



Restorepoint 5.6 User Guide

Release 2023 (Document revision 2)

Table of Contents

Overview of Restorepoint version 5.6	9
Installing Restorepoint	11
Before You Begin	12
Firewall Requirements	12
Traffic from Clients to Restorepoint	12
Traffic from Restorepoint to Network Devices	12
Other Traffic Originating from Restorepoint	13
Browser requirements	13
Restorepoint Virtual Appliance	13
IP Address Setup	14
Alternative Method for Setting the IP Address	15
Connecting to Restorepoint for the First Time	15
Connecting to Restorepoint After a Reboot	18
Converting Restorepoint to Oracle Linux 8	18
Prerequisites	18
Updating a Restorepoint Appliance	19
Upgrade Matrix and Migration Paths	19
CentOS 5-based Virtual Machines	19
CentOS 6-based Virtual Machines	19
CentOS 8-based Virtual Machines	20
Restorepoint Appliance Migration	20
Before you Begin the Migration	20
Migration Paths	20
Partial Migration	21
Full Migration	21
Common Questions	22
Why migrate to an Oracle Linux 8 appliance?	22
What downtime can I expect?	22
I am on version 5.4. Do I have to update to version 5.5 and then to version 5.6?	22
Will my license be migrated?	22
Will my device certificates be migrated?	22

I have agents on CentOS. How do I migrate them?	22
Will SSH keys for agents be migrated?	22
I have High Availability enabled in CentOS. How do I migrate the secondary appliance?	22
Will my existing users be migrated?	23
Known Issues	23
Rolling Back After Upgrading to Version 5.4	23
Basic Operation	24
My Account	26
Activity Display	26
Editing Views	27
Encryption	27
System Status Page	28
Scheduled Tasks	29
Postponing Tasks	30
Pausing Tasks	30
Adding Devices to Restorepoint	31
Manually Adding a New Device	31
Importing Multiple Devices Using a CSV File	35
Device Discovery	36
Discovery Setup	36
Discovered Devices	37
Ignored Devices	39
Device Types	39
Automatic Import	39
Running a Manual Backup	40
Scheduling an Automatic Backup	40
Exporting the Device List	40
Editing an Existing Device	40
Editing Multiple Devices	40
Deleting an Existing Device	41
Device Monitoring	41
Enabling Monitoring	41

Displaying Monitoring Information	41
Configuration Templates	42
Creating and Editing Templates	42
Pushing Templates	43
Software Management	44
Uploading and Editing Firmware Images	44
Pushing Firmware	45
Credential Sets	46
Using Credential Sets	47
Integrating Restorepoint and CyberArk	48
Asset Fields	50
Global Search	51
Viewing the List of Configurations for a Device	51
Backup File Operations	53
Backup Failures	53
Restoring to an Existing Device	54
Restoring to a New Device	54
Cloning	55
Compliance	56
Device Policies	57
Creating a Policy	57
Alert Criteria	57
Rules	58
Remediation	59
Devices	59
Regular Expressions	61
Lua Functions	61
Variable Definitions	62
Password Policies	63
Configuration Baselines	64
Reports	65
Adding a Report	67

Editing a Report	68
Generating a Report	69
Cloning a Report	70
Adding a Report Schedule	72
Editing a Report Schedule	72
Deleting a Report or Report Schedule	73
Managing Users	75
Listing Logged-in Users	76
Adding a New User	76
Editing an Existing User	78
Broadcasting to Users	79
Deleting a User	79
Password Reset	79
Password Recovery Configuration	79
Recovery Procedure	79
Custom User Roles	80
Authentication Servers	84
RADIUS Authentication	84
LDAP Authentication	85
SAML Authentication	85
Device Control	87
Controlling a Device	88
Using Parameters	90
Scheduled Actions	90
Lua Applets	93
Restorepoint Built-in Functions	94
Examples	94
Show Version (Cisco)	94
Show Interface (Cisco)	95
IP Spoofing (ScreenOS)	96
IP Spoofing (Palo Alto)	96
File Storage	98

File Servers	99
Auto Export	99
Data Export	100
Data Usage	100
Agents	101
Agent Firewall Requirements	102
Agent Installation	102
Initial Setup	102
Adding an Agent to Restorepoint	103
Changing the Master IP Address	105
Remote Operations Using Agents	106
Managing Agents	106
Administration Domains	108
Managing Domains	109
Administrator Roles	111
Adding a New Domain User	112
Editing Devices	113
Logs	115
Event Log	116
Syslog	117
Appliance Administration	118
System Settings	118
Network Settings	118
Network Interfaces	118
Primary / Secondary Interface	118
IP Configuration	119
Network Access	119
Network Address Translation (NAT)	119
Additional IPv4 and/or IPv6 Static Routes	120
Bandwidth Management	120
Appliance Operations	120
Platform	120

Branding	121
Software Updates	121
Date and Time	121
System Archive	122
Taking an Archive	122
Restoring from an Archive	122
Workstation DB Archives	123
Log Settings and Alerts	123
SNMP	124
Security	125
Protocol Versions	125
Services	125
HTTPS Certificate	125
Timeouts	126
Admin Allowed Networks	127
High Availability	127
HA Requirements	127
Creating a Cluster	128
Labels	129
SAML	131
System Updates	133
Disabling Automatic Updates	133
Manual Updates	134
Getting Help	135
Error Messages	136
Errors During Backup Operations	136
Other Messages	137
Using the System Shell	138
Factory Reset	139
Frequently Asked Questions	140
Contacting Technical Support	140
Support Portal	141

Copyright and Contact Information	142
Copyright Notice	142
Trademarks	142
Contact Details	142

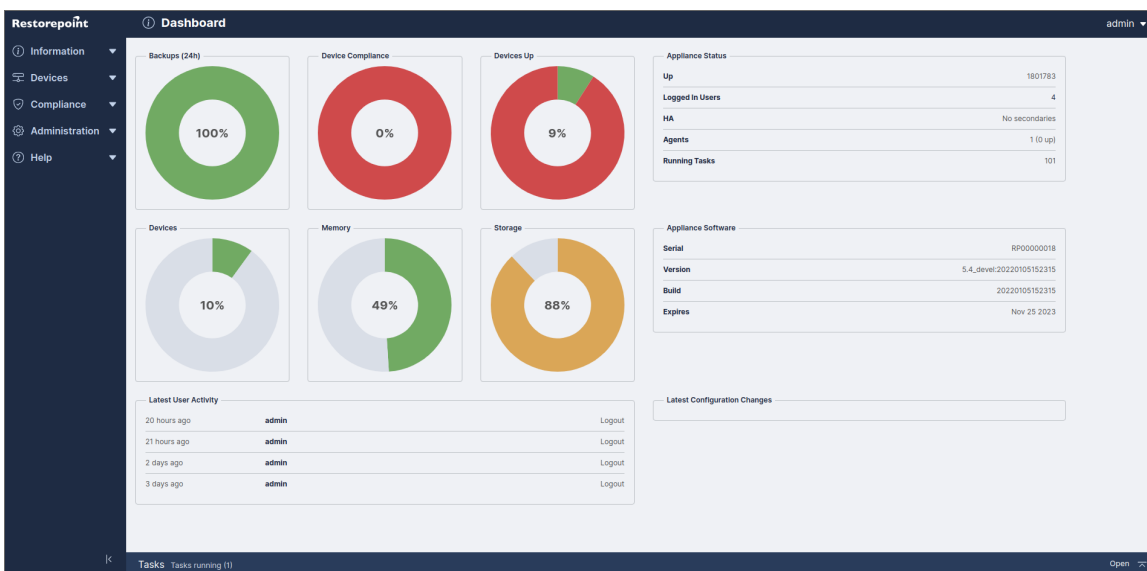
Chapter

1

Overview of Restorepoint version 5.6

Overview

Restorepoint is a Disaster Recovery and Secure Configuration Management appliance for network devices such as, routers, switches, proxies, and firewalls. Restorepoint can automatically retrieve your network device configurations, detect changes and compliance violations, and report these automatically to network administrators.



To add new devices to Restorepoint, you can set the backup frequency for each device individually or as a group. Once you have stored your device configurations on Restorepoint, you can restore network devices when needed.

All backups, device configurations, and passwords are encrypted, and cannot be read by an unauthorized user.

You can configure, monitor, and control Restorepoint through an easy-to-use web interface, which gives you access to all your devices, stored backups, user configurations, and activity logs.

Devices currently supported by Restorepoint are listed in the plugin guide. Check the [Restorepoint website](#) for the latest updates to this list.

Chapter

2

Installing Restorepoint

Overview

Restorepoint is available as a hardware appliance or a VMware virtual appliance. This section describes how to perform the initial configuration of your Restorepoint appliance and configure it to communicate with other devices on your network.

This chapter covers the following topics:

<i>Before You Begin</i>	12
<i>Firewall Requirements</i>	12
<i>Browser requirements</i>	13
<i>Restorepoint Virtual Appliance</i>	13
<i>IP Address Setup</i>	14
<i>Connecting to Restorepoint for the First Time</i>	15
<i>Converting Restorepoint to Oracle Linux 8</i>	18

Before You Begin

Before you install your Restorepoint appliance, ensure you meet the following requirements:

- For hardware installations, 1U of rack space available to install the appliance, with a standard 240V power socket
- For hardware installations, allocate a port on your Ethernet switch for the appliance
- The appliance has an allocated static IP address
- You have configured your firewall to allow traffic between the appliance, and the network devices and servers that Restorepoint will control
- For virtual deployments, verify that you are running VMware ESX vSphere 6.7U2 or later
- For virtual deployments, verify your ESX host has 4 GB RAM available and the datastore where the virtual machine will be deployed has 256 GB available
- Configure your firewall to allow outbound traffic from Restorepoint to the Internet. If you have a firewall between any of your devices and Restorepoint, you may need to open additional ports. For more information, see device-specific details in the Plugin Guide ([Help > Plugin Guide](#)).
- Configure your mail server to allow Restorepoint to relay email

Firewall Requirements

This section lists the ports used to by clients connecting to Restorepoint and the ports used by Restorepoint to connect to network devices and other servers.

NOTE: Your firewall policy might need to be modified for Restorepoint to function correctly.

Traffic from Clients to Restorepoint

The following table lists traffic from Restorepoint to network devices:

Port	Purpose
443/tcp	Restorepoint user interface
22/tcp	Restorepoint shell access
161/udp	(optional) SNMP monitoring

Traffic from Restorepoint to Network Devices

Restorepoint connects to network devices in a variety of ways, depending on the vendor. Sometimes, devices use back-connections to transfer their configuration to Restorepoint. See the device-specific details in the Plugin Guide ([Help > Plugin Guide](#)).

Other Traffic Originating from Restorepoint

The following table lists outbound firewall requirements:

Port	Purpose
443/tcp	Download updates from Restorepoint update servers, and HA database sync
53/udp	Lookup to DNS servers
25/tcp	Send notification emails using SMTP
123/udp	Time synchronization with NTP servers (optional)
22/tcp	Initiate remote support requests (<i>jmp1.restorepoint.com</i> and <i>jmp2.restorepoint.com</i>), or communicate with an Agent's master (optional)

Browser requirements

Restorepoint requires a modern browser with JavaScript enabled. Restorepoint has been tested with the following:

- Chrome (v35)
- Firefox (v25)
- Internet Explorer 10
- Safari (v6)
- Opera (v12.10)

Restorepoint Virtual Appliance

The Restorepoint Virtual Appliance can be downloaded as a .ZIP file from the Restorepoint website. The following steps refer to VMware ESX vSphere 6.7U2 or later:

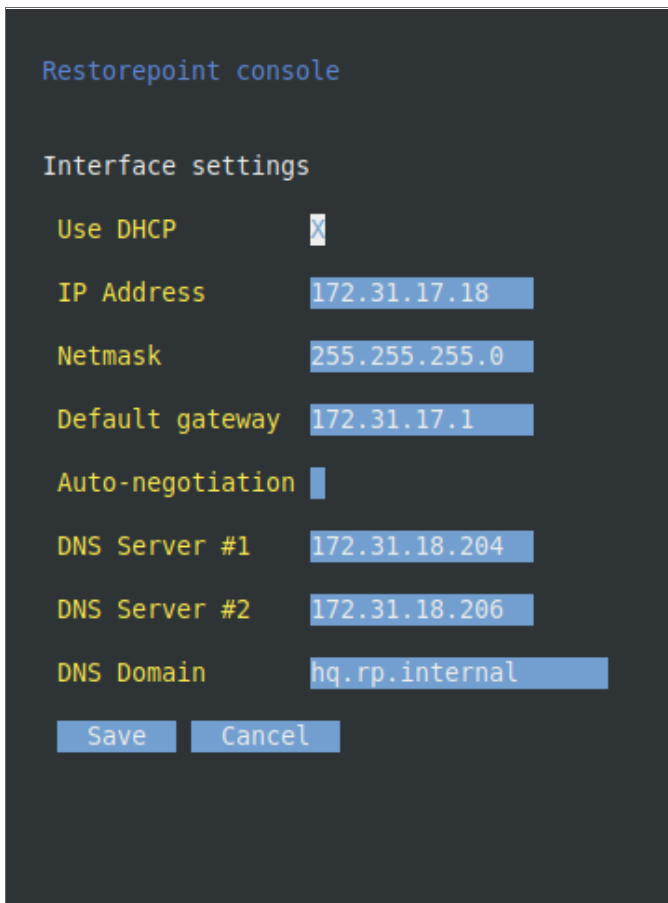
1. Expand the Restorepoint ZIP file in a suitable location on your PC.
2. Launch the vSphere Client.
3. Right-click on the desired destination in the left-hand column and choose **Deploy OVF Template**, select **Deploy from file** and browse to the OVF file inside the extracted folder.
4. Select all the files in the folder. There should be a .mf file, an .ovf file, and 2 .vmdk files.
5. Click **Next**.
6. Click **Next**.
7. Use the default name or enter a name for the virtual machine and the inventory location, then click **Next**.
8. Choose the host or cluster, then click **Next**.
9. Select which datastore should be used, then click **Next**.
10. Choose **Network Mapping**, then click **Next**.

11. Check the summary information, then click **Finish**.
12. The virtual machine will now deploy. After completion, click **Close** in the completion dialog box.

IP Address Setup

To set up Restorepoint, you must configure the network parameters, which include the static IP address you have allocated to the appliance, and the DNS and gateway settings for your network. Follow these steps:

1. Connect a monitor and keyboard to suitable ports on the rear panel of the appliance, or open the virtual machine console in the Virtual Infrastructure client.
2. At the login prompt, typed the default user name (*admin*) and password (*admin*) for the device and then choose option 1 on the console menu:



3. Type the IP address, Netmask, default gateway, and primary DNS server as prompted. The DNS server must be able to resolve public names (for example, `support.restorepoint.com`), otherwise the appliance cannot retrieve software updates.
4. Enter `y` to confirm the settings. If the settings are applied successfully, the console menu will be redisplayed. You can **exit** now.

You can disconnect your monitor and keyboard. To continue the initial setup, open a browser window on a network connected PC and enter the IP address you set for the appliance in the URL bar.

Alternative Method for Setting the IP Address

You can also connect to the Restorepoint appliance for initial setup over a network using the factory-configured default IP address/netmask (192.168.1.1/255.255.255.0), if these settings do not conflict with any devices already on your network. Use a browser to connect to `https://192.168.1.1` and set the IP address as shown above.

If these settings *are* in use on your network, you may connect the device directly to a PC using an Ethernet cross-over cable. Configure your PC to use an address in the 192.168.1.2 - 254 range, then use a browser to connect to `https://192.168.1.1`.

Connecting to Restorepoint for the First Time

After you set the IP address for Restorepoint, use a browser on a network-connected PC to connect to the IP address and complete the initial configuration.

NOTE: Restorepoint initially uses a self-signed certificate. Because of this, your web browser will warn you of an invalid (untrusted) certificate. This is normal behavior because the appliance certificate is not signed by a Trusted Certificate Authority. The session will still be encrypted. Refer to your browser instructions on how to proceed and accept the unsigned certificate. A valid (signed) certificate can be uploaded to Restorepoint after the initial configuration is completed.

To connect to Restorepoint for the first time:

1. Log in with the default username (*admin*) and default password (*admin*).
2. Restorepoint displays the **End-User License Agreement**. Read the terms of the Agreement, then click **[Accept]** to signify that you accept the Agreement. You will not be able to use Restorepoint if you do not accept the Agreement.
3. The next **Installation Wizard** page appears. You can use this page to configure your network settings.

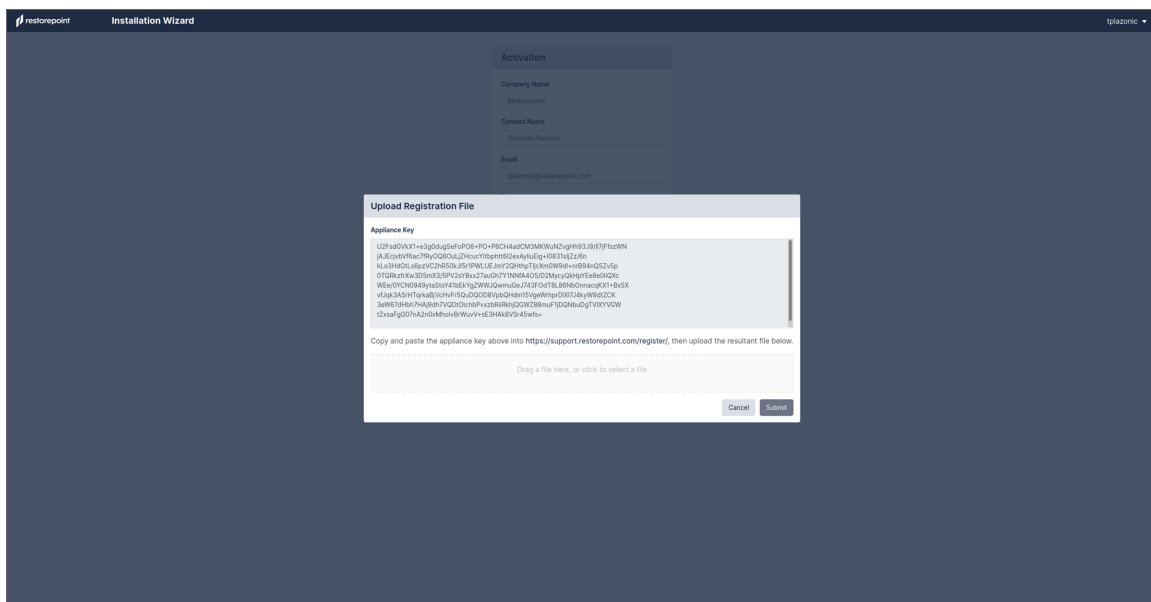
The screenshot shows the 'Installation Wizard' interface for Restorepoint. It is titled 'Step 2 of 5' and includes a 'Back' button and a 'Next' button. The interface is divided into several sections:

- Interfaces:** Shows the selected interface as 'eth0'. There are checkboxes for 'Use DHCP' (checked), 'IP Address' (172.31.17.4), 'Subnet Mask' (255.255.255.0), and 'Speed / Duplex'.
- IP Configuration:** Shows 'DNS Server 1' (172.31.18.204), 'DNS Server 2' (172.31.18.206), 'Gateway' (172.31.17.1), and 'Domain Name' (hq.p.internal). Each DNS server and gateway field has a 'Ping' button.
- Network Access:** Includes a 'Use Proxy' checkbox and a 'NAT Address' field.
- Additional Static Routes:** A table with columns for 'IP Address', 'via', and 'IP Address', and an 'Add' button.
- Bandwidth Management:** Includes a 'Throttle SCP/SFTP' checkbox.

