for Red Hat Enterprise Linux.

#### Prerequisites

- Register your hosts to Satellite using an activation key to attach Red Hat subscriptions.

#### Procedure

1. On Satellite Server, enable the Inventory plug-in. Note that the **--foreman-proxy-plugin-remote-execution-ssh-install-key true** option installs an SSH key for the **root** user on Satellite Server, so that Satellite can use remote execution on itself. This allows all Satellite users with the **create\_job\_invocation** permission to run commands over SSH as **root** on Satellite Server. If required, you can generate and install this key manually instead of using this option.
  - On Satellite Server 6.9 and later, enter the following command:

```
# satellite-installer \  
--foreman-proxy-plugin-remote-execution-ssh-install-key
```

1. In the Satellite web UI, navigate to **Configure > Inventory Upload** and select your organization.
2. Click **Restart** to upload your host inventory to Red Hat Insights for Red Hat Enterprise Linux. Repeat this step for each organization from which you want to upload a host inventory.
3. Optional: Toggle the **Auto upload** switch to the **ON** position to enable Satellite to automatically upload your host inventory once a day. Toggle the **Obfuscate host names** switch to the **ON** position to hide host names that Satellite reports to Red Hat Cloud.  
**Auto upload** and **Obfuscate host names** are global settings. They affect hosts that belong to all organizations.

To verify that the upload was successful, log into <https://console.redhat.com/insights/inventory/> and search for your hosts.

### 3.2. INSTALLING THE INSIGHTS FOR RED HAT ENTERPRISE LINUX CLIENT ON HOSTS MANAGED BY SATELLITE

Use this procedure to install the Insights for Red Hat Enterprise Linux client on each of your hosts.

#### Prerequisites

- Register your hosts to Satellite using an activation key to attach Red Hat subscriptions.

## Procedure

1. Install the Insights for Red Hat Enterprise Linux client:

```
# yum install insights-client
```

2. Register the host to Insights for Red Hat Enterprise Linux:

```
# insights-client --register
```

Repeat these steps on each host.

Alternatively, you can use the **RedHatInsights.insights-client** Ansible role to install the Insights for Red Hat Enterprise Linux client and register the hosts. For more information, see [Using Red Hat Insights with Hosts in Satellite](#) in the Red Hat Satellite *Managing Hosts* guide.

## 3.3. CONFIGURING CLOUD CONNECTOR ON SATELLITE SERVER

Before you can run remediation playbooks on your Satellite infrastructure, you must install and configure the Cloud Connector on Satellite Server. Perform the following tasks to install, configure, and verify the configuration of Cloud Connector.

### Create the Cloud Connector configuration playbook

A Satellite administrator can install and configure the Cloud Connector by activating the **Configure Cloud Connector** button. This automatically creates the service user that the Cloud Connector will use to trigger remediation jobs on Satellite, then runs the Cloud Connector installation playbook using the service-user credentials.

### Enable Cloud Connector operation on Satellite

To ensure that the Cloud Connector operates, verify that **Automatic Inventory Upload** (Configure > Inventory Upload) and **Sync Automatically** (Configure > Insights) are turned **ON**.

### Verify Satellite and Insights communication

Apart from this, you need to perform both tasks manually to verify the system functions. Refer to the steps mentioned below:

- **By uploading the report:**Select the required organization from the inventory page, and click **Restart**. This step is asynchronous and it may take time to be processed by the cloud.
- **By syncing Insights information:**Select the three dots menu from the Insights page, and click **Sync Recommendations**.

### Enable Auto Sync and perform initial, manual sync

Click **Sync Inventory Status** and enable **Auto Sync** for the organization.



#### IMPORTANT

Make sure you need to sync manually for the first time before it starts.

It is normal that while syncing the inventory, you may get a notification indicating the number of hosts that are in disconnected status or not uploaded to your Hybrid Cloud Console inventory. At this stage, a user is required to re-sync the inventory. In some cases, the host processing at Hybrid Cloud Console

can take some time to remediate.