4. Supply values in the following fields:

- **Interface.** Select an interface from the drop down list.
 - **Use DHCP.** Select this checkbox if you want to use a DHCP server for your interface and other options will be disabled.
 - **IP Address.** Type your Restorepoint IP address.
 - **Subnet Mask.** Type your subnet mask associated with the IP address
 - **Speed/Duplex.** Select the link speed and duplex from the drop down list.
 - **DNS Server 1.** Type the DNS Server address for your network. Click **[Ping]** to check connectivity.
 - **DNS Server 2.** Type the second DNS Server address from your network. This field is optional. Click **[Ping]** to check connectivity.
 - **Gateway.** Type the default gateway for your network. Click **[Ping]** to check connectivity.
 - **Domain Name.** Type the default domain name.
 - **Use Proxy.** Select this checkbox if proxy is required for internet access.
 - **NAT Address.** Type the NAT address if connection is required by your firewall.
 - **Additional Static Routes.** If the devices that you want to add to Restorepoint are located on different networks, you may need to define additional static routes. If required, type the network IP address and the destination gateway IP address and click **[Add]**.
 - **Throttle SCP/SFTP.** Select this checkbox to limit the amount of network bandwidth Restorepoint uses.
5. Click **[Next]** and the **SMTP** page appears. You can use this page to configure credentials for system notifications. Supply values in the following fields:
- **Host.** Type the IP address of your mail server. Click **[Ping]** to check connectivity.
 - **Port.** Click the arrows in the right of the field to navigate to the correct port number for your mail server. Click **[Test]** to test the connection.
 - **Username.** Type the username for your mail server.
 - **Domain Name.** Type the password for your mail server.
 - **From.** Type an email address to use in the "From" field for notifications.
 - **To.** Type a default email address to send email alerts to.
6. Click **[Next]** and the **Admin User** page appears. You can use this page to configure the account for an admin level user. Supply values in the following fields:
- **Username.** Type a Restorepoint username.
 - **Email.** Type an email for the admin user.
 - **Password.** Type a password for the admin user. Click Show to display the password.
 - **Encryption Password.** Type an encryption password for the admin user. Click Show to display the password.
 - **Recovery Question.** Type a recovery question to be used if the user forgets their password.
 - **Recovery Answer.** Type the answer to the recovery question.

7. Click **[Next]** and the **Activation** page appears. You can use this page to configure contacts and other settings to activate Restorepoint. Supply values in the following fields:
 - **Company Name.** Type the name of the company that is using the Restorepoint system.
 - **Contact Name.** Type a name for a point of contact regarding the Restorepoint system.
 - **Email.** Type an email for a point of contact regarding the Restorepoint system.
 - **Phone.** Type a phone number for a point of contact regarding the Restorepoint system.
 - **Address.** Type an address for a point of contact regarding the Restorepoint system.
 - **Reseller.** Type the company name of the reseller, if applicable.
 - **Activation Code.** Type the activation code if you are connected to the internet.
 - **Offline?.** Select this checkbox if you are using Restorepoint offline.
8. Click **[Finish]**.
9. If you entered an activation code, you will be redirected to the Restorepoint login page once installation is complete.
10. If you selected the **Offline?** checkbox, the **Upload Registration File** pane appears.

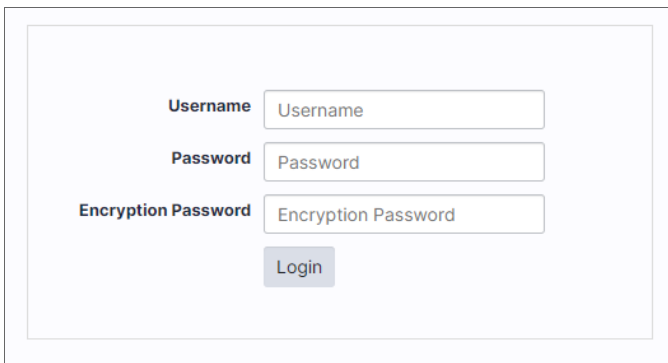


11. Copy the **Appliance Key** provided in the pane and click the Restorepoint support link provided in the middle of the pane.
12. On the **Restorepoint Support** page, paste the **Appliance Key** that you copied above and click **Register**.
13. Restorepoint provides a file to download. Click **[Download]**.
14. Navigate back to your Restorepoint system and drag the file to the **Upload Registration File** pane to upload it or click inside the pane to select the file.
15. Click **[Submit]** and you will be redirected to the Restorepoint login page once installation is complete.

Connecting to Restorepoint After a Reboot

When Restorepoint is rebooted, it will start in a locked state. It is not able to perform any operations until the encryption password is entered, and only admin-level operators can log in to the appliance.

To enter the encryption password, use a browser to connect to the appliance and provide your administrator credentials and the encryption password:



The screenshot shows a login form with the following fields and a button:

- Username**: A text input field containing the placeholder text "Username".
- Password**: A text input field containing the placeholder text "Password".
- Encryption Password**: A text input field containing the placeholder text "Encryption Password".
- Login**: A button located below the Encryption Password field.

The appliance will then transition to the normal operation mode, and subsequent administrator logins will not require an encryption password.

Converting Restorepoint to Oracle Linux 8

Depending on the version of Restorepoint, the application runs on either CentOS or Oracle Linux 8 (OL8). Updates and releases of CentOS Linux 8 were discontinued on December 31, 2021, and will be discontinued for CentOS Linux 7 on June 30, 2024. Restorepoint has moved to make OL8 as the primary supported operating system. This topic covers how to migrate from the CentOS operating system to the OL8 operating system.

The Restorepoint release is completely independent of the SL1 platform.

Prerequisites

- Acquire a new virtual machine or machines with Oracle Linux 8 operating system and similar or better specifications (CPU, memory, disk size) to the existing virtual machine for the primary Restorepoint appliance and all existing agents (if using agents).
- Before migrating, make sure that you are running the latest Restorepoint version 5.6 release. You will need to upgrade Restorepoint to version 5.6 before you can convert to OL8.
- Take a virtual machine snapshot or archive of the Restorepoint appliance in case a rollback is required. For more information about archiving, see [System Archive](#).
- Make sure you have the encryption password, administrator password, and serial number of the old Restorepoint appliance.

Updating a Restorepoint Appliance

NOTE: The following steps are for virtual deployments only.

By default, the Restorepoint appliance checks for software and plugin updates every 24 hours and installs them automatically. The installation only occurs when there are no tasks running, so there is no service downtime. Automatic updates use an HTTPS connection to the update server at support.restorepoint.com, either direct or through a proxy.

In addition, you can force a manual update by clicking the **[Force Check]** button on the **Administration > System Settings > Appliance** tab.

If either or both **Disable Automatic Version Upgrades** and **Disable Automatic Minor Updates** are selected, you will need to do a force check for the update. For more information about disabling updates, see [How to Disable Automatic Updates?](#)

To force a check for an update:

1. In the Restorepoint user interface, go to the **Administration > System Settings > Appliance** tab.
2. In the **Software Updates** section, click **[Force Check]**. Restorepoint checks for available updates, but does not install them. If updates are available, an **[Update Now]** button appears.
3. Click **[Update Now]** to update the appliance.

NOTE: If the **The appliance is not connected to the Internet** option is checked, the appliance will operate in offline mode and will not attempt to contact the update server. The **[Force Check]** button changes to **[Manual Upgrade]**, which you can click to download an update package to your workstation and manually upload it to Restorepoint. For more information, see [Offline Installation/Upgrade](#).

Upgrade Matrix and Migration Paths

First, you should [create a case with Restorepoint Support](#) for upgrade tracking so the Restorepoint Support team can set your appliance to the required version in the backend. If you are unsure about the operating system for your system, the support engineer assigned to your case will be able to clarify.

CentOS 5-based Virtual Machines

These appliances run Restorepoint version 5.3 (or earlier unsupported versions).

1. **Required:** Migrate from a Restorepoint 5.3 CentOS 5 appliance to a 5.3.1 CentOS 8 appliance.
2. After you have migrated to CentOS 8, follow the steps for CentOS 8, below.

CentOS 6-based Virtual Machines

These appliances can run Restorepoint version 5.3, 5.3.1, 5.4 or 5.5.

1. **Required:** Upgrade to at least Restorepoint version 5.3.1. If required, the Restorepoint support engineer will set the appliance to version 5.3.1, and then you can run an update.
2. After you have migrated to CentOS 8, follow the steps for CentOS 8, below.

CentOS 8-based Virtual Machines

If your system is running Restorepoint version 5.3.1:

1. Engage with the support engineer to set the appliance to version 5.4 in the Restorepoint backend.
2. Update to Restorepoint version 5.4.

If your system is running Restorepoint version 5.4:

1. Engage with the support engineer to set the appliance to version 5.6.
2. Update to Restorepoint version 5.6.

When your system is updated to Restorepoint version 5.6, a migration to an Oracle Linux Virtual Machine is recommended. This process requires you to create a new appliance, then follow the migration steps in the following procedure.

Restorepoint Appliance Migration

This section covers how to migrate your data to a new hardware or virtual appliance.

Before you Begin the Migration

1. Install and configure the new appliance. For more information, see [Installing Restorepoint](#).
2. Configure the appliance IP address on your network and complete the online registration.
3. Provide the old serial number to Support so a new activation code be generated. Using the activation code, install the new license. The activation code is single use, so once it is submitted, do not refresh the page.
4. Make sure that both Restorepoint appliances are running the same software version.
5. The appliances normally update themselves by connecting to the Restorepoint update servers, but you can force an update from the **Administration > System Settings > Appliance** tab. The same page shows the current software version and build number.

Migration Paths

There are two migration paths:

1. **Partial Migration.** Migrates the device information, such as IP addresses, credentials, and so on.
2. **Full Migration.** Includes all of the device backups.

Most users choose a partial migration, because it is extremely easy, and you can complete it quickly, in a few minutes. However, if you need to keep all past device backups, the only option is a full migration.

Also, only a full migration will restore the appliance SSH keys. This is an important consideration if you are using SSH Public Key Authentication (PKA), because devices will not allow the new appliance to log in until the new appliance SSH key is authorized. Devices that perform strict SSH checks may also prevent logins, even if using SSH password authentication.

Partial Migration

This migration moves over only your device settings. Device configuration files and Restorepoint settings are not migrated.

1. Log in to the old Restorepoint appliance and click **Devices** in the left-side menu.
2. Select the check box next to the column title **Name** to select all devices (or select which devices to export individually).
3. Click **[Export]** to generate a CSV file with the device data.
4. Log in to the new appliance, and then click **Devices** in the left-side menu.
5. Click **[Import]**. A dialog appears, from which you need to choose the CSV file exported above (typically from the **Downloads** folder). All of the devices should appear in the list.

Full Migration

This migration uses the Restorepoint Archive feature, which exports all of the system configuration to an external server.

1. Configure archiving on the old appliance. This should already be in place, as it is an essential disaster recovery function.
2. Go to the **Administration > System Settings > Archive** page.
3. Configure the file server to which Restorepoint uploads its archive and set up an automated disaster recovery Archive. Restorepoint supports FTP, SCP, SFTP, or Windows file servers for archiving.
4. Create a new archive on the server by clicking **[Archive Now]**. This operation may take a long time, depending on the amount of data stored on the appliance.
5. On the new appliance, import the archive from the server.
6. On the **Administration > System Settings > Archive** page, configure archiving in the same way as the old appliance (IP address, protocol, path and credentials), and then click **[Restore Archive]**. Restorepoint displays a list of archives available on the remote server.
7. Choose the most recent archive and click **[Restore]**.
8. During the process, you might be prompted for the password and encryption password of the old appliance. Provide the details for the admin account. Again, this may take a long time to complete; at the end of the process, all of the Restorepoint settings (except the IP address for the appliance) and all data stored on the old appliance will be restored on to the new one.

For more information about archiving, see [System Archive](#).

To perform migration when your environment has Agents:

1. Deploy new agents on a new virtual machine with the Oracle Linux 8 operating system and perform the Initial Master Setup in the agent.
2. Set the IP address of the new appliance for each agent.

3. Restorepoint supports agent deployment within an RPM. Additionally, Restorepoint also supports communication from agent to Restorepoint appliance over a port of your choosing. The default port 22 can be changed when setting up the agent.

NOTE: If you need HTTPS enabled on the new appliance, you must create a new certificate. For more information, see [HTTPS Certificates](#).

Common Questions

Why migrate to an Oracle Linux 8 appliance?

- Old appliances are on either CentOS 8 or CentOS 6, neither of which are supported by Red Hat any longer. Leaving the appliance on this Linux Kernel could lead to serious security issues in the future.
- OL8 provides IPv6 support.

What downtime can I expect?

- Usually, each update only takes a few minutes and will only proceed when no other tasks are running. If you have a busy system, you might need to pause the scheduler to process the upgrade.
- Depending on the number of devices you have, creating or restoring an archive can take a long time. Restorepoint recommends that you allocate at least 12 hours for the migration after the pre-requisites have been gathered.

I am on version 5.4. Do I have to update to version 5.5 and then to version 5.6?

- No. Direct update from version 5.4 latest version to version 5.6 is supported on CentOS or Oracle Linux 8 operating systems.

Will my license be migrated?

- No. Support will generate a new activation code license based on the serial number of the new appliance. You can copy and paste the new code during the deployment of the new appliances.

Will my device certificates be migrated?

- Yes. Device certificates will be migrated if restoring an archive on to the new appliance. (Full Migration)

I have agents on CentOS. How do I migrate them?

- See [Full Migration](#) above.

Will SSH keys for agents be migrated?

- Yes. SSH keys for agent will be migrated during an archive and restore.

I have High Availability enabled in CentOS. How do I migrate the secondary appliance?

- To migrate a High Availability appliance set up, you must first set up the new HA cluster and then follow the full migration or partial migration steps above on the primary appliance.

- Ensure the secondary appliance is running the identical Restorepoint and operating system version as the primary.
- Complete the set up on the secondary appliance. For more information, see the [High Availability](#) section in the Restorepoint guide.

Will my existing users be migrated?

- Yes. All existing local and LDAP users (and LDAP settings) will be migrated if restoring an archive onto the new appliance. (Full Migration)

Known Issues

- [Issues with Agents](#). This topic encompasses a wide range of problems, but usually the cause is the agents have not been migrated to Oracle like the master and there are conflicting ciphers, macs, and Kexs.
- [Domain not Found](#). This error message can appear when viewing a device. Follow the steps in the article to resolve the issues.
- [Converting Last Alert Policy](#). This is a common database issue that occurs if the customer uses the Generic Push device plugin.

If you run into any of these problems, contact a support engineer.

Rolling Back After Upgrading to Version 5.4

If you experience a major issue after upgrading to version 5.4, you can roll back to the previous version, provided that you have a working snapshot of that virtual appliance. This is why we recommend taking a snapshot of the appliance before upgrading to 5.4.

To roll back to version 5.4:

1. Power down the current virtual appliance.
2. Contact Restorepoint Support and let them know that you need to roll back. You will need to know the serial number of the appliance.
3. Restorepoint Support will set the appliance back to version 5.3 on our administrator server and contact you when we are finished.
4. After you receive confirmation from us that we have reverted your appliance back to version 5.3, you can restore the snapshot of the appliance using your hypervisor standard snapshot restore function.
5. When the snapshot has been restored and powered on, your appliance should function as expected.

Chapter

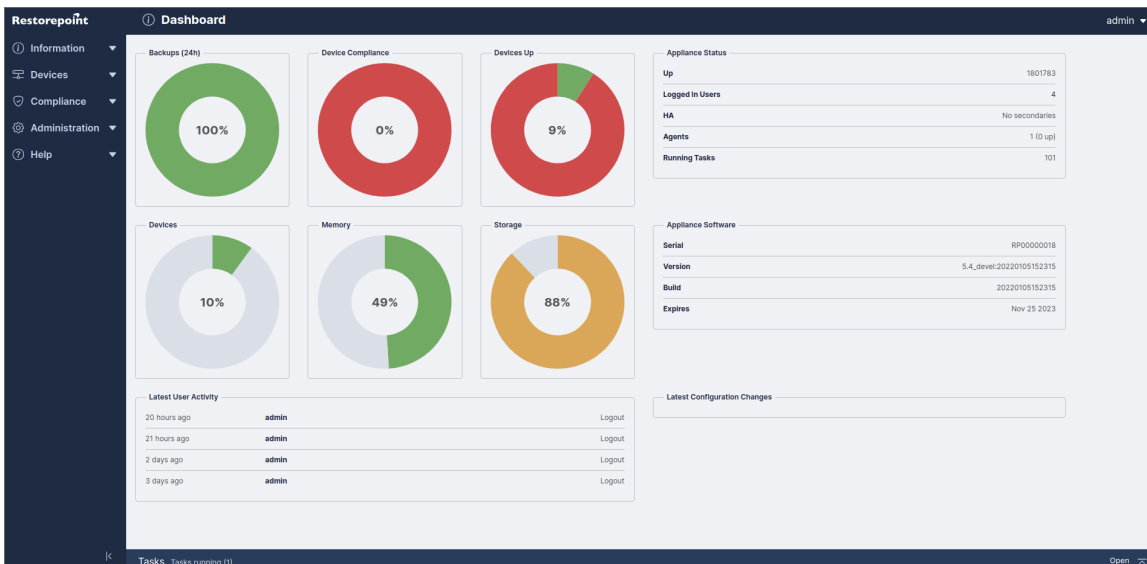
3

Basic Operation

Overview

The Restorepoint user interface pages share some common features. These features include:

- A menu bar at the top of the page, for navigating between the different functions
- The username of the logged in user at the top right-hand side of the screen
- A footer that displays the current software version, serial number, license expiry, and time



Tables display a grey header. For example, in the **Device** page shown below, you can change column widths by double-clicking on the header, or by clicking and dragging the heading separators. You can change the sorting criterion by clicking on a column heading. You can also perform a full text search by typing in the **Search** field.

<input type="checkbox"/>	Name ↑	Plugin	Domain	Agent	Address	Disabled	Backup Interval	Last Backup	Last Attempt	Next Backup	Protocol
<input type="checkbox"/>	smarcenter77...	Check Point Gaia	Global		172.16.21.72	No	Manual				scp
<input type="checkbox"/>	gaiaR7720	Check Point Gaia	Global		172.16.21.14	No	Manual				ssh
<input type="checkbox"/>	Gaia	Check Point Edge	Global		172.16.21.197	No	Manual				ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		55.62.147.104	No	Every hour, on the h...		2021-11-10 13:25	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		6.11.50.67	No	Every hour, on the h...		2021-11-10 13:23	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		86.71.157.63	No	Every hour, on the h...		2021-11-10 10:41	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		185.1.216.111	No	Every hour, on the h...		2021-11-10 13:03	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		71.44.158.45	No	Every hour, on the h...		2021-11-10 12:53	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		94.103.200.2	No	Every hour, on the h...		2021-11-10 12:18	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		18.243.244.130	No	Every hour, on the h...		2021-11-10 12:47	2 months ago	ssh
<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embedd...	Global		103.36.142.122	No	Every hour, on the h...		2021-11-10 13:17	2 months ago	ssh

This chapter covers the following topics:

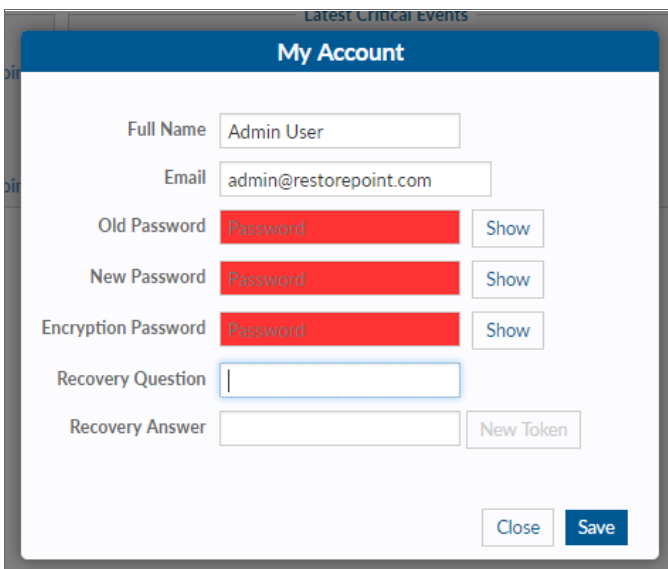
My Account	26
Activity Display	26
Editing Views	27
Encryption	27
System Status Page	28
Scheduled Tasks	29
Adding Devices to Restorpoint	31
Manually Adding a New Device	31
Importing Multiple Devices Using a CSV File	35
Device Discovery	36
Running a Manual Backup	40
Exporting the Device List	40
Editing an Existing Device	40
Device Monitoring	41
Configuration Templates	42
Software Management	44
Credential Sets	46
Asset Fields	50
Global Search	51
Viewing the List of Configurations for a Device	51
Backup File Operations	53
Cloning	55

My Account

You can hover over the username on the top of the user interface and two options appear. A **Logout** option that features a clock that shows how many minutes until a user is automatically logged out, and the **My Account** option that allows you to edit the following user settings:

- Full Name
- Email
- Password
- Encryption Password
- Recovery Question
- Recovery Answer

NOTE: To change a password, you need to specify the **Old Password**.



The screenshot shows a 'My Account' settings window. At the top, it says 'Latest Critical Events' and 'My Account'. The form contains the following fields and buttons:

- Full Name:
- Email:
- Old Password:
- New Password:
- Encryption Password:
- Recovery Question:
- Recovery Answer:

At the bottom right, there are two buttons: and .

For more information on the **My Account** options, see [Adding a new user](#).

Activity Display

The **Activity Display**, shown below, displays a list of tasks that are currently running. This list is displayed on every page while tasks are in progress:

Type	Device Name	Progress	Initiator	Start Time	Last Command	Duration	Status
Schedule Paused		<div style="width: 100%;"></div>	system	2021/11/02 08:16	la -al	17 hours, 33 minutes	Running
Backup Zhone Ead 2320		<div style="width: 100%;"></div>	system	2021/11/03 02:49	la -al	29 seconds	Running

You can click on the magnifying glass icon to show the **Progress Log**, which displays real-time information about the running task:

```

Details:
-----
Startup device
Startup Device: backup_rsa_appliance_ssh (v25421)
Created New Transfer File: /var/restorepoint/spool/rp_203.209.146.191_386
/usr/bin/ssh -p 22 203.209.146.191 -t bash --norc
Running ssh Login sequence
Wait Cmd (985): No route to host,IDENTIFICATION HAS CHANGED,connection refused,connection timed out,co...l major versions differ: 2 vs. 1,no matching host key,emission denied>User,assword,passwd:;PASSCODE
Error - Timeout
-----
Status: Error

```

Editing Views

In addition to the built-in views, every data table in Restorepoint can have multiple customized views. You can access these by clicking on the menu icon (☰) at the top left of a table. You can use this icon to reorder columns by clicking the up/down arrows and selecting the checkbox to show/hide columns.

You can define a name and save column orders, widths, and display settings using the **Save** button. You can delete saved views using the **Delete** button.

NOTE: Views stored in your browser's local storage are only available on the browser and workstation where they were set. If you clear your browser storage, you will clear any saved views.

Encryption

All sensitive data stored in Restorepoint, including device configurations, is protected by encryption. Restorepoint encrypts data when it is written to a disk and decrypts it as it is read. Cleartext data is only held in volatile memory. Therefore, the data disappears when the appliance is shut down or rebooted, which renders data theft impossible without a valid encryption key.

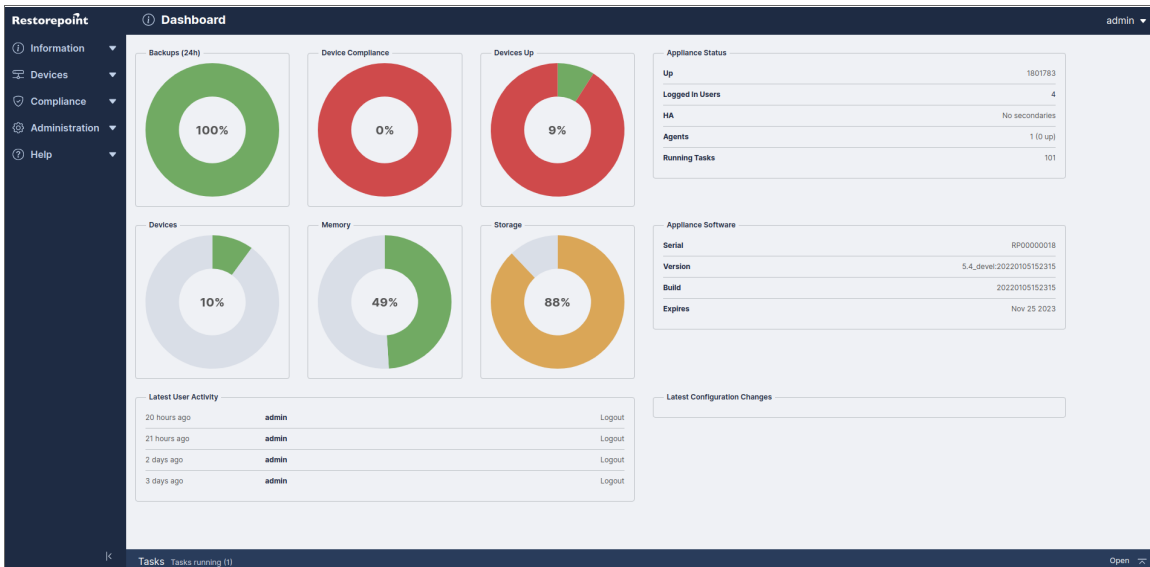
Restorepoint has two operational states:

- **Locked State.** When the appliance is powered up and no encryption password is entered by an administrator. In this state, Restorepoint cannot read its own database and therefore cannot perform any operations. An administrator must log in and provide the encryption password to unlock the database.
- **Normal State.** Once an administrator provides the encryption password at login, all system functions are enabled. Subsequent administrator logins will not require an encryption password until the appliance is powered down or rebooted.

CAUTION: The entire Restorepoint database is encrypted. Therefore, it is vital that administrators remember both their normal and encryption passwords. Administrators must also keep their emailed password-recovery tokens safe. For more information, see [Connecting to Restorepoint After a Reboot](#) and [Password Reset](#).

System Status Page

The System Status page or **Dashboard**, displays an overview of the health of your Restorepoint system and displays the number of devices that are being backed up. The following image is the default page when you first login to Restorepoint. You can display this page at any time by clicking **Info** on the menu:



The following type of graphs can be displayed on the **Dashboard** page:

Backups (24h)	The scheduled, successful, and failed backups in the last 24 hours.
Device compliance	The number of compliant and non-compliant devices, and the number of devices with no policy assigned.
Device Baseline	The number of devices that are running a <i>baseline</i> configuration, non-baseline configuration, and no baseline configuration set. For more information, see Configuration Baselines .
Devices Up	The number of devices that are currently being monitored and responding to Restorepoint. If you click on the graph, a moving average chart covering the past 24 hours is displayed.

Storage	The amount of disk space used and the total amount of disk space for the Restorepoint appliance.
Devices	The total number of devices configured on the appliance, and the maximum devices allowed on your current licence.
Memory	The amount of RAM currently being used by the Restorepoint appliance and the total amount of RAM available.
Network Activity	The current network activity, as seen by the Restorepoint appliance.
Load Average	The Load Average [https://en.wikipedia.org/wiki/Load_(computing)] of the Restorepoint appliance, over the last 30s.

The following information is displayed in text panes on the **Dashboard** page:

Appliance Status	The uptime, number of logged in users, High Availability status (if enabled), Agents status (if enabled), and number of running tasks.
Appliance Software	The serial number, version, build number (including a link to the change log for that version), and license expiration date of the Restorepoint installation. This information is also available in the footer.
Latest user activity	Administrator logins/logouts, and other user-initiated operations.
Latest critical events	Any backup failures, bad logins, or other important information.
Latest Configuration Changes	Any devices that have reported modified configurations.
Activity display	Appears on the left-hand side if any background processes are running. It also displays real-time task details and terminating a task details.

Scheduled Tasks

The **Schedule** page (Information > Schedule) displays upcoming scheduled tasks, including the next backup for each device.

Schedule				
Postpone		Pause Scheduler		
<input type="checkbox"/>	Date	Event	Type	Object
<input type="checkbox"/>	2021-09-14 19:00	Backup device (Overdue)	device	A Cisco Switch
<input type="checkbox"/>	2020-12-04 16:00	Backup device (Overdue)	device	Z_wkg2asa2
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	Fortinet_Fortigate_1
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Nortel_8010_3
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	A10_Thunder_4
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	Threecom_Superstack5500_5
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Radware_Linkproof_7
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Crossbeam_Xos_8
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Trend_Iwsva_10
<input type="checkbox"/>	2021-11-10 13:00	Backup device (Overdue)	device	Radware_Appdirector_11
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Cisco_Aceac_12
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Cisco_Css_13
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Rsa_Appliance_15
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	Aruba_Controller_16
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Juniper_Firewall_17
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	Trend_Iwsva_19
<input type="checkbox"/>	2021-11-10 11:00	Backup device (Overdue)	device	Nortel_8010_20
<input type="checkbox"/>	2021-11-10 12:00	Backup device (Overdue)	device	Aruba_Controller_21

For each task, the **Schedule** page displays the following information:

- **Date.** Date and time when the next task is due.
- **Event.** Name of the scheduled event.
- **Type.** Type of task. Possible types are backup, discovery, archive, etc.
- **Object.** Device, user, or system configuration object to which the task refers.

Postponing Tasks

You can postpone any scheduled event to remove the next occurrence of a scheduled task. To postpone a scheduled task:

1. Find the task that you want to postpone and select its checkbox.
2. Click the **[Postpone]** button.

Pausing Tasks

You can pause a scheduled task so it doesn't run until you unpauses the task. To pause a scheduled task:

1. Find the task that you want to pause and select its checkbox.
2. Click the **[Pause Scheduler]** button.

Adding Devices to Restorepoint

You can add devices to Restorepoint using the following methods:

- [Manually Adding a New Device](#)
- [Importing Multiple Devices Using a CSV File](#)
- [Automatic Discovery](#)

The **Device** page allows you to:

- Display all the existing backups for a device
- Compare the configurations of two devices

The **Discovery** page allows you to:

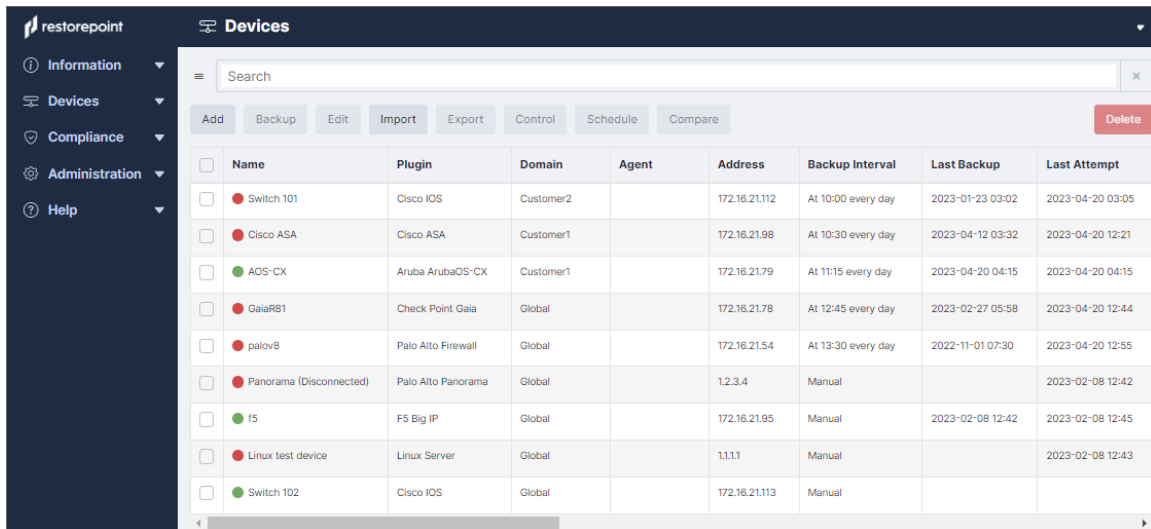
- Define the networks you wish to scan
- Schedule a periodic network scan
- Import discovered devices into the main device list

Manually Adding a New Device

How you configure a new device may vary slightly from one device to another. Please see device specific information in the Plugin Guide ([Help > Plugin Guide](#)).

To create a new device:

1. Go to the **Device Management** page (Devices > Device List).



The screenshot shows the 'Devices' page in the Restorepoint interface. It features a search bar at the top, a toolbar with buttons for 'Add', 'Backup', 'Edit', 'Import', 'Export', 'Control', 'Schedule', 'Compare', and 'Delete', and a table listing various devices. The table columns are Name, Plugin, Domain, Agent, Address, Backup Interval, Last Backup, and Last Attempt.

	Name	Plugin	Domain	Agent	Address	Backup Interval	Last Backup	Last Attempt
<input type="checkbox"/>	Switch 101	Cisco IOS	Customer2		172.16.21.112	At 10:00 every day	2023-01-23 03:02	2023-04-20 03:05
<input type="checkbox"/>	Cisco ASA	Cisco ASA	Customer1		172.16.21.98	At 10:30 every day	2023-04-12 03:32	2023-04-20 12:21
<input type="checkbox"/>	AOS-CX	Aruba ArubaOS-CX	Customer1		172.16.21.79	At 11:15 every day	2023-04-20 04:15	2023-04-20 04:15
<input type="checkbox"/>	GaiaR81	Check Point Gaia	Global		172.16.21.78	At 12:45 every day	2023-02-27 05:58	2023-04-20 12:44
<input type="checkbox"/>	palov8	Palo Alto Firewall	Global		172.16.21.54	At 13:30 every day	2022-11-01 07:30	2023-04-20 12:55
<input type="checkbox"/>	Panorama (Disconnected)	Palo Alto Panorama	Global		1.2.3.4	Manual		2023-02-08 12:42
<input type="checkbox"/>	f5	F5 Big IP	Global		172.16.21.95	Manual	2023-02-08 12:42	2023-02-08 12:45
<input type="checkbox"/>	Linux test device	Linux Server	Global		1.1.1	Manual		2023-02-08 12:43
<input type="checkbox"/>	Switch 102	Cisco IOS	Global		172.16.21.113	Manual		

2. Click the **[Add]** button on the top left hand corner of the page. The **Add device** page appears. Complete the following fields:

- **Device Name.** Type a name for the device that is up to 64 characters long.
- **Type.** Select the device type. You can start typing in the *Select Plugin* field to filter the list. This list only displays the device types that are currently available on your license.
- **Domain.** Select the domain that the device is assigned to. This field is only present if Domain Administration is enabled on your appliance. For more information, see [Administration Domains](#).
- **Agent.** If the device is managed via an agent, select the appropriate agent from the dropdown list.
- **Address.** Type the device IP address. You can click the **[Resolve]** button to automatically fill the **IP Address** field. Restorepoint will keep the IP address up to date with your DNS and manual changes to the IP address will be ignored.
- **Open Terminal.** You can click this button to open a web-based virtual terminal to the device that you can use for troubleshooting. If you select **Restorepoint Credential**, the field uses the credentials you have defined on the **Connection** tab. Otherwise, you will need to provide your own credentials for logging into the device. For more complex terminal use, ask your account manager about **Restorepoint Universal Console**.
- **Owner Email.** Type the email address(es) of the device administrator(s). By default, this field is filled with the notification email address defined on the **System Configuration** page.
- **Email on Config Change.** Select this checkbox to automatically trigger an email notification to the device owner when a device configuration change is detected. This option is not available for all device types.
- **Email on Start Backup.** Select this checkbox to automatically trigger an email notification before a backup starts for this device. This notification creates a 1 minute delay before the backup starts.
- **Email on End Backup.** Select this checkbox to automatically trigger an email notification when a backup completes. If this checkbox is not selected, Restorepoint will only send an email notification if the backup fails, or if a configuration change is detected and **Email Config Change** is selected.
- **Syslog Change Detection.** If this field is available on your Restorepoint system, select the checkbox for Restorepoint to automatically detect when a device is modified and automatically retrieve its configuration. Note that this feature is only available for specific devices. For more information, see the Plugin Guide (**Help > Plugin Guide**).
- **Log Transcript.** Select this checkbox to create a full transcript log for this device for debugging purposes. A transcript log is automatically saved if the backup fails, so this is rarely needed.
- **Types.** Select the types of configurations to backup for this device.
- **Filename Prefix.** Optionally type a custom filename prefix for the device configuration files, and check the relevant fields to include. A preview of the filename will appear in the **Preview** field.

- **Monitor.** Select this checkbox to monitor the device. For more information, see [Device Monitoring](#).

3. Click the **Connection** tab and complete the following fields:

- **Protocol.** Select the appropriate connection protocol for your device, such as telnet or SSH. The options may vary depending on the device type.
- **Username.** Type the administrator account username for the target system.
- **Password.** Type the password associated with the administrator account. For some devices you may need to enter more than one password. The field color ranges from red to green to indicate the password strength, according to the policy set in the [Password Policies](#) page.
- **Use Restorepoint Credentials?** You can select this checkbox and select a **Credential Set** instead of entering a username and password. Credential sets are reusable username/password combinations that can be shared among different devices (See [Credential sets](#)).
- **Back Connection NAT.** Select this checkbox if Restorepoint accesses this device through a NAT router or firewall. This option will only be displayed if the device requires back-connections and if **Use NAT** is selected in the **System** page. If a **NAT IP Address** is configured here, it will override the corresponding Domain (Section [Administration Domains](#)) and System (Section [Network Address Translation \(NAT\)](#)) settings.
- **Use SSHv2 PKA.** Select this checkbox if you want to use SSH Public Key Authentication instead of password-based authentication when connecting to the device. Click the **[Show Keys]** button to display Restorepoint's public SSH keys.
- **Clear Cache.** If you have replaced a device, Restorepoint may refuse to connect to it because it will detect that the device key has changed and display a connection error. This is a security feature of SSH. In order to override this feature, click the **[Clear Cache]** button.
- **Backup Port.** If required for your device, enter the backup port you want to use.

4. Click the **Schedule** tab to configure the backup schedule for the device and click **[Add Entry]** to add one or more backup intervals. You can bulk add or remove schedules if multiple are selected on the **Device Management** page.

The screenshot shows the 'Add device' configuration page with the 'Schedule' tab selected. The page has a dark header with the title 'Add device' and a navigation bar with tabs: 'Device Details', 'Connection', 'Schedule', 'Assets', 'Compliance', and 'Notifications & Monitoring'. On the right side of the header are buttons for 'Save changes', 'Apply changes', 'Test Connection', and 'Cancel'. The main content area is divided into two sections. The left section, titled 'Schedule', contains a 'Backup Schedule' section with an 'Add Entry' button, a 'Failure Policy' section, and three dropdown menus: 'Retry' (set to 'Always'), 'Alerts' (set to 'Always'), and 'Retry After' (set to '45 minutes'). The right section, titled 'Summary', contains a list of expandable sections: 'Device Details', 'Connection', 'Schedules (0)', 'Assets', 'Compliance', and 'Notifications & Monitoring'.

NOTE: For each schedule interval, you can override the config types to backup by selecting any of the **Config Type** checkboxes, or override the default retention policies by unselecting **Use Default Policy**. You can also override the Failure Policy on this page. For more information, see [Backup failures](#).

5. Click the **Assets** tab and enter optional asset management details for the device:
 - **Serial**. Type the serial number for the device.
 - **Firmware**. Type the firmware the device has.
 - **Asset ID**. Type the device ID for the device.
 - **Notes**. Type any additional notes that you would like to include for the device.
 - **Purchase Date**. Select the date you or your organization purchased the device.
 - **Purchased From**. Type the business that you purchased the device from.
 - **Manufacturer**. Type the manufacturer of the device.
 - **Model**. Type the device model.
 - **History**. Type any relevant history related to the device.
 - **Owner**. Type the device owner.
 - **Customer No**. Type the customer number.
 - **Build Document**. Select **[Upload]** to upload a build document or **[Remove]** to remove a build document.

NOTE: Custom fields can be added in the **Custom Asset Fields** page. For more information, see [Asset Fields](#).

- The **Additional Info** tab, if available, displays additional information retrieved from the device, such as license details, routing table, and network interfaces. You can also display the output of a saved action on this page using the **New Info Command** dropdown. For more information on creating actions, see [Controlling a device](#).
- Click the **Compliance** tab and assign compliance policies to this device. For more information on compliance policies, see [Device Policies](#).
- Click the **Notifications & Monitoring** tab and enter optional notification details for the device:
 - Owner Emails.** Type the email address(es) that you want to receive device notifications.
 - Email on.** Select a task that you want to trigger a notification.
 - Log transcript.** Select this checkbox if you want the notification to include a transcript of the task.
 - Monitor Device.** Select this checkbox if you want to monitor the device.
 - Type.** Select how you want to monitor the device, using TCP connection or ping.
 - Email when down.** Select this checkbox if you want a notification to trigger when the device is down.
 - Fail after.** Type a number or use the scroll to define after how many attempts connecting to a device that a notification should be triggered.
 - Email when up.** Select this checkbox if you want a notification to trigger when the device connects after failing.
- Click **Save Changes** to finish creating the new device. The **Device** page appears and the new device is added.

<input type="checkbox"/>	Checkpoint Sg8...	Check Point Embeds...	Global	55.62.147.104	No	Every hour, on the h...	2021-11-10 13:25	2 months ago	ssh
--------------------------	-------------------	-----------------------	--------	---------------	----	-------------------------	------------------	--------------	-----

- Once you add the device, you can select the checkbox next to the device and click the **Backup** button to perform a manual backup, if required. The backup progress and completion will be shown in the **Activity Display**. If the backup is completed successfully, the indicator next to the device name is green, and the date of the last backup is added to the **Device Management** page.