### Disable direct remediations on a host

By default the parameter is not set in the system. It is set to **True** for the hostgroup to allow the execution of playbooks by default on the Cloud Connector. Note that all the hosts that are present in that particular organization will inherit the same parameters.

When the Satellite receives the remediation playbook run request from Cloud Connector, that request will have a list of hosts where it should be executed. However, to ensure the playbook run does not get invoked from the cloud, set the **enable\_cloud\_remediations** parameter to **False** *at the host level*.

### Disable direct remediation on a hostgroup

By default the parameter is not set in the system. It is set to **True** for the hostgroup to allow the execution of playbooks by default on the Cloud Connector. Note that all the hosts that are present in that particular organization will inherit the same parameters.

Optionally, an Organization Administrator can disable the cloud remediations for the whole organization or hostgroup by setting the value of the **enable\_cloud\_remediations** parameter to **False**.

### Configure inventory uploads

1. In the Satellite web UI, navigate to **Configure > Inventory Upload**.
2. Click on the **Configure Cloud Connector** button.

### Verify successful configuration

To verify that the playbook was successful, log into <https://console.redhat.com/settings/sources> and search for your Satellite Server.

## 3.3.1. Configuring Cloud Connector after upgrading Satellite Server



#### NOTE

This only applies to upgrades from Satellite version 6.10 to 6.11. Refer to the [Upgrading and Updating Red Hat Satellite](#) guide for more information.


To configure Cloud Connector after upgrading the Satellite Server, click **Configure Cloud Connector** button from **Configure > RH Cloud - Inventory Upload** to enable it on the new version of Satellite Server. Simultaneously, you are required to remove the previous Source from the cloud manually on the Red Hat Hybrid Cloud Console after upgrading your Satellite Server.

Once the Cloud Connector is configured, it will remove the receptor bits and install the RHC bits. At the same time, the Cloud Connector announces all the organizations in the Satellite to the Source and is ready to receive the connections.

## 3.4. CONFIGURING INSIGHTS RECOMMENDATIONS ON SATELLITE

You can use Insights for Red Hat Enterprise Linux synchronization to provide Insights recommendations for Satellite-managed hosts. Use this procedure to configure Insights synchronization on Red Hat Satellite.

### Procedure

1. Navigate to **Configure > Insights** to synchronize Insights for Red Hat Enterprise Linux recommendations manually. Then click the **more options** icon  and choose **Sync recommendations**.
2. Optionally, toggle the **Synchronize Automatically** switch to the **ON** position to enable Satellite to download Insights recommendations from the Hybrid Cloud Console automatically, once a day.

You have now configured Red Hat Insights for Red Hat Enterprise Linux Synchronization on Satellite.

In the Satellite web UI, navigate to **Hosts > All Hosts** to see Insights for Red Hat Enterprise Linux recommendations for each Satellite-managed host.

## CHAPTER 4. REMEDIATING ISSUES ON RHEL SYSTEMS MANAGED BY SATELLITE

Use Insights for Red Hat Enterprise Linux to create a remediations playbook, and execute that playbook on your Satellite systems from the Insights UI.

### 4.1. USING INSIGHTS FOR RED HAT ENTERPRISE LINUX TO CREATE A REMEDIATIONS PLAYBOOK

You can use Insights for Red Hat Enterprise Linux to create an Ansible Playbook for system remediation across your Satellite infrastructure.

#### Prerequisites

- [Section 3.1, "Uploading your host inventory from Satellite to Insights for Red Hat Enterprise Linux"](#)

#### Procedure

1. Log in to your [Red Hat Hybrid Cloud Console](#) account and open Red Hat Insights for Red Hat Enterprise Linux.
2. Perform one of the following actions to see what fixes are available.
  - Click the [Red Hat Enterprise Linux > Advisor > Recommendation](#) tab to view a list of the recommended fixes.