Importing Multiple Devices Using a CSV File

If you need to add a large number of devices, you can click the **Import** button and select a comma-separated values (.CSV) file, that contains the device details.

When you create a comma-separated value (CSV) text file to import, include a line at the top of the file to indicate the columns for the attributes you want to import. Fields can be in any order. For example:

```
name,plugin,protocol,ip_address,username,password,password2,backup_
port,keep_backup,owner,serial_no,asset_id,location,notes
```

The following table lists the column name and its description:

Field	Description
name	The device name. <i>This field is required.</i>
plugin	The device type (e.g. 'Cisco ASA' or 'cisco_asa').
protocol	The connection protocol (e.g. 'telnet' or 'ssh'). <i>This field is required.</i>
ip_address	The device IP address.
username, password, password2	The login credentials for the device.
backup_port	The port to use to connect to the device, if required
keep_backup	The backup retention policy (days).
owner, serial, no, asset_id, location, notes	Device details and descriptors. <i>These fields are optional.</i>

Device Discovery

The Restorepoint device discovery engine uses a variety of methods to discover hosts on your network that can be imported to the main device list. You can also be notified by email of new devices that are installed on your network.

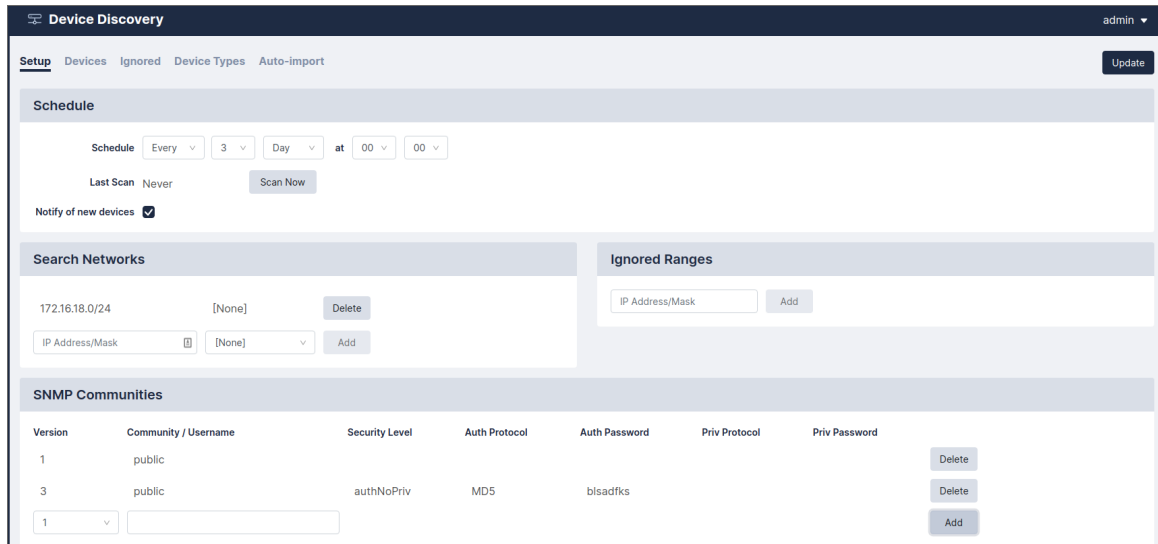
NOTE: Device discovery is not guaranteed to discover all the relevant devices on your network. Firewalls or the device configuration itself may negatively affect the discovery process. Similarly, the device type may not always be detected correctly. When you import a device, you are able to override the detected type.

Discovery Setup

To configure discovery:

1. Go to the **Setup** tab (Devices > Discovery > Setup).
2. Type one or more network ranges (in CIDR notation) to scan in the **Search Networks** field, for example: 10.20.0.0/16 and click **[Add]**.
3. If you do not wish to scan a particular range, for example 10.20.10.0/24, add this to the **Ignored Ranges** list.
4. You can optionally add one or more SNMP communities in use on your network: choose the SNMP version, enter a community string, and then click the **[Add]** button.
5. If you want to be notified of a new device, select the **Notify of new devices** checkbox.
6. If you want to use the [Cisco Discovery protocol](https://en.wikipedia.org/wiki/Cisco_Discovery_Protocol) (https://en.wikipedia.org/wiki/Cisco_Discovery_Protocol), select the **Use CDP** checkbox.
7. If you want to use the [Link Layer Discovery protocol](https://en.wikipedia.org/wiki/Link_Layer_Discovery_Protocol) (https://en.wikipedia.org/wiki/Link_Layer_Discovery_Protocol), select the **Use LLDP** checkbox.

8. Choose a scan schedule.
9. Click **Update**.
10. Click **Scan Now** to start the scan.



Discovered Devices

At the end of a discovery scan, a list of discovered devices is displayed in the **Devices** tab:

The screenshot shows the 'Discovery' section of a network management interface. At the top, there is a navigation menu with 'Setup', 'Devices', 'Ignored', 'Device Types', and 'Auto-import'. Below the menu is a search bar and three buttons: 'Import', 'Ignore', and 'Rescan'. The main area contains a table of discovered devices. Each row has a checkbox on the left, followed by columns for 'IP Address', 'Hostname', and 'Device'.

<input type="checkbox"/>	IP Address	Hostname	Device
<input type="checkbox"/>	172.16.18.25	Unknown	fortinet_fortianalyzer
<input type="checkbox"/>	172.16.18.26	DEMO.hq.rp.internal	
<input type="checkbox"/>	172.16.18.38	admintest.hq.rp.internal	fortinet_fortianalyzer
<input type="checkbox"/>	172.16.18.50	wkg2vm2-drac.hq.rp.internal	restorepoint
<input type="checkbox"/>	172.16.18.51	wkg2vm3-drac.hq.rp.internal	restorepoint
<input type="checkbox"/>	172.16.18.52	wkg2vm4-drac.hq.rp.internal	restorepoint
<input type="checkbox"/>	172.16.18.100	iMac.hq.rp.internal	
<input type="checkbox"/>	172.16.18.200	wkg2vc1.hq.rp.internal	juniper_sa
<input type="checkbox"/>	172.16.18.204	wkg2srv1.hq.rp.internal	
<input type="checkbox"/>	172.16.18.206	wkg2srv2.hq.rp.internal	
<input type="checkbox"/>	172.16.18.209	wkg2vm2.hq.rp.internal	juniper_sa

You must import the newly added devices into the main device list. To manually import your devices:

NOTE: To automatically import your devices, see [Automatic Import](#).

1. Go to the **Devices** tab (Devices > Discovery > Devices).
2. Once the list of discovered devices is displayed, select the checkbox to the left of one or more devices.
3. Click **[Import]**.
4. You must then finish the configuration:
 - If you only select one device to import, the **New Device** page appears which includes automatically populated discovery information. After you review the information and make any required changes, click **[Save]**.
 - If you selected multiple devices, the devices will be imported without review. The devices are marked as incomplete and are displayed in red in the devices list. You can then complete the configuration and add authentication details or edit any default parameters and click **[Save]**.

Ignored Devices

The **Ignored devices** screen displays a list of devices that will be ignored in future scans. To remove devices from the ignore list, select the devices then click **Un-ignore**.

You can review the list of ignored devices and make changes. To remove devices from the Ignored Devices list:

1. Go to the **Ignored** tab (Devices > Discovery > Ignored).
2. Once the list of ignored devices is displayed, select the checkbox to the left of one or more devices.
3. Click [**Unignore**].
4. Click [**Update**].

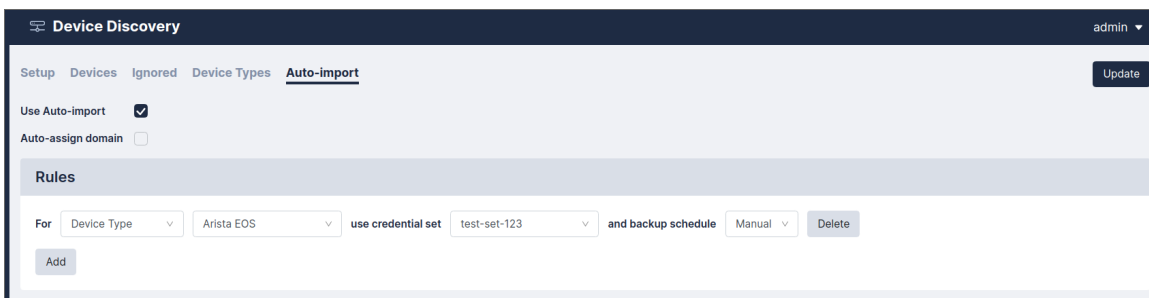
Device Types

The **Device Type Override** page allows you to force discovery scans to import a device as a certain type based on a hostname pattern. To override a device type:

1. Go to the **Device Types** tab (Devices > Discovery > Device Types).
2. Click [**Add**] and enter values in the following fields:
 - **For hostname pattern**. Enter a hostname value to be assigned the device type.
 - **use plugin**. Select a device type.
3. Click [**Update**].

Automatic Import

You can automatically import your devices to the **Device** page after setting up discovery. To automatically import your devices:



The screenshot shows the 'Device Discovery' interface with the 'Auto-import' tab selected. The page has a dark blue header with 'Device Discovery' and 'admin' in the top right. Below the header, there are navigation tabs: 'Setup', 'Devices', 'Ignored', 'Device Types', and 'Auto-import'. An 'Update' button is in the top right corner. The main content area has two checkboxes: 'Use Auto-import' (checked) and 'Auto-assign domain' (unchecked). Below this is a 'Rules' section with a form. The form has a 'For' dropdown set to 'Device Type', a dropdown set to 'Arista EOS', a dropdown set to 'use credential set', a dropdown set to 'test-set-123', and a dropdown set to 'and backup schedule'. There are 'Manual' and 'Delete' buttons to the right of the form. An 'Add' button is at the bottom left of the form area.

1. Go to the **Auto-import** tab (Devices > Discovery > Auto-import).
2. Select the **Use Auto-import** checkbox.
3. Click [**Update**].

Running a Manual Backup

To run a manual backup:

1. Go to the **Device** page (Devices > Device List).
2. Select the checkbox to the left of the devices that you want to back up and click **Backup**.

NOTE: You can also run a manual backup by clicking the **Backup Now** button on the **Edit Device** page (Devices > Device List > Select Device > Edit).

Scheduling an Automatic Backup

You can automatically schedule backups for a large group of devices by spreading the backups over a day, a week, or a month. To automatically schedule backups:

1. Select the checkbox to the left of the relevant devices on the **Devices** page (Devices > Device List), and click the **[Schedule]** button.
2. Select the desired time interval, and the daily Start/End time and/or the Start/End day. For example, you can configure the schedule to run backups only at night or during the weekend.

Exporting the Device List

Click the **[Export]** button to save the device database in a CSV file.

Editing an Existing Device

To edit an existing device:

1. Go to the **Devices** page (Devices > Device List).
2. Click on the name of the device that you want to edit. The **Edit Device** page appears.
3. Make any required changes and click the **[Save changes]** button.

Editing Multiple Devices

To edit multiple devices:

1. Go to the **Devices** page (Devices > Device List).
2. Select the checkbox to the left of the devices that you want to edit and click **[Edit]**. The **Edit devices** page appears.

3. Edit your desired fields and click **[Save Changes]**.

NOTE: Fields that have different values between devices display a *[Multiple]* value.

Deleting an Existing Device

To delete an existing device:

1. Select the device(s) you want to remove.
2. Click **Edit**, and ensure that the **Disabled** field is set to Yes to prevent accidentally deleting a device you have not disabled.
3. Click **Save**.
4. The devices you want to remove are selected. Click **Delete**.

Device Monitoring

Restorepoint can monitor devices by periodically checking that the TCP port used for backup (for example, telnet or SSH) is accepting connections, or by sending ICMP Echo Requests (pings) to the device. Monitoring is disabled by default and can be enabled or disabled for each individual device.

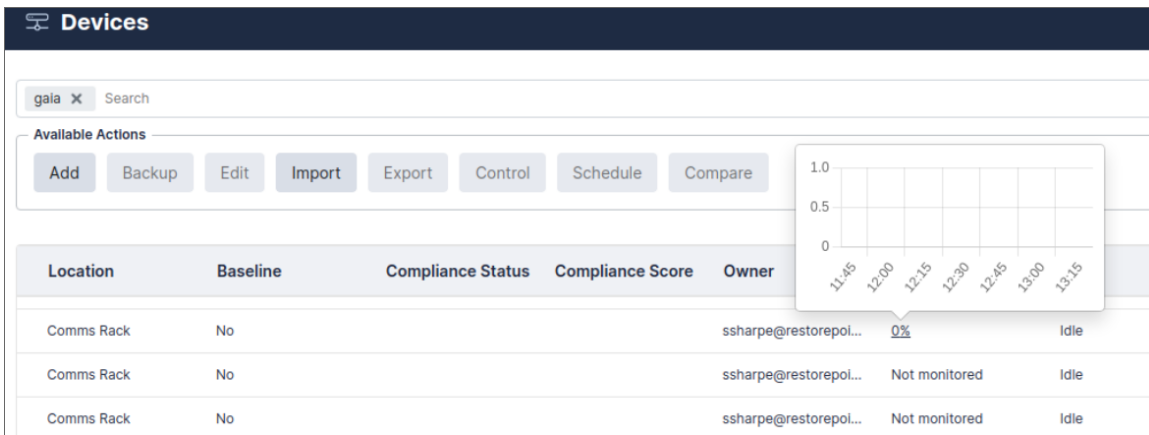
Enabling Monitoring

To enable monitoring, open the relevant device **Edit** screen:

1. Select the **Monitor Device** checkbox
2. Select the **Type** of monitoring required. Normally, the device's TCP port used for backup is polled; if the *Ping* option is selected, the ICMP Echo Request (ping) will be used.
3. You can select **Email when down** to send an email notification if the device appears to be down. You can also choose to receive **Email when up**.
4. If the device fails to respond after the number of attempts specified in the **Fail after** box, it is considered "down".

Displaying Monitoring Information

You can hover over status information to display a Round Trip Time graph between Restorepoint and the device, in 5 minute intervals.



Clicking **Uptime** will display the monitoring graph for the device.

You can select any other monitored device from the dropdown at the top of the page to display its graphs.

Configuration Templates

Templates are configurations that can be pushed to multiple devices. For example, during a large deployment of similarly configured devices. Each template can contain parameters, which are substituted for entered values for each device. For example, a section may be marked "IP Address", and the field will be applied when pushed to devices.

Creating and Editing Templates

1. Navigate to the Template page (Devices > Templates). Click **Add**, or click on an existing template name.
2. For new templates, select a device and configuration to base the template on.
3. After your template has loaded, select the configuration fields that you want to be substituted.
4. Click **Mark Variable** to name and store a highlighted value.
5. Once your template is created, the template values can be renamed or deleted with the relevant buttons.

6. Click **OK**. If you don't provide a name and comment, a name and comment will be automatically generated.

Add Template

Name

Device: A Cisco Switch

Configuration: 2-20201210002849 (v. 1 startup)

Notes

```
!
! Last configuration change at 20:59:39 UTC Sun Nov 29 2020 by admin
! NVRAM config last updated at 20:59:40 UTC Sun Nov 29 2020 by admin
!
version 12.1
no service pad
no service timestamps debug uptime
no service timestamps log uptime
no service password-encryption
!
hostname wkg2ios1
!
logging rate-limit 1
aaa new-model
aaa group server radius RadiusServers
 server 172.16.17.206 auth-port 1812 acct-port 1813
!
aaa authentication login default group RadiusServers local
aaa authorization exec default group RadiusServers if-authenticated
```

Mark variable

Pushing Templates

To push a template to a device, select the template from the **Template Management** page. Choose one or more devices using the device selector, and click **Push**.

Push Template

Devices Variables

Search

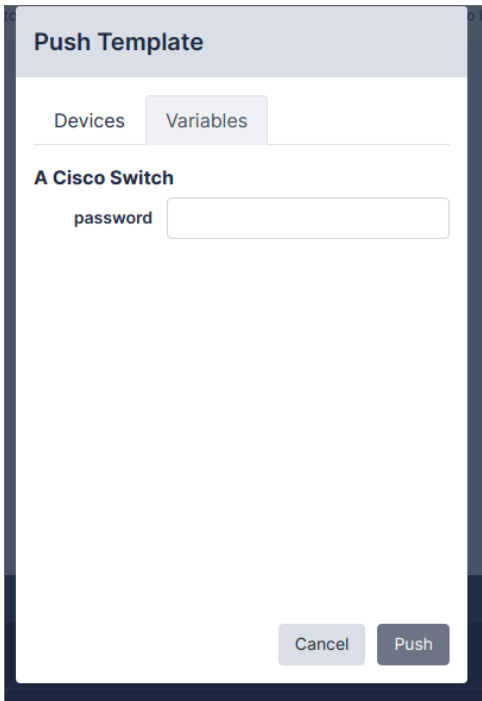
A Cisco Switch

Cisco IOS_172.16.21.241

wkg2sw2

Cancel Push

If the template has any parameters, you must enter the values for each of the devices selected above:



Push Template

Devices Variables

A Cisco Switch

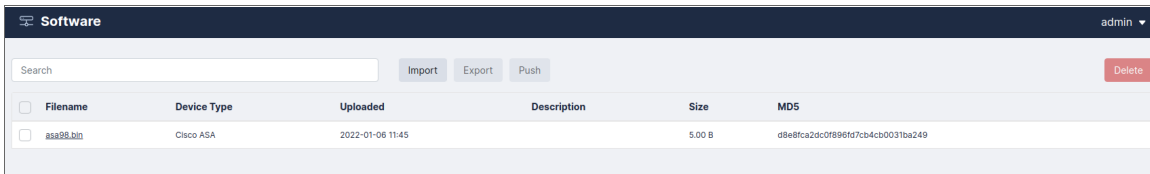
password

Cancel Push

Click **OK** to complete the operation.

Software Management

Restorepoint can be used as a repository for device firmware/software that allows you to upload files like firmware images and ISO images to the appliance. Software images can also be pushed to supported devices.



Filename	Device Type	Uploaded	Description	Size	MD5
<input type="checkbox"/> asa98.bin	Cisco ASA	2022-01-06 11:45		5.00 B	d9e8fca2dc0f896fd7cb4c0031ba249

Uploading and Editing Firmware Images

1. Click **Import**, or an existing firmware name.
2. For new firmware, click the **Browse** button and navigate to the file from your hard drive.
3. Supply values in the **Device Type** and **Description** fields.
4. Click **Save**.

Upload Firmware

Drag backup file here, or click to select backup file

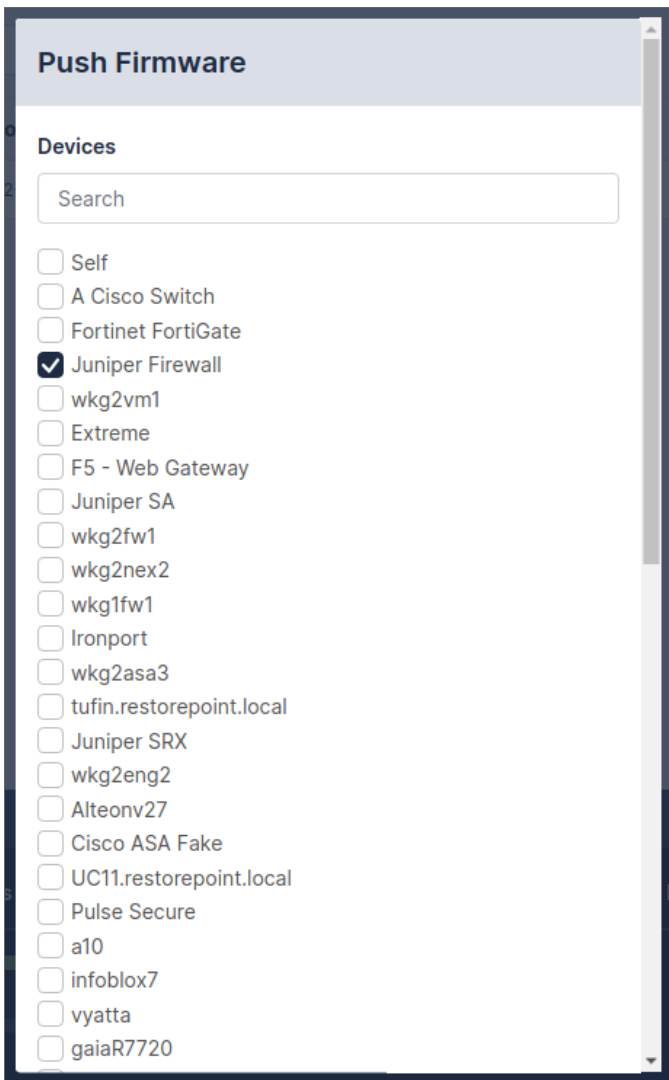
Device Type [None] v

Description

Cancel Save

Pushing Firmware

Restorepoint can upgrade the firmware of a supported device using an image stored in the repository. Select a firmware image using the tickboxes, then click **Push**. Select the device from the menu, then click **Push** again; Restorepoint will perform the upgrade procedure recommended by the device vendor.



Please check the Plugin Guide ([Help > Plugin Guide](#)) for a list of devices that support this function.

Credential Sets

Restorepoint can use predefined **Credential Sets** to authenticate to a device instead of individual usernames and passwords. Credential Sets are useful if several devices share the same authentication credentials. To create a Credential Set:

1. Go to the **Credential Sets** page (Devices > Credential Sets).
2. Click **Add Set**, or click on an existing Credential Set name.
3. Type a name for the set and type your authentication details .

4. Select a **Domain** from the pull-down menu to restrict the scope of this set to a particular domain; otherwise choose **Global** to make this set available to all domains.
5. Click **OK**.

Edit Credentials

Details Devices

Set Name

Domain

Global

Username

Password

Password

Show

Password 2

Password 2

Show

Close Save

Using Credential Sets

To authenticate to a device using an existing credential set, leave the authentication details empty, check **Use Credentials**, and then select the correct credential set. Click **Save**.

Edit device

Device Details **Connection** Schedule Assets Additional Info Compliance Notifications & Monitoring Configurations Logs Syslogs Action Outputs

Connection

Protocol
ssh

Use Restorepoint Credentials?

Username
admin

Password
..... Show

Password 2
..... Show

Backup Port
22

Extra Files
/etc/resolv.conf/etc/sysconfig

Backup Logs
.....

Back Connection NAT

Use SSHv2 PKA

SSH Public Key
Clear Cache

To view which devices are currently using a selected Credential set, click the name on the **Devices > Credential Sets** page, and navigate to the **Devices** tab.

Integrating Restorepoint and CyberArk

You can integrate your CyberArk Vault with Restorepoint to populate credential information. To integrate CyberArk with a predefined Restorepoint device:

1. Identify the device and credential field that you want populated by the CyberArk Vault.
2. Go to the **Credential Sets** page (Devices > Credential Sets).
3. Click **[Add Set]** and supply values in the following fields:
 - **Set Name.** Type a name for the credential.
 - **Username.** Type your device username. If you want CyberArk to populate this value, leave this field blank.
 - **Password.** Type your device password. If you want CyberArk to populate this value, leave this field blank.
 - **Password 2.** Type your second device password. If you want CyberArk to populate this value, leave this field blank.

- **Add Custom Fields.** Click the **[Add Custom Fields]** button and type the name of the field that you want to query from CyberArk so that CyberArk can populate the corresponding value in Restorepoint.
4. Click **[Save]**.
 5. Go to the **System Settings** page (Administration > System Settings) and select the **[Security]** tab.
 6. In the **Credential Providers** pane, click **[Add]**, and supply values in the following fields:
 - **Name.** Type a name for the credential provider.
 - **URL.** Enter the URL for your CyberArk Vault, specifically the [GetPassword Web Service](#) endpoint of the [Central Credential Provider](#) (CCP). You should not include any query parameters here, but add them to the **Query Mappings** section below.
 - **Application ID.** Type the application ID that identifies Restorepoint application to your CyberArk vault.
 - **Request Timeout (sec).** Type a value, in seconds, after which Restorepoint will stop trying to communicate with CyberArk. Default value is 10 seconds.
 - **RootCA Certificate.** Upload the PEM-encoded X.509 Root CA certificate required for secure TLS communication with CyberArk.
 - **Client Certificate.** Upload the PEM-encoded X.509 client certificate required for secure TLS communication with CyberArk.
 - **Client Key.** Upload the PEM-encoded client private key required for secure TLS communication with CyberArk.

Query Mappings

Click **[Add query mapping]** and supply values in the following fields:

- **Credential.** Select the credential that you created in steps 2-4 of this section.
- **Field.** Select the field that you want CyberArk to populate.
- **Query.** Type the query to retrieve field data from CyberArk. This is a required parameter to retrieve a secret value from the vault in conjunction with the **Application ID**.

Query. The query is a string with the following format:

```
'Property=Value;Property=Value;...Property=Value'
```

where `Property` is one of the properties of the CyberArk account where the credentials are stored. Different types of accounts contain different properties, but most contain `UserName` and `Address`.

For a successful query, you must include enough properties to return exactly one account, otherwise you will receive an error. For example:

```
'safe=test;Database=hr;UserName=sa;Address=dbserver1.cyberark.local'
```

7. Click **[Save]**.
8. Go to the **Devices** page (Devices > Device List).
9. Select the checkbox to the left of your device and click **[Edit]**.

10. Go to the **[Connection]** tab.
11. Select the **Use Restorepoint Credentials?** checkbox and select the credential that you created in steps 2-4 of this section from the drop-down.
12. Click **[Save changes]**.

NOTE: If the field does not populate in the user interface, you can click **[Backup Now]** when editing the device to view the device logs and the value that was populated from CyberArk.

Asset Fields

In addition to the built-in Asset Management fields, you can also define custom fields. To do this, navigate to the Assets Fields page (**Devices > Asset Fields**). Custom fields can be of type **Date**, **Text** (single-line), **Textarea** (multiple-line), and **File**.

Once defined, date fields can be set to give an **Expiry Notification**:

- 60 days before
- 30 days before
- When Reached

If set, an email is automatically sent to the device's owner on the specified expiration date. Expiry date is also used in reports.

Custom Fields

Name	Type	Notify	
Documentation	File	N/A	Delete
History	Textarea	N/A	Delete
Maintenance Expiry	Date	30 days before	Delete
Purchase Date	Date	None	Delete
Purchased From	Text	N/A	Delete
Renewal	Date	30 days before	Delete
Support End Date	Date	30 days before	Delete
<input type="text"/>	Text		Add Field

Notifications

Notify Owner

Update

Any custom fields defined in this page become immediately available in the **Assets** page of all devices managed by Restorepoint.

Global Search

Restorepoint can search the full text of configuration backups for a keyword from the Global Search page (**Devices > Global Search**).

Enter your search term in the **Search for** box, select the devices you would like to search, and click **Go**. To avoid excessive results, you can choose to **Limit** the search to a given timeframe.

If the keyword (or keywords, if more than one is entered) are found in a device configuration, it will be listed in the right-hand panel. If you click the name of the device configuration, the device configuration page will open.

Global searches are case-insensitive and do not support wildcards.

Viewing the List of Configurations for a Device

You can access the list of configurations for a device from the **Device Management** page by clicking the **last backup** column of the corresponding device, or by clicking the **Configurations** tab when you edit the device.

A configuration may contain more than one file. For example, a Cisco IOS device has a start-up and a running configuration; you can choose which configurations should be backed up in the **Device Details** page.

Configurations

Filename Prefix

Filename Include
 Device ID
 Device Name

Preview
 50-[timestamp]

Default Config Types
 Startup Config
 Running Config
 VTP Database

If a device supports firmware identification, Restorepoint will display the firmware version detected at the time of backup, next to each configuration. A sample list is shown below:

Restorepoint keeps track of configuration changes by assigning a version ID to each unique configuration retrieved from a device. Identical configurations are not stored multiple times.

View	<p>There are three available views:</p> <ol style="list-style-type: none"> Default View: A list of all the configurations retrieved from the device. Group by: This view groups the configurations by File, Size, Firmware version, Initiator, or configuration version. Version Changes: This view does not display consecutive entries with the same version ID, and therefore highlights configuration changes.
Baseline version	<p>The checkmark shows the baseline version of a configuration. To set a baseline version, select the checkmark. The checkmark will become solid. Restoring a non-baseline configuration version to a device with a baseline configuration version will cause a compliance alert. For more information, see Configuration Baselines.</p>
Retaining a version	<p>You may want to retain a configuration indefinitely (a <i>milestone</i> configuration), that overrides your configured retention policy. For example, a backup taken just before a device upgrade. To retain a configuration, click the padlock icon next to the file name; the padlock will become solid. To undo this action, click the padlock icon again.</p>
Adding comments	<p>You can add a comment to a configuration by clicking the grey note icon next to the relevant configuration. Enter your comment in the pop-up dialog box and click OK; the icon will change color. To remove a comment, click the icon, delete the text, and click OK.</p>

NOTE: The above options apply to a configuration version, rather than an individual backup.

Compare configurations	<p>The Compare option is only available for the devices with text file or a tar/tgz archive of text files configurations. To compare two configurations, select two items using the checkbox to</p>
-------------------------------	--

	<p>the left of the item, and click Compare. If the configurations are archives, Restorepoint will expand the archives and compare the individual files. Restorepoint will display the chosen configuration files side by side and highlight the differences; inserted lines will be displayed in blue and changed lines will be displayed in red. When Only differences is selected, Restorepoint will not display lines which are identical in both files, except those preceding or following a change.</p> <p>Note: Some devices embed a timestamp or fingerprint in the configuration every time a backup is performed. Wherever possible, Restorepoint ignores lines that only differ by such fingerprints when comparing configurations, so that only relevant changes are displayed.</p>
Delete a configuration	Select a configuration using the checkbox and click Delete . This operation is usually only required to delete a milestone configuration (one you have chosen to retain indefinitely), because old configurations are automatically removed according to the retention policy.
Restore a configuration	To restore a configuration, select a configuration using the checkbox and click Restore . Additional options may be displayed, for instance which configuration type should be restored, or whether the device should be reset to complete the operation.
Upload Backup	This option allows you to upload a new device configuration file to Restorepoint from your PC.
Export Backup	You can export a device configuration from Restorepoint through your browser, email, make it available for FTP/TFTP/SFTP collection by a device, or export it to one of your pre-configured file servers.

Backup File Operations

If a device configuration is a plain text file or a tar/tgz archive of text files, you can view the configuration contents by clicking the relevant tab or file name in the configuration page. If the configuration is an archive of text files, Restorepoint will attempt to unpack the archive and display each individual file. If the configuration is a binary file, or if the file is too large, Restorepoint will not display the contents.

From this page, you can copy this file to your local machine by clicking the **Export** button. After you export the file, you can use a text editor to edit the backup file, and then upload it back to Restorepoint using the **Upload Backup** button on the **Configurations** tab. You can push the edited configuration file to the device by clicking the **Restore** button.

Backup Failures

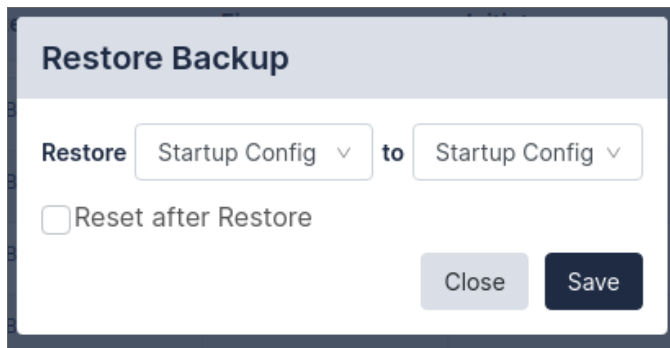
By default, after a device fails to back up, Restorepoint will retry the operation every hour until it succeeds, and it will send an error notification by email on every failed attempt. This behaviour can be modified by changing the **Failure Policy**, configured in the device **Schedule** tab:

- From the **Retry** pull-down, choose how many times to retry a failed backup. Backups are attempted every hour.
- Next, choose whether to revert to the set schedule or disable further backups when the last allowed failure occurs.
- Finally, choose when to be notified of a failure.

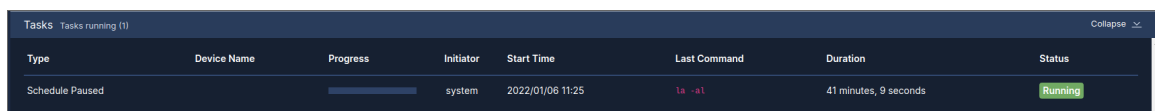
Restoring to an Existing Device

To restore a device:

1. Select **Devices** from the menu. Restorepoint displays the **Device Management** page.
2. Click the entry in the **Last Backup** column next to the device you want to restore. Restorepoint displays all the available configurations.
3. Select a configuration by selecting its checkbox and click **Restore**. Restorepoint prompts you to confirm the restore operation. Depending on the device type, you may be prompted for additional options.



4. If the restore operation fails, you will see an activity in the activity display. You can click on the magnifying glass icon next to the progress bar to show a real-time progress log, which will aid in determining the cause of the failure. There is also a **Transcript** in the **Logs** tab for failed backups, which contains the details of the conversation with the device.



Type	Device Name	Progress	Initiator	Start Time	Last Command	Duration	Status
Schedule Paused		<div style="width: 100%;"></div>	system	2022/01/06 11:25	la -a1	41 minutes, 9 seconds	Running

Restoring to a New Device

When a device is replaced, for instance due to failure, the following conditions must be met:

- The new device must run the same software version as the original.
- The new device must be configured with the same IP address and authentication details as the old device. Alternatively, you can temporarily change the IP addresses or credentials stored on Restorepoint to match those of the new device.
- If Restorepoint connects to the device using SSH, you may need clear the SSH cache in Restorepoint in the **Connection** tab of **Device Management**.

Cloning

The **Clone** button restores a configuration to a device that is different than the original, which produces a duplicate of the original device. This operation should be used with caution, as it may produce a duplicate IP address on your network.

Chapter

4

Compliance

Overview

You can use Restorepoint to create policies to verify that your devices comply with corporate or regulatory guidelines.

This chapter covers the following topics:

<i>Device Policies</i>	57
<i>Password Policies</i>	63
<i>Configuration Baselines</i>	64

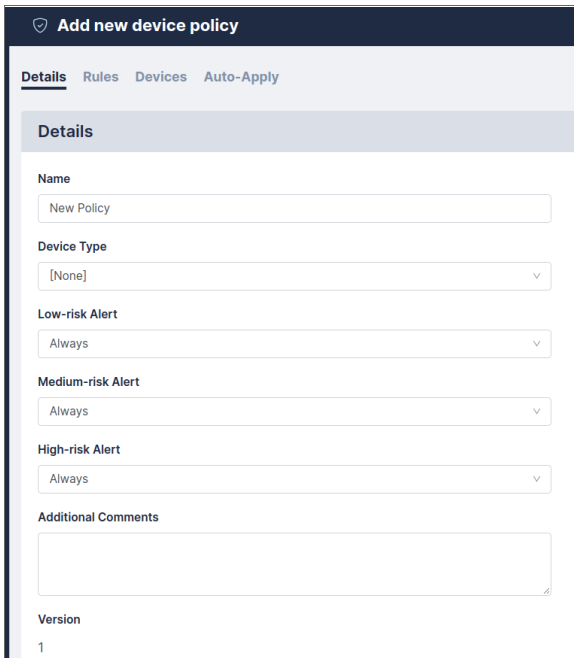
Device Policies

Use the **Compliance > Device Policies** page to create configuration compliance policies and assign the policies to devices. Policies are groups of one or more rules. A rule is a pattern that is applied to configurations or device firmware version to test whether the configurations or firmware contain a certain phrase or Regular Expressions, or if they match an existing device template. If the tests fail, a compliance violation is triggered and an email alert is sent to the device owner.

Configuration Policies can be configured for devices that have a text configuration file or a TGZ archive of text configuration files.

Creating a Policy

Click **Add Policy** to create a new policy or click **Import** to import a previously exported policy:



The screenshot shows a web interface for adding a new device policy. The title bar reads "Add new device policy". Below the title bar are four tabs: "Details" (selected), "Rules", "Devices", and "Auto-Apply". The "Details" section contains the following fields:

- Name:** A text input field containing "New Policy".
- Device Type:** A dropdown menu with "[None]" selected.
- Low-risk Alert:** A dropdown menu with "Always" selected.
- Medium-risk Alert:** A dropdown menu with "Always" selected.
- High-risk Alert:** A dropdown menu with "Always" selected.
- Additional Comments:** A large text area.
- Version:** A text input field containing "1".

To copy a policy, open the existing policy and click **Clone**.

Alert Criteria

Individual rules can be given a risk level, either **Low**, **Medium** or **High**. For each level, a trigger point can be set, to determine whether or not to generate an alert. This ranges from **Never**, through two, three, four, or five violations, to **Always**. For example, you may want an alert only if three or more low-risk rules are broken, but always if a single high-risk fails. You can also specify a **Device Type** that the policy will apply to, and add a **Comment** to explain the purpose of the policy.

Rules

Click **[Add rule]** located in the **Rules** tab of the **Add new device policy** page to define and add a rule to a policy. Once a rule is defined, it can be edited, removed, cloned, or tested against an existing backup using the appropriate buttons. When finished, click **[Save Changes]**.

Supply values in the following fields:

Rule name	A label that is used to identify a rule in a report or email
Rule Type	Whether the rule applies to a configuration, software version, runtime command, or the output of a scheduled action
Requirement	Must Match/Must Not Match/Must Match Template
Template	If Must Match Template is selected, you can use this drop down menu to select an existing device template. Templates are defined in the Devices menu.
Match type	Phrase, Regular Expressions , Lua function, device, or device templates. The Phrase match type matches any (case sensitive) number of characters, including multi-line. The Regex match type (see Regular Expressions) takes a Perl-flavoured regular expression, and applies it to the whole configuration, or firmware string.
Pattern	The pattern to be matched
Severity	Low , Medium or High
Remediation type	Manual, Automatic, or Command (see Remediation below)
Add File	For multi-file configurations, e.g., TGZ archives

The screenshot shows the 'Add new device policy' interface. At the top, there are tabs for 'Details', 'Rules', 'Devices', and 'Auto-Apply'. The 'Rules' tab is active. Below the tabs, there are buttons for 'Add Rule', 'Test All Rules', 'Test', 'Clone', and 'Delete'. A table lists the rules:

<input type="checkbox"/>	Name	Rule	Severity
<input type="checkbox"/>	test1	Firmware version must match phrase	Low

On the right side, there is a 'Summary' panel with a 'Details' section. The details include:

- Name: New Policy
- Device Type: [None]
- Low-risk Alert: Always
- Medium-risk Alert: Always
- High-risk Alert: Always
- Version: 1
- Last Updated: N/A

Below the summary, there are sections for 'Rules (1)', 'Devices (0)', and 'Auto-Apply'.

Remediation

You can use remediation when a compliance rule is not met, generally intended to rectify the violation. The following remediation types can be configured:

Manual	The remediation text is appended to the notification email to signify that the recipient should take the appropriate action.
Command	One of the stored Actions on the device (see Controlling a device) is executed.
Automatic	The text specified in the textbox is used as a command and executed on the device.

If the rule match type is **Regex**, the remediation can make use of the **Capture** feature, whereby parts of the pattern in brackets can be captured and then referred to in the remediation text (as `$1`, `$2`, etc.). For example, a rule may state that a configuration must not contain the regex:

```
set telnet (\d+\.\d+\.\d+\.\d+)
```

Where the command in brackets is a match for an IP address. If this rule is violated, the configuration can be remedied using the phrase:

```
unsettelnet$1
```

In this case, the brackets in the rule will capture the IP address, and apply it when the command is performed. The rule is then expanded:

```
unsettelnet1.2.3.4
```

Devices

Each policy can be assigned to, or removed from devices by selecting the relevant checkboxes. Alternatively, this can be done from individual devices in the **Devices** tab on the **Edit Device policy** page.

Edit device policy

Details Rules **Devices** Auto-Apply

Cancel Apply changes Save changes

Devices

Apply to:

Name

- Select all
- AOS-CX
- Cisco ASA
- Cisco IOS
- f5
- Fortigate 1
- Fortigate 2
- GaiaR81
- IPv6 Router
- Palo Alto v6
- palov8
- Switch 101

Summary

Details

Name	ASA - Enable SSH inside
Device Type	[None]
Low-risk Alert	Always
Medium-risk Alert	Never
High-risk Alert	Never
Version	1
Last Updated	N/A

Rules (1)

Devices (0)

Auto-Apply

Once your policy is assigned to, or removed from, their devices, you can choose when their policies should be applied. Complete the desired fields in the **Auto-Apply** tab on the **Edit Device policy** page to refine when a policy should be applied to a device that is created with the **Use Auto-Applied Rules** option checked on the **Devices** page [**Compliance**] tab. Additionally, you can click **[Add]** to define multiple **Auto-Apply** rules if needed. Finally, click **[Save Changes]** when all of your updates are completely finished.