#### NOTE

Verify that the selected remediation item has a green check mark in the **Ansible** column, which means you create an Ansible Playbook to remediate the issue.

- Click the [Red Hat Enterprise Linux > Vulnerability > CVE](#) tab to view a list of CVEs.
3. After selecting [Red Hat Enterprise Linux > Advisor > Recommendations](#) or [Red Hat Enterprise Linux > Vulnerability > CVEs](#), click on one of the listed remediation items. An **Affected systems** list appears that shows you which systems might need the remediation applied.
  4. From the list, click the check box to select the systems you want to remediate. When you select the systems, the Ansible **Remediate** button becomes active.
  5. Click the Ansible **Remediate** button to create an Ansible Playbook. You can choose to create a new playbook or modify an existing playbook.

### 4.2. EXECUTING THE REMEDIATIONS PLAYBOOK

You can execute an Ansible Playbook that you created to apply remediations to your Satellite managed systems.

**NOTE**

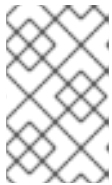
Only users who are assigned the **Remediations administrator** role can execute an Ansible Playbook. For information on how to manage and assign user roles, see the [User Access Configuration Guide for Role-based Access Control \(RBAC\)](#).

**Prerequisites**

- [Chapter 3, Configuring your Satellite infrastructure to communicate with Insights](#)
- [Section 4.1, “Using Insights for Red Hat Enterprise Linux to create a remediations playbook”](#)

**Procedure**

1. Navigate to **Red Hat Enterprise Linux > Red Hat Insights > Toolkit > Remediations**A list of available playbooks appears.
2. Click the name of the playbook that you want to execute. A summary window displays information about the actions in the playbook.
3. In the summary window you can switch states of the auto reboot. If it is enabled you can turn it off and if it is disabled you can turn it on.

**NOTE**

The selection to **Turn off auto reboot** applies to the playbook and not individual systems. If multiple systems use the playbook, the auto reboot choice of enabled or disabled applies to all systems and cannot be individually toggled.

4. (Optional) You can select specific actions in the confirmation window and delete them.
5. Click the **Execute Playbook** button. A confirmation window appears and asks for a final confirmation to execute the playbook. You can view the readiness state for the target systems.
6. In the confirmation window, click the button **Execute Playbook on X systems** to start running the playbook. The **X** represents the number of systems.

## 4.3. USING RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX TO MONITOR REMEDIATION STATUS

You can view the remediation status for each playbook that you execute from the Insights for Red Hat Enterprise Linux Remediations service. The status information tells you the results of the latest activity and provides a summary of all activity for playbook execution. You can also view log information for playbook execution.

**Prerequisites**

- Create and execute a remediation playbook.

**Procedure**

1. In the Red Hat Insights for Red Hat Enterprise Linux application, click the **Remediations** tab. The tab window displays a list of remediation playbooks.

2. Click on the name of a playbook. Additional choices are displayed for the latest playbook activity and all playbook activity.
3. Click **View** in the Playbook summary area to see results of the latest activity for the playbook execution.
4. Click the **Activity** tab to see information about all activity for the playbook.
5. When you hover on any item in the **Status** column, a pop-up box appears with summary information for Run, Failed, and Pending activity.
6. Click the expand button next to a **Run on** entry to show additional activity for each connection on that run. A "Results by connection" window appears.
7. Under the **Connection** heading, click a connection name. A **Name** list appears.
8. Click on the expand button next to an entry in the **Name** list. A **Playbook log** appears.

**NOTE**

You can view the **Playbook log** while a playbook is executing to see near real time information on the execution status.

To monitor the status of a playbook in the Satellite web UI, see [Monitoring Remote Jobs](#) in the Red Hat Satellite *Managing Hosts* guide.

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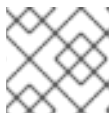
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#### NOTE

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