Edit device policy

Details Rules Devices **Auto-Apply**

Auto-Apply

Apply this policy when

Address Range Remove And

Remove

Add

Regular Expressions

A regular expression specifies a set of strings as a pattern, rather than a list. For example, the pattern `C(o|a)s?t` matches the strings `Cot`, `Cat`, and `Cast`, but not `Coast`. Restorepoint uses Perl-flavor Regular Expressions.

Most characters can be used in a regular expression. Some characters, called *metacharacters*, have special meanings:

- `()` denote grouping: `(a|b)b` matches `ab` and `bb`
- `|` denotes an alternative (see above)
- `^` matches the beginning of a line
- `$` matches the end of a line
- `.` matches any character
- `+` denotes one or more occurrences of the previous character: `a+b` matches `ab`, `aab`, `abb`, but not `b`
- `*` denotes zero or more occurrences of the previous character: `a*b` matches `b`, `ab`, `aab`, `aaab`
- `?` denotes zero or one occurrences of the previous character: `a?b` matches `b` and `ab`, but not `aab` or `aaab`

Character classes are matches for sets of possible characters, rather than just a single character. For example:

- `[bc]at` matches `bat`, `cat` and `rat`
- `-` can be used as a range operator in a character class. For example, `[a-g]` matches any character from `a` to `g`

There are some abbreviations for common character classes:

- `\d` matches a digit
- `\s` matches whitespace (a space or a tab)
- `\w` matches a word character (alphanumeric or a `_`)

For example, `\d\d:\d\d:\d\d` matches time in a `hh:mm:ss` format.

For more information and examples of regular expressions, see the [reference guide](http://www.regularexpressions.info/reference.html) (<http://www.regularexpressions.info/reference.html>).

Lua Functions

You can use Restorepoint to define rules using Lua functions. For information on using Lua to run commands on your devices, see [Lua Applets](#).

Available functions for compliance rules are:

- `nextline()` returns the next line of text
- `getline(n)` returns the given line of text
- `numlines()` returns the number of lines

- `addressmessage (m)` allows you to replace a series of variables in the remediation text. For example, `addressmessage ("Hello")` with a remediation text of `$1World!` would output *Hello World!*. The next `addressmessage` call would replace `$2`, and so on.

This function checks that the number of lines containing *configure* matches the lines containing *port*:

```
num1 = 0

num2 = 0

line, next = nextline()

while next do

    if line:match("configure") then num1 = num1+1 end

    if line:match("port") then num2 = num2+1 end

    line, next = nextline

end

if num1 > num2 then addressmessage("more")

else if num2 < num1 then addressmessage("less") end

return num1 == num2
```

Remediation Text: `Config contains $1 configures than ports.`

Variable Definitions

Items defined in this section can be used in compliance rules as variable replacements, referenced with the `$replace$` format, where `replace` is the variable you have defined. This enables you to use a variable as shorthand for configuration elements, that are likely to be referenced multiple times.

For example, if you create a definition for *Gateway*, and assign it a **Value** of `192.168.0.1`, you can then use it in a compliance rule, as shown below:

Add Rule

Name

Rule

Must Match

Match Type **Case Insensitive**

Value

This rule will be expanded to `ip default-gateway 192.168.0.1`. If the gateway address changes, update the **Value** in the *Gateway* variable definition and all rules that use the `$Gateway$` variable will be automatically updated.

NOTE: A variable name can only consist of letters, numbers, and the underscore character `_`. If the value contains escape sequences (such as `\n`), the sequence must be double-escaped (`\\n`).

Password Policies

You can use password policies to configure various rules to enforce password strength for devices and users. These settings are used in the **strength meter** that is displayed in all password fields : the background of the field will change color, from red for an unacceptable password, to yellow for a weak password, to green for a good password. Password Strength reports are available on the **Reports** page.

You can use the following rules:

Minimum length	Minimum number of characters for a password to be accepted
Good Length	Recommended number of characters to be considered good
No Common	Password cannot be simple to guess, such as <i>1234</i> or <i>password</i>
No Dictionary	Password cannot be a dictionary word, such as <i>backup</i> or <i>admin</i>
Must Mix Case	Passwords must contain a mixture of lower and upper case letters
Must Use Numbers	Passwords must contain numbers as well as letters
Must Use Symbols	Passwords must contain non-alphanumeric symbols, such as <code>\$</code> or <code>^</code>

Configuration Baselines

Configuration versions can be marked as *Baseline* by clicking the *checkmark* symbol in the Version column of the **Configurations** tab. When you perform subsequent backups, an email notification is sent if the configuration differs from a baseline version. This allows you to quickly check if the current configuration is an approved version.

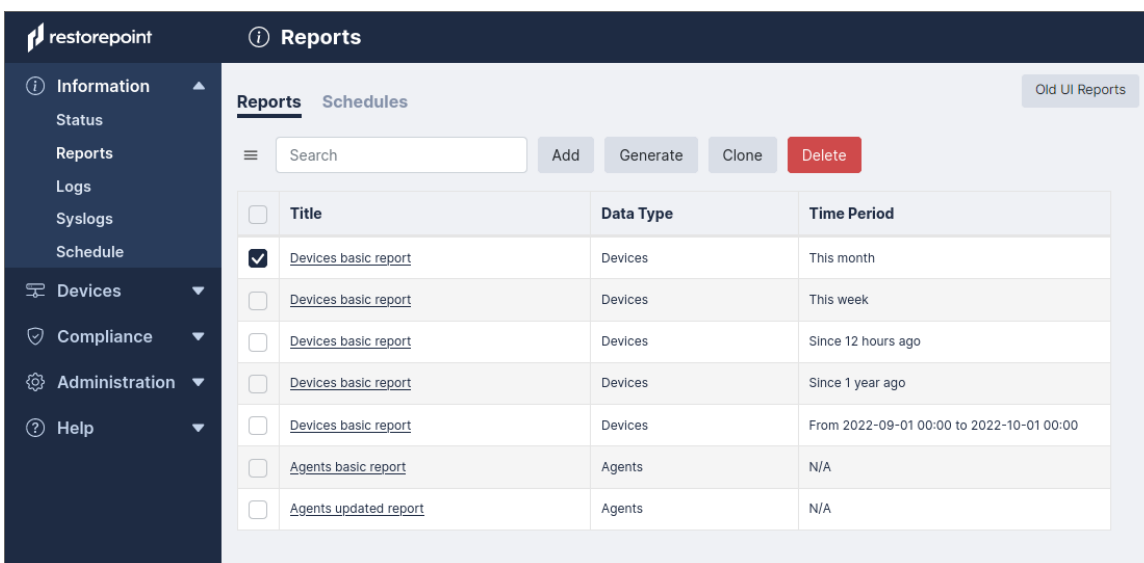
Chapter

5

Reports

Overview

This chapter describes how you can perform a multitude of report-related functions in Restorepoint. The **Reports** module (Information > Reports) primarily allows you to add, generate, and schedule reports to your set specifications. However, you can also clone and delete reports/report schedules for better data refinement. You can select multiple individual reports, also called multireports, on this page. The check-boxes located to the left of the listed reports and schedules allow you to multiselect.



This chapter covers the following topics:

Adding a Report	67
Editing a Report	68

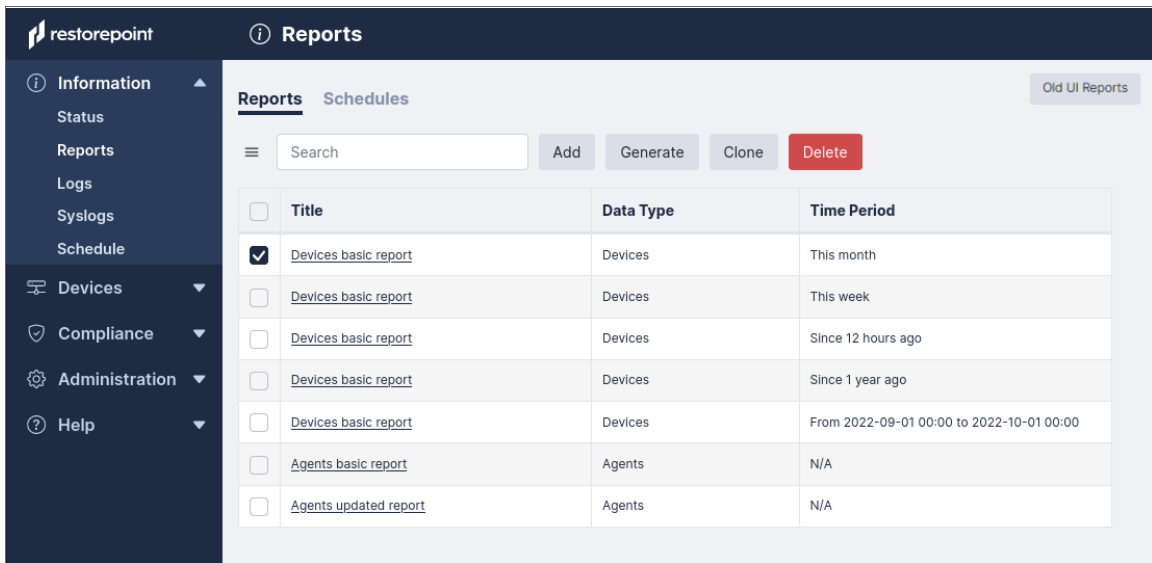
<i>Generating a Report</i>	69
<i>Cloning a Report</i>	70
<i>Adding a Report Schedule</i>	72
<i>Editing a Report Schedule</i>	72
<i>Deleting a Report or Report Schedule</i>	73

Adding a Report

You can add reports that provide device data suited to your selected fields.

To add a new report:

1. Click the **Reports** tab (Information > Reports) and click **[Add]**.



2. A pop-up window appears. Complete the following **Add Report** fields:
 - **Title:** Enter your report's title.
 - **Data Type:** Select your report data type.
 - **Fields:** Check the box next to the data fields you want to appear in the report.
 - **Period:** Select the time period for your report data collection. Options include:
 - Last 24 Hours
 - This Week
 - This Month
 - This Year
 - Since a given hour/day/week/month/year
 - A given date range
 - **Sort By:** Determine which column field that the generated table on your report will be sorted by.

- **Filters:** Select your **Plugin (=)**, **Label (=)**, and their associated plugins/labels. Filters limit, or exclude, a specific **Domain**, **Location**, **Device Type**, or **Device**. A device must match *all* filters to be included in the report; there are a wide range of combinations that can be met for your report. To add additional filters to a report, click **[Add]**.

Add Report

Title

Data Type

Fields

Search

Name

DomainName

Labels

Disabled

DisabledUntil

Monitor.Enabled

Monitor.AlertFail

Monitor.IsPing

Monitor.AlertEmail

Monitor.AlertEmailUp

PluginName

PublicKey

NotificationEmails

Period

Sort By

Filters

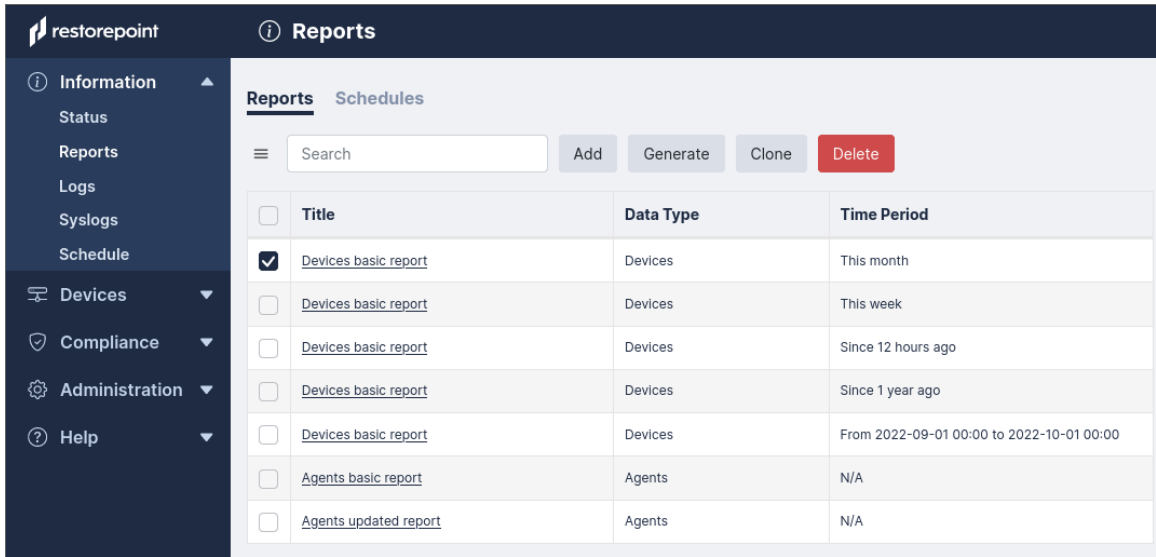
3. Click **[Submit]** to complete the report's addition.

Editing a Report

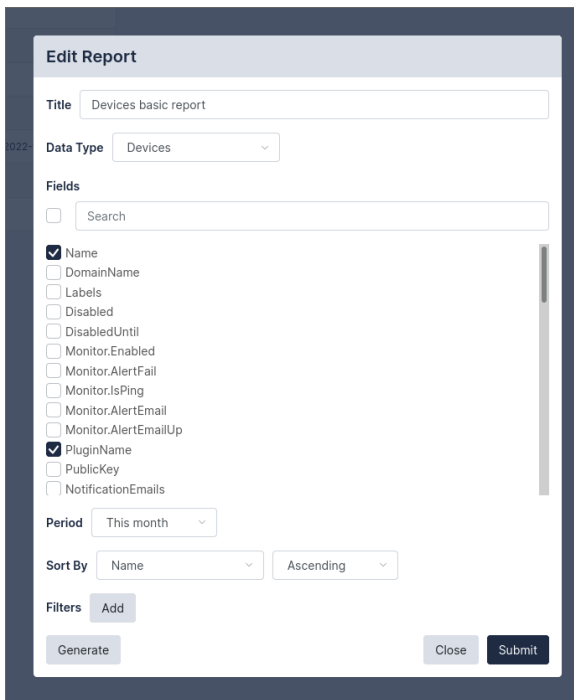
You can edit existing reports to reflect any report updates that come after creation or perform additional report functions.

To edit a report:

1. Click the **Reports** (Information > Reports) tab and select your *Report Title* from the Reports list to edit that specific report.



2. A pop-up window appears. Complete the **Edit Report** fields.



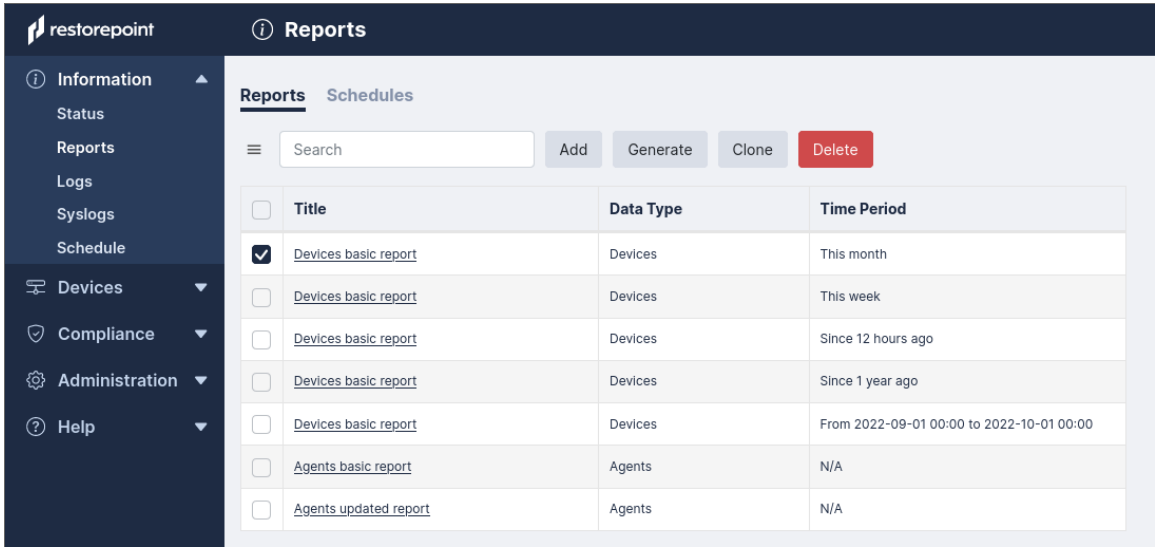
3. Click [**Submit**] to submit your report edits.

Generating a Report

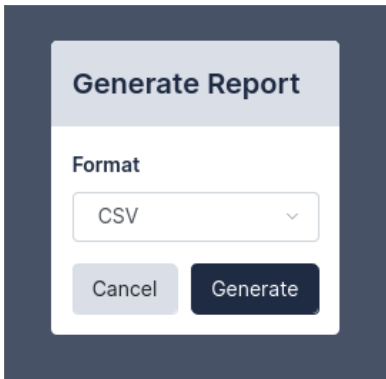
You can generate reports to view device data suited to your report's selected fields.

To generate a report:

1. Click the **Reports** (Information > Reports) tab and select the check-box next to your report to generate and click **[Generate]**.



2. A pop-up window appears. Select your report's *Format*. Reports can be produced in these formats: CSV and PDF.



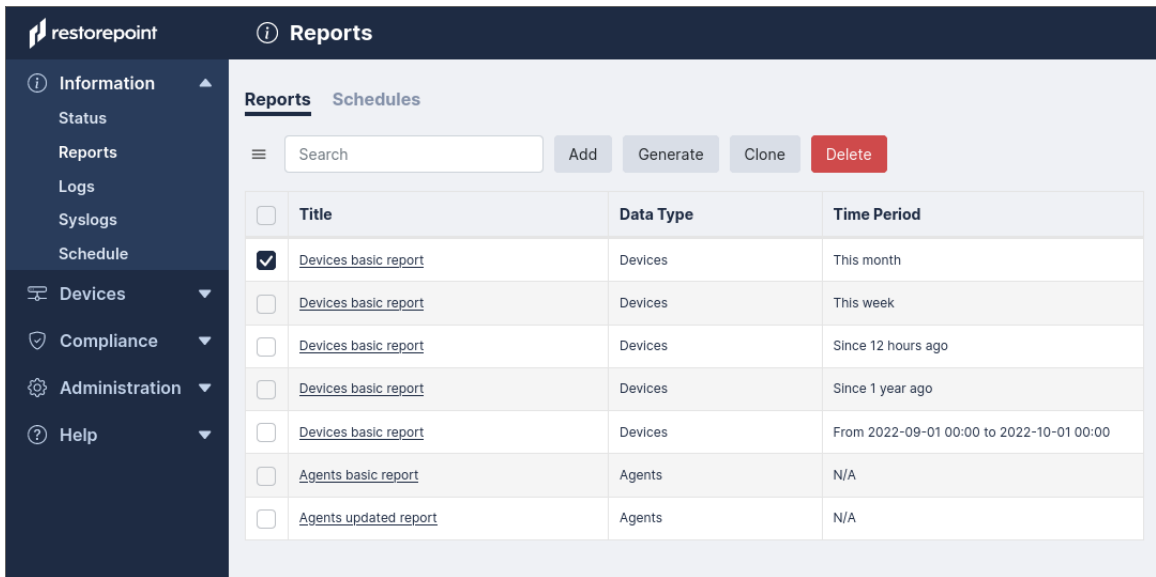
3. Click **[Generate]** to view the report in your selected format.

Cloning a Report

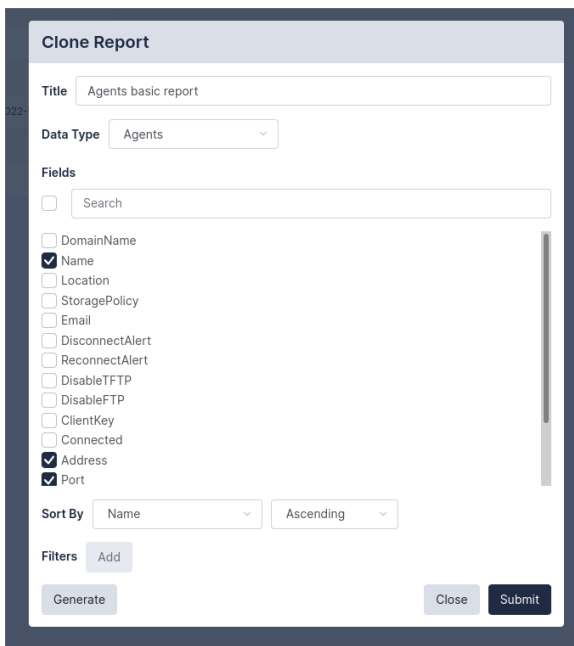
You can clone existing reports to add a new report that is similar to another.

To clone a report:

1. Click the **Reports** (Information > Reports) tab and select the check-box next to your report to clone and click **[Clone]**.



2. A pop-up window appears. Complete the **Clone Report** fields.



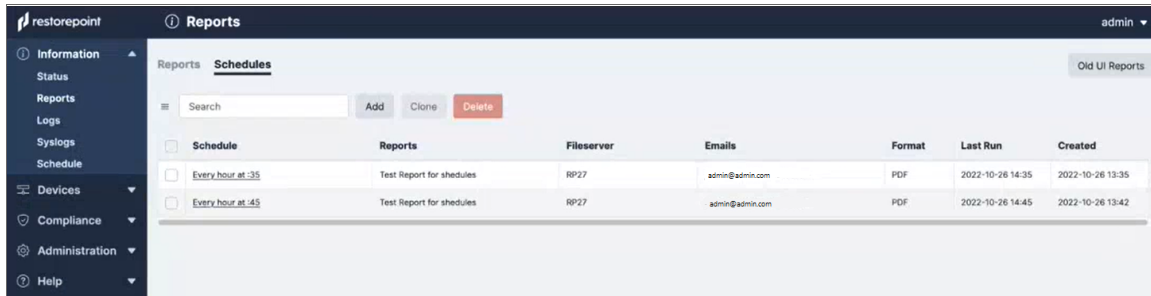
3. Click **[Submit]** to finish the clone report's addition.

Adding a Report Schedule

You can schedule reports to run automatically at a selected time. Every schedule requires a minimum of one email or fileserver to be set.

To add a scheduled report to run automatically:

1. Click the **Schedules** (Information > Reports > Schedules) tab.



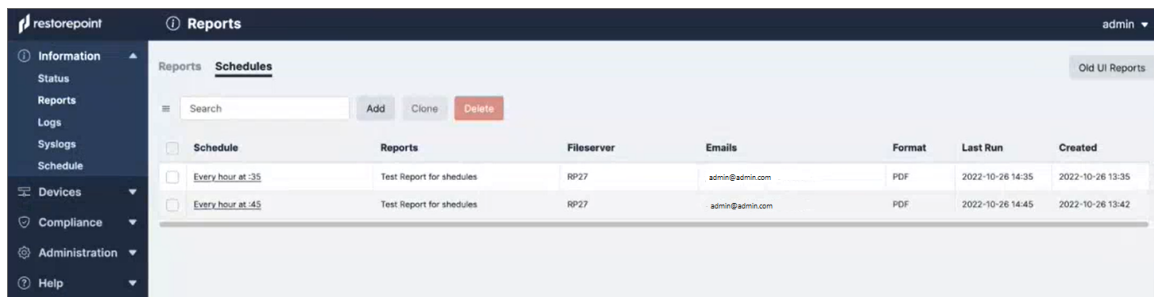
2. Click **Add**.
3. A pop-up window appears. Complete the **Add Schedule** fields.
 - *Every [Number] [Time increment] at [Number]*: Enter your report schedule's run frequency.
 - *Fileserver*: Select your fileserver.
 - *Emails*: Enter the email address(es) that will receive the report.
 - *Email Text*: Enter any text to be delivered in the report schedule email.
 - *Format*: Reports can be produced in these formats: HTML, CSV, PDF, and XML.
 - *Reports*: Select a report to test.
3. Click [**Submit**] to complete your new report schedule.

Editing a Report Schedule

You can edit existing report schedule to reflect any schedule updates that come after creation or perform additional schedule functions.

To edit a report schedule:

1. Click the **Schedules** (Information > Reports > Schedules) tab and select your *Schedule Title* from the Schedules list to edit that specific schedule.



2. A pop-up window appears. Complete the **Edit Schedule** fields.

The 'Edit Schedule' pop-up window contains the following fields:

- Frequency:** Every 1 Hour at 45
- Fileserver:** RP27
- Emails:** admin@admin.com
- Email Text:** Placeholder text
- Format:** PDF
- Reports:** Search (checked), Test Report for schedules (checked)

Buttons: Close, Submit

3. Click **[Submit]** to submit your schedule edits.

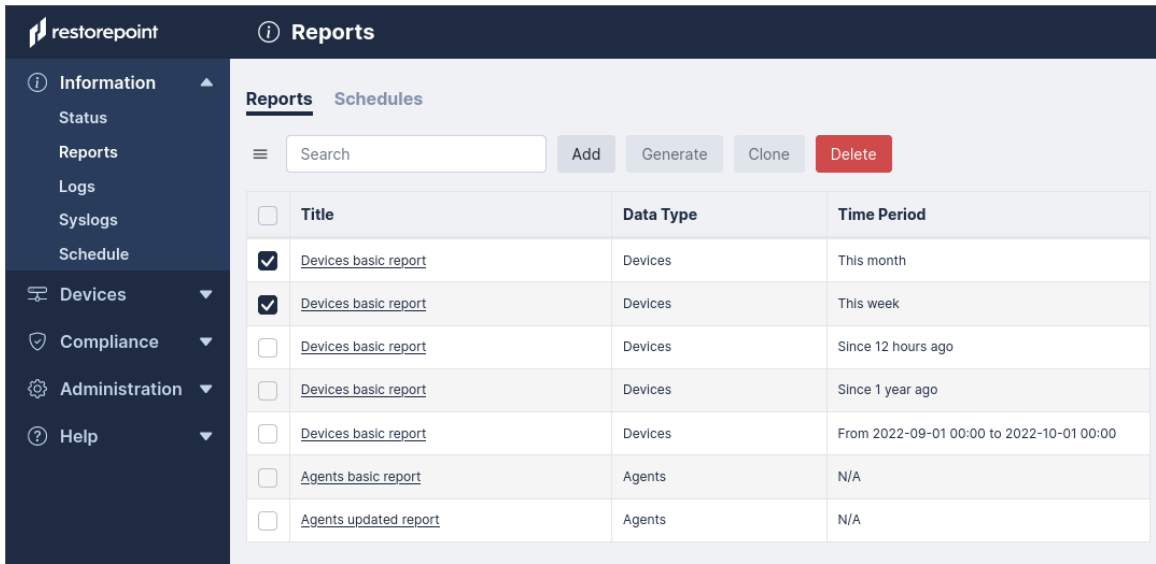
Deleting a Report or Report Schedule

You can delete existing reports, or report schedules, from their respective lists.

To delete a report or report schedule:

1. From either the **[Reports]** or **[Schedules]** tab, select the check-box next to your report(s), or report schedule(s), to remove.

2. Click **[Delete]**. The selected report(s) or report schedule(s) will no longer appear in the tab's list.



The screenshot shows the Restorpoint interface for managing reports. The left sidebar contains navigation options: Information (Status, Reports, Logs, Syslogs, Schedule), Devices, Compliance, Administration, and Help. The main content area is titled 'Reports' and includes a search bar and action buttons: Add, Generate, Clone, and Delete. A table lists various reports with columns for Title, Data Type, and Time Period. Two reports are selected with checkboxes.

<input type="checkbox"/>	Title	Data Type	Time Period
<input checked="" type="checkbox"/>	Devices basic report	Devices	This month
<input checked="" type="checkbox"/>	Devices basic report	Devices	This week
<input type="checkbox"/>	Devices basic report	Devices	Since 12 hours ago
<input type="checkbox"/>	Devices basic report	Devices	Since 1 year ago
<input type="checkbox"/>	Devices basic report	Devices	From 2022-09-01 00:00 to 2022-10-01 00:00
<input type="checkbox"/>	Agents basic report	Agents	N/A
<input type="checkbox"/>	Agents updated report	Agents	N/A

Chapter

6

Managing Users

Overview

This chapter describes how you can add administrators to Restorepoint and configure administrator roles.

Restorepoint supports three levels of user access:

Admin	Super User who has full access (can create/modify/delete devices and users, initiate backups/restores and change the appliance configuration). Admins also have an encryption password that allows Restorepoint to transition from the locked state to the normal state.
Backup	Backup Operator who can perform device backups and restores, but cannot modify devices, users, or appliance settings.
View Only	Monitor Operator who can only view existing backups, access logs, and verify that the system is operating normally.

This chapter covers the following topics:

<i>Listing Logged-in Users</i>	76
<i>Adding a New User</i>	76
<i>Editing an Existing User</i>	78
<i>Broadcasting to Users</i>	79
<i>Deleting a User</i>	79
<i>Password Reset</i>	79
<i>Custom User Roles</i>	80
<i>Authentication Servers</i>	84

Listing Logged-in Users

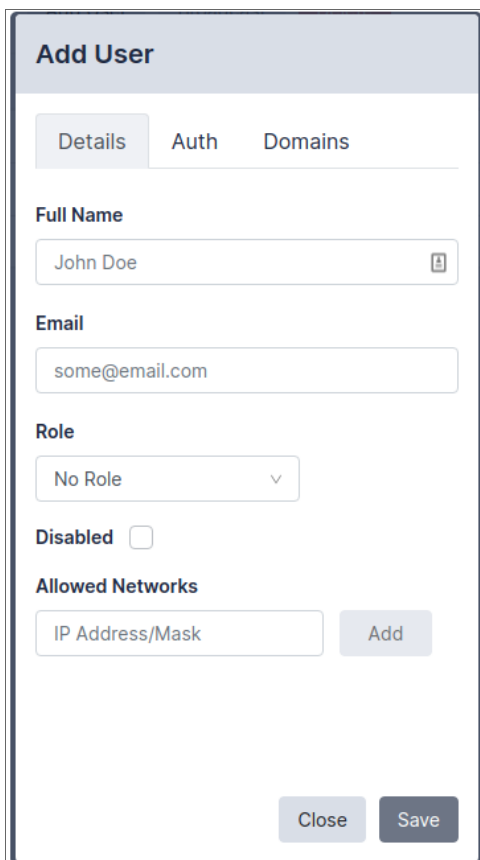
You can view a list of currently logged in users in the **Logged-in Users** tab (**Administration > Users > Logged-in Users**). The number of Logged-in users is also displayed on the dashboard (**Info > Status**).

Adding a New User

To add or modify administrators, navigate to the Users page (**Administration > Users**). Administrator passwords and encryption passwords, by default, must be at least 8 characters long. For more information, see [Password Policies](#).

To add a new user:

1. Navigate to the Users page (**Administration > Users**). The **User Management** page appears.
2. Click **Add User**. The **New User** page appears:



The screenshot shows a modal window titled "Add User" with three tabs: "Details", "Auth", and "Domains". The "Details" tab is active. The form contains the following fields and controls:

- Full Name:** A text input field containing "John Doe" with a small icon on the right.
- Email:** A text input field containing "some@email.com".
- Role:** A dropdown menu with "No Role" selected and a downward arrow.
- Disabled:** A checkbox that is currently unchecked.
- Allowed Networks:** A section with a text input field for "IP Address/Mask" and an "Add" button to its right.
- Buttons:** At the bottom right, there are "Close" and "Save" buttons.

- Complete the following fields on the **Details** tab:

Full Name	Enter the full name of the user
Email	Enter the user's email address
Role	Select the privilege level from the drop-down list. See below for the privileges associated with each admin level.
Disabled	Select this checkbox to prevent the user from logging in.
Allowed Networks	If set, this field allows the user to connect to Restorepoint only from certain subnets. Enter an IP range in CIDR format in the IP Address/Mask box, and click Add .

- Complete the following fields on the **Auth** tab.

Username	Enter the new username. Usernames may be up to 16 characters long.
Password	Enter the password for the new user. By default, passwords must be between 8 and 24 characters long. The field color will range from red to green to indicate the password strength, according to the policy set in the Password Policies page. For more information, see Password Policies .
Encryption Password	This field appears if an <i>Admin</i> -level administrator is selected. The encryption password must be between 8 and 24 characters long, and must be different from the administrator password. The field color will range from red to green to indicate the password strength.
Email activation link	This field allows you to set up a user without specifying a password. The user will receive an activation email to let them set their own password.
Expire Password	This field allows you to override the global password expiry rules for this user. See Timeouts for the global password expiry settings.
Use RADIUS	Select this checkbox if you want the user to authenticate against an external RADIUS server. See RADIUS Authentication on how to configure a RADIUS server.

- Search for any domains that need to be associated for this user in the **Domains** tab.

The screenshot shows the 'User Management' interface with a table of users. The table has columns for Name, Username, Role, Domain(s), Last Active, Added, Updated, Email, Type, and Disabled. There are three rows of user data.

<input type="checkbox"/>	Name	Username	Role	Domain(s)	Last Active	Added	Updated	Email	Type	Disabled
<input type="checkbox"/>	Admin User	admin	Admin		2022-01-06 11:58	2020-11-18 16:12	2020-11-18 16:34	admin@demo.com	Local	No
<input type="checkbox"/>	Admin User	admin	Admin	Domain Test 070621	Never	2021-07-07 09:32	2021-07-07 09:32	admin@demo.com	Local	No
<input type="checkbox"/>	Admin User	admin	Admin		Never	2021-11-24 09:53	2021-11-24 09:53	admin@demo.com	Local	No

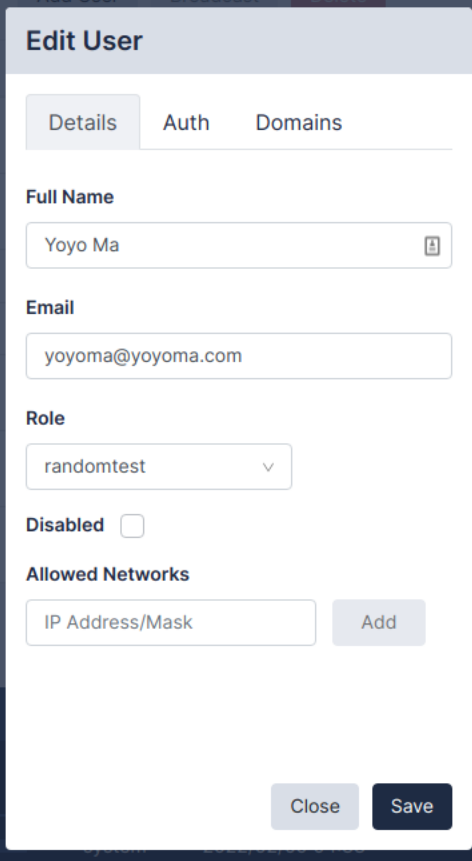
- Click **[Save]**.

NOTE: When a new administrator first logs in, they will be prompted to configure a password recovery question and answer. Restorepoint suggests that administrators assign an email and recovery question and answer in case you need to reset your password. For more information, see [Password Reset](#).

Editing an Existing User

To edit the details of an existing user:

1. Navigate to the **Users** page (**Administration > Users**).
2. Click on the name of the user that you want to edit.
3. Edit the user as needed and then click **Save**.



The screenshot shows the 'Edit User' form with the 'Details' tab selected. The form contains the following fields and controls:

- Full Name:** A text input field containing 'Yoyo Ma' with a small user icon on the right.
- Email:** A text input field containing 'yoyoma@yoyoma.com'.
- Role:** A dropdown menu with 'randomtest' selected.
- Disabled:** A checkbox that is currently unchecked.
- Allowed Networks:** A section with a text input field for 'IP Address/Mask' and an 'Add' button.
- Buttons:** 'Close' and 'Save' buttons at the bottom right.

4. When editing an administrator's user details, there are two additional fields in the **Auth** tab:
 - **Recovery Question/Answer.** Type a Recovery Question / Answer for password recovery.
 - **New Token.** Generates and emails a new recovery token to the user. This allows the user to recover their encryption password, if forgotten. For more information, see [Password Reset](#).

NOTE: A new token is generated any time an administrator's recovery details are updated. Take note of the new token as this token will be used later if you forget your password.

Broadcasting to Users

You can use Restorepoint to send a notification message to a user or group of users. Select checkbox next to the users you want to message and click **Broadcast**. This opens the Broadcast Dialog, where you can enter the **Text** of the message, the **Type** of message to send, and how long the message should persist.

A *UI* message type appears as a pop-up in the User's UI session. If the user is not currently logged in, the message will appear when they log in to the appliance until the **Persist** time is reached. An *Email* message type will send the notification to the User's email address registered on the appliance.

Deleting a User

To delete one or more existing users:

1. Select the checkboxes of the users you want to remove.
2. Click **Delete**.

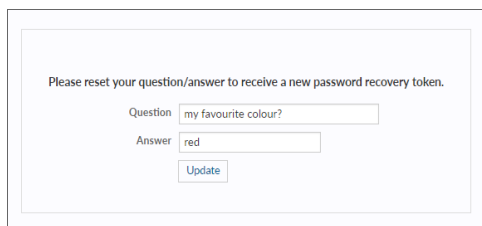
Password Reset

Restorepoint provides a password reset mechanism based on two-factor authentication.

Password Recovery Configuration

During the initial configuration procedure, or when an administrator logs in for the first time, the following information must be set:

- A password recovery question and related answer. For security reasons, only an administrator should know these.
- The administrator's email address.



The screenshot shows a dialog box with the title "Please reset your question/answer to receive a new password recovery token." It contains two input fields: "Question" with the text "my favourite colour?" and "Answer" with the text "red". Below the input fields is an "Update" button.

Restorepoint will then email a **recovery token**, which can be used by the administrator to reset their password and encryption password, if the administrator knows the recovery question and answer.

Recovery Procedure

When logging on with an incorrect password for the given account, the **Forgotten password** link displays:

Incorrect username or password - [Forgotten your password?](#)

Login

Username
admin

Password
.....

Login

Or login using Single Sign On

Login with SSO

To reset your password:

1. Click the **Forgotten password?** link and the Reset Password pane displays.
2. Complete the following fields:
 - **Username.** Type your Restorepoint username.
 - **Recovery Token.** Enter your recovery token. This field only displays and is only required for administrators.
 - **Recovery Question.** Administrators should have entered a recovery question when you set up your Restorepoint account. Your recovery question displays then type your recovery question answer. This field only displays and is only required for administrators.
 - **New Password.** Type a new password.
 - **Confirm Password.** Type the same password you entered above.
 - **New Encryption Password.** Type a new encryption password. This field is only required for administrators.
 - **Confirm New Encryption Password.** Type the same password you entered above. This field is only required for administrators.
3. Click **[Reset Password]** and if your reset is successful, a notification appears.

NOTE: Users with specific permissions can change another user's password.

Custom User Roles

In addition to the standard built-in administrator roles (**Admin**, **Backup**, and **View Only**), which cannot be edited, it is possible to define custom roles that define which product elements are accessible to the user. This feature is only available with an Enterprise license.

In order to define a custom role:

1. Navigate to the **User Roles** page (**Administration > User Roles**).
2. Click **Add Role**, and enter a name for the role.
3. Select the allowed actions for this role.

Add Role

Name

Name

Permissions Users

Devices

Modify Device Backup Device Restore Device

Command Device View Deviceauth View Devices

Add Device Delete Device Export Devices

Modify Labels Open Terminal

Asset Fields

Modify Assets View Assets

Credentials

View Credentials Modify Credentials

Backups

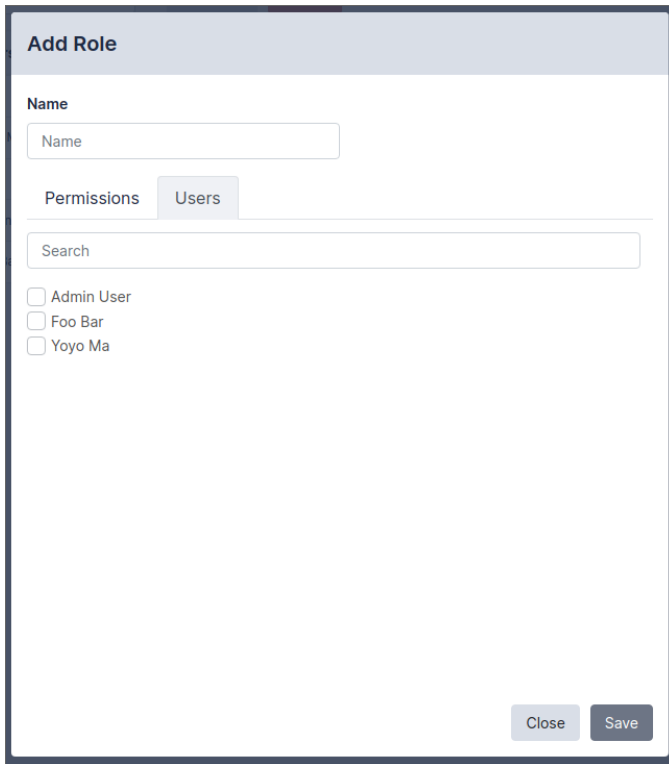
List Backups View Backup Export Backup

Modify Backup

Schedule

Close Save

4. Click the **Users** tab to assign this role to one or more existing users.



The screenshot shows a dialog box titled "Add Role". At the top, there is a "Name" field with the placeholder text "Name". Below this, there are two tabs: "Permissions" and "Users", with "Users" being the active tab. Under the "Users" tab, there is a "Search" field. Below the search field, there is a list of three users, each with an unchecked checkbox: "Admin User", "Foo Bar", and "Yoyo Ma". At the bottom right of the dialog, there are two buttons: "Close" and "Save".

5. Click **Save**.

After you add a role, it is immediately available in the **Role** drop-down on the **Edit User** page. Note that any changes to custom roles take effect immediately upon save.

For example, you can create a user role called *Compliance Officer* that can only create and modify compliance rules, and apply those to devices.

Edit User

Details
Auth
Domains

Full Name

Email

Role

randomtest
▼

Disabled

Allowed Networks

Add

Close
Save

In addition to the global **View** (read-only) and **Modify** (read-write) permissions, you can allow the following actions:

Reports	
Backup	Allows backup reports
Config	Allows configuration reports
Assets	Allows assets reports
Compliance	Allows compliance reports
Admin	Allows administration reports
Monitor	Allows monitoring reports
Dashboard	Allows dashboard reports
Modify	Allows users to modify and schedule reports

Logs	
View Logs	Allows users to view the system log
View Syslogs	Allows users to view the device syslogs

Devices	
View	Allows users to view the device list and device details (excluding authentication details)
View Auth	Allows users to view device authentication details
Backup	Allows device backup operations
Command	Allows device remote control

Configurations	
List	Allows users to view the device configuration list
Export	Allows users to export device configurations
Restore	Allows users to restore a configuration to a device

Templates	
List	Allows users to view the template list
Push	Allows users to push templates to devices

Firmware	
Push	Allows users to push firmware images to devices

Assets	
List	Allows users to view custom asset fields

Compliance Rules	
Apply	Allows users to apply compliance rules to devices

System	
Archive	Allows system archive operations

Users	
View	Allows user to view the user list and user details (excluding authentication details)
View Auth	Allows users to view user authentication details

Authentication Servers

RADIUS Authentication

You can use this page to configure parameters for authenticating administrators via RADIUS. If **Use RADIUS** is selected for a user, Restorepoint will use RADIUS instead of the internal authentication database. Restorepoint

supports the PAP and CHAP (not MS-CHAP) authentication protocols.

NAS Identifier	a string identifying Restorepoint to the RADIUS server	
Primary Server	Address	IP address of the RADIUS server
	Port	UDP port used by the RADIUS server (usually 1812)
	Secret	a string shared between Restorepoint and the RADIUS Server
Secondary Server (optional)	A second RADIUS server, configured as above.	

LDAP Authentication

This page can be used to connect to an LDAP (Active Directory) user authentication server.

Base DN	The top-level LDAP DN. This is usually (but not always) the DNS domain name, such as <i>dc=company,dc=com</i> .	
User Search	Base DN	for example, <i>cn=users,dc=company,dc=local</i>
	Username Field	what LDAP field to use as the Restorepoint login id, for instance <i>uid</i> or <i>samAccountName</i> .
Group Search	Base DN	for example, <i>cn=security groups,dc=company,dc=local</i> .
	Search String	the group search filter, for instance <i>objectClass=Group</i> or <i>objectClass=posixGroup</i> , depending on the directory type.
Primary Server	Address	IP address of the LDAP server.
	Port	UDP port used by the LDAP server (usually 389). LDAP over SSL may use 636. Use 3268 to query the Active Directory Global Catalogue (useful for multi-domain forests).
	Bind DN	the DN to bind the LDAP with. For instance, <i>gbh</i> .
	Bind Password	the bind password for the LDAP Server.
	Use TLS	allows you to require encrypted connections to the LDAP Server.
Secondary Server (optional)	A secondary LDAP server	

NOTE: LDAP users will need to be assigned a role from the **Administration > Users > LDAP Users** tab before they can log in.

SAML Authentication

This page can be used to connect to a SAML authentication server.

Service Provider Settings	ACS URL	The ACS URL to communicate with your SAML server.
	Entity ID	The entity ID to communicate with your SAML server.

Identity Provider Settings	IdP Metadata	The IdP metadata for your system.
---	-------------------------	-----------------------------------

Chapter

7

Device Control

Overview

This chapter describes how you can use Restorepoint to send a command-line interface (CLI) command to a device or group of devices and capture the output of the command. This tool can be used to perform a task concurrently on a group of devices.

This chapter covers the following topics:

<i>Controlling a Device</i>	88
<i>Using Parameters</i>	90
<i>Scheduled Actions</i>	90

Controlling a Device

You can use Restorepoint to send a CLI command to a device or group of devices and capture the output of the command. This tool can be used to perform a task concurrently on a group of devices, such as changing the administrator password.

To use this function, select the relevant device(s) and click **Control**.

The dialogue box appears:

The screenshot shows a dialog box titled "Control Devices". It contains the following fields and controls:

- Stored Actions:** A dropdown menu with "New Action" selected.
- Name:** A text input field.
- Description:** A text input field.
- Type:** A dropdown menu with "Commands" selected.
- Variable delimiter:** A dropdown menu with "\$" selected.
- Timeout (s):** A text input field with "30" entered.
- Keep Input:** An unchecked checkbox.
- Device type:** A dropdown menu with "[None]" selected.
- Command:** A large text input area.
- Buttons:** "Close", "Perform", "Clone", "Apply", and "Save" are located at the bottom right.

Select **New Action** from the drop-down menu, then enter the commands in the text area. Device Control Actions can also be defined from the **Device Control** page (Devices > Device Control), by clicking **New Action**.

If required, you can **Save** these commands as an **Action** for later execution, or for use in **Compliance Remediation**.

Stored Actions can also be scheduled. For more information, see [Scheduled Actions](#).

Click **Perform** to execute the commands. Restorepoint will display the output of the commands for each of the selected devices. Device Control outputs are stored in the **Output** tab of the Device Control page.

Edit Command

Name

Description

Type **Variable delimiter**

Timeout (s) **Keep Input**

Device type

Command

Output

```
A Cisco Switch
wkg2ios1 uptime is 1 week, 3 days, 14 hours, 47 minutes
```

This chapter covers the following topics:

Using Parameters

You can use action parameters for different devices, using the format `$`parameter`$`, where `$` is the **Variable Delimiter** you've set for your Action.

For instance, to change the admin password for a number of ScreenOS devices, select the devices and enter the command:

```
setadminpassword$password$
```

After you click **Perform**, you will be asked for a replacement string for each device. An unlimited number of parameters can be replaced this way.

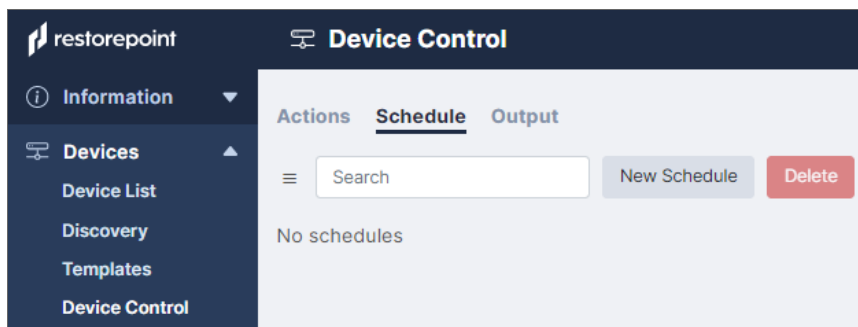
NOTE: A parameter can only consist of letters, numbers, and the underscore character `_`. If the replacement string contains escape sequences (such as `\n`), they must be double-escaped (`\\n`).

Scheduled Actions

Actions can be scheduled and run automatically.

To add a new schedule to your device:

1. Click on the **Schedule** tab on the **Device Control** page, then click **[New Schedule]**.



2. Complete the fields:

- Select the **Action**.
- Select the device or devices on which to perform the action.
- Select the device or devices on which to perform the action.
- Select a frequency, either **Scheduled** or **Once At** and a time interval or date.
- If you want to merge the output of the action, select the **Merge Output** checkbox.
- If you want to email the output of an action after execution, select the **Email Log** check box and enter an email address.
- Optionally, select a compliance policy to apply to the output of the action.

For more information, see [Device Policies](#).

The screenshot shows a 'New Schedule' configuration form. It includes a dropdown for 'Action', a 'Devices' section with a search bar and a list of devices (AOS-CX, Cisco ASA, Cisco IOS, f5, Fortigate 1, Fortigate 2, GaiaR81, IPv6 Router, Palo Alto v6) with checkboxes, a 'Perform' dropdown set to 'Scheduled', 'Every' fields for '1' and 'Hour' at '00', a 'Keep Last' field set to '1', 'Merge Output' and 'Email Log' checkboxes, and an 'Apply Policy' dropdown set to '[None]'. 'Close' and 'Save' buttons are at the bottom right.

NOTE: All logs are now stored in Restorepoint.

3. Click **Save** and the scheduled action page is displayed.

Device Control admin ▾

Actions Schedule Output

Search New Schedule Delete

<input type="checkbox"/>	Action	Devices	Schedule	Next Due	Email To	Policy	Keep
<input type="checkbox"/>	action-test-1	New Device	Every hour at :00	2022-01-19 13:00			0
<input type="checkbox"/>	action-test-1	A Cisco Switch	Every hour at :00	2022-01-27 18:00		Test policy	0
<input type="checkbox"/>	Clone of action-test-1 UPDATED	A Cisco Switch	Every 8th month on the 1st at 00:00	2022-01-31 17:00		foo policy UPDATE2	0
<input type="checkbox"/>	action-test-1	A Cisco Switch	Every hour at :00	2022-01-26 18:00		foo policy UPDATE2	0
<input type="checkbox"/>	action-test-1	A Cisco Switch	2022-01-26 17:00	2022-01-26 17:00		foo policy UPDATE2	0

NOTE: Scheduled Actions cannot contain parameters.

Chapter

8

Lua Applets

Overview

Device Control features a more powerful way to interact with devices using the Lua programming language. Instead of sending a single command to a device, Lua offers control structures loops, conditionals, match functions, etc. Using Lua, you can perform more complex tasks, including making decisions based on the device output.

To create a Lua action, navigate to the Device Control page (Devices > Device Control) and click New Action. Then select **Type > Lua** from the drop-down menu.

The syntax is straightforward, and it does not require any specific programming experience or knowledge of markup languages like XML. For more information about Lua, see <https://www.lua.org/docs.html>.

This chapter covers the following topics:

<i>Restorepoint Built-in Functions</i>	94
<i>Examples</i>	94

Restorepoint Built-in Functions

The following functions can be used in a Lua applet:

- `timeout (seconds)` - set the maximum timeout when waiting for device output
- `sleep (seconds)` - do nothing for the given number of seconds.
- `send (command)` - send `command` to the device
- `wait (string)` - wait for `timeout` seconds for `string` from the device
- `sendget (command, output)` - combined send/wait
- `before ()` - used after `wait()` or `sendget()`; it contains the output from the device up to the expected string.
- `print (string)` - displays the value of `string`
- `splitlines (string)` - split a multi-line string (for example, the output of a command) into an array of lines.

Other standard Lua commands that may be useful include, `string.match`, `string.gsub`, and `string.trim`.

NOTE: You do not need to write any code to connect and authenticate to the device. Restorepoint will automatically connect and authenticate the device for you.

CAUTION: Users are not permitted to run any “os” or “system” functions when making Lua scripts. This restriction is in place to maintain the security of your Restorepoint appliance.

Examples

Show Version (Cisco)

A basic example is to display the output of the `show version` command on a Cisco switch:

```
timeout (20)
```

```
send('show version')
```

```
wait('#')
```

```
out=before ()
```

```
print (out)
```

```
 
```

The `send()` & `wait()` commands can also be combined into a `sendget()`:

```
timeout(20)

sendget("show version", "#")

out=before()

print(out)
```

Show Interface (Cisco)

The following is a more complex example using control structures. It runs `show interfaces` on a Cisco switch and checks that all interfaces that are not connected (line protocol is down) are also administratively down. Note that everything after `--` is a comment, and is not executed:

```
timeout(20) -- set the timeout to 20 seconds

sendget("terminal length 0", "#") -- send command to the device, and

-- wait for the prompt

sendget('show interfaces', '#')

out = before() -- set "out" to the output

lines = splitlines(out) -- split the output lines into array

for k,v in pairs(lines) do -- loop over each line, and

-- set k=number and v=text

int,st1,st2 = v:match(

"^(%S+Ethernet[0-9/]+) is ([a-z ]+), line protocol is ([a-z]+)"

) -- extract the interface name,

-- interface status, and the

-- line protocol status

if int ~= nil and

( st1 ~= 'administratively down' and st2 == 'down' ) then

print("Interface "..int.." is disconnected but not shutdown")
```

```
end
end -- end loop
```

IP Spoofing (ScreenOS)

For ScreenOS, use the following script to check for ip-spoofing:

```
timeout(5)

sendget("set console page 0", ">")

sendget("get zone | inc L3", ">")

ret = before()

sendget("get config | inc ip-spoofing", ">")

conf = before()

for zone in ret:gmatch(" [0-9]+ (.-)%s+Sec") do

    if conf:match('zone "..zone.." screen ip%-spoofing') then

        print('Zone '..zone..': antispoofing enabled')

    else

        print('Zone '..zone..': antispoofing disabled')

    end

end
```

IP Spoofing (Palo Alto)

You can use the following script to check for ip-spoofing, but for Palo Alto devices:

```
timeout(5)

sendget("set cli pager off", ">")

sendget("set cli config-output-format set", ">")

waitprompt()
```



```

sendget("configure","#")

send("show zone")

sleep(1)

waitlast("#")

ret = before()

sendget("exit",>)

tbl = {}

for key in ret:gmatch("set zone (.-) ") do

    tbl[key] = true

end

for k, _ in pairs(tbl) do

    send('show zone-protection zone '..k)

    sleep(1)

    waitlast('>')

    ret = before()

    if ret:match('discard%-ip%-spoofer:%s+enabled: yes') then

        print('Zone '..k..'': antispoofing enabled')

    else

        print('Zone '..k..'': antispoofing disabled')

    end

end

```

Chapter

9

File Storage

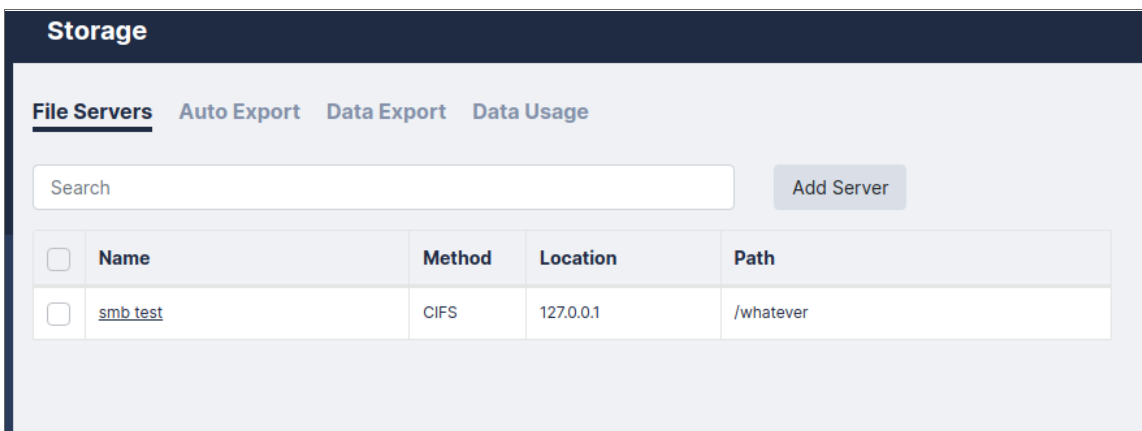
Overview

This chapter describes how to use File Storage in Restorepoint. You can use the Storage page (**Administration > Storage**) to save file storage configurations in Restorepoint. These can be used in the **Archive** or **Logs** page, or for automated configuration export from Restorepoint.

This chapter covers the following topics:

<i>File Servers</i>	99
<i>Auto Export</i>	99
<i>Data Export</i>	100
<i>Data Usage</i>	100

File Servers



For each file server, you can define the following fields:

Name	A name for the file server.
Protocol	Select CIFS (Windows Server), FTP, SCP or SFTP from the drop down menu.
Server IP	The IP address and port of the remote server.
Path	The full path on the remote server. For example, <i>/home/user1</i> (FTP) or <i>share 1 directory2subdirectory3</i> (CIFS).
Username	The username. This will be an FTP user, or a valid windows user if using CIFS.
Password	The password for the associated username.
Use NTLMv2 (CIFS Only)	If you are using CIFS with the NTLMv2 authentication protocol, you can select this checkbox.

Auto Export

For each policy, you can define the following fields:

Server	The fileserver to store the exported configurations. You can also define a new server by using the <i>[New Server]</i> option. For more information on details on the configuration, see File Servers .
Policy	When to automatically export configurations to your external server. Always Export will export when the backup is complete, Only Export new Versions will export when the backup is complete and the version number of the backup has changed, and Export before automatic deletion will export only the backups that are due to be removed from the Restorepoint appliance.

There are additional options you can apply to your new policy:

Use GPG	Users must enter a passphrase to securely encrypt the exported configurations before transfer to your external server.
----------------	---

Include Domain/Device Name	The filename / path on the remote server will contain the domain name/device name. For example, <code>/home/user1</code> (FTP) or <code>share1directory2subdirectory3</code> (CIFS).
Disabled	If this checkbox is selected, the policy will not run. This options allows you to temporarily disable an auto-export policy.

Data Export

You can use this page to export device configurations on-demand.

Configurations	No configs , only the Most Recent version of the config, or All Configs .
Data	Includes the device's Logs , and/or the Device Data in your export.
For	The devices or domains to export.
As	The format to export the configurations. They can be exported as <i>TGZ</i> or <i>ZIP</i> archives, or directly export the individual config files.
Chunk Size	If you've selected an archive format, you can choose the size to create the archive files.
To	The server to store the exported configurations. For more information, see File Servers . Alternately, you can choose to export device configurations directly to your workstation, via the Browser .

Data Usage

The Data Usage page displays statistics on the storage disk of your Restorepoint appliance.

Total Disk Size	The size of the encrypted volume that Restorepoint uses to store device configurations and settings.
Total Used	How much of that volume's space is used.
Backup size	Space used by device configurations.
Index size	Space used by Restorepoint's search index (used primarily for the Global Search function).
Cache Size	Space used by the Restorepoint cache. This is usually device configurations that needed to be extracted for viewing or comparisons. Restorepoint will automatically remove this cache, if needed. You can also manually clear the cache and click Clear Cache to clear the cache.
Debug Size	Space used by Restorepoint debugging logs, such as Appliance Debug Logs. Appliance Debug Logs are cleared if a new Debug Log is started. You can manually clear the Appliance Debug Logs and click Clear Debug .

Chapter

10

Agents

Overview

Agents allow a Restorepoint appliance to manage devices located on a remote or otherwise disjoint network, not directly routable by Restorepoint, without complex firewall changes, Network Address Translation, or VPNs. For instance, a Service Provider can set up a central Restorepoint appliance and deploy agents on customer networks and enable device backups on remote sites.

An Agent can be deployed as a Virtual or Hardware appliance on the remote network. The agent provides fast operations by locally performing all the tasks that would typically require extensive network interaction. Configurations, logs, etc. are processed locally by the agent, and uploaded to the master Restorepoint appliance.

NOTE: Device firmware updates via agents are not yet supported.
--

Agents are only available with an Enterprise license.

This chapter covers the following topics:

<i>Agent Firewall Requirements</i>	102
<i>Agent Installation</i>	102
<i>Adding an Agent to Restorepoint</i>	103
<i>Changing the Master IP Address</i>	105
<i>Remote Operations Using Agents</i>	106
<i>Managing Agents</i>	106

Agent Firewall Requirements

An agent initiates and maintains an SSH connection to the master Restorepoint appliance to receive tasks to execute, upload and download device configurations, task output and logs, and download software updates.

Your firewall policy must allow SSH traffic (TCP port 22) from the agent to the master for an agent to function correctly.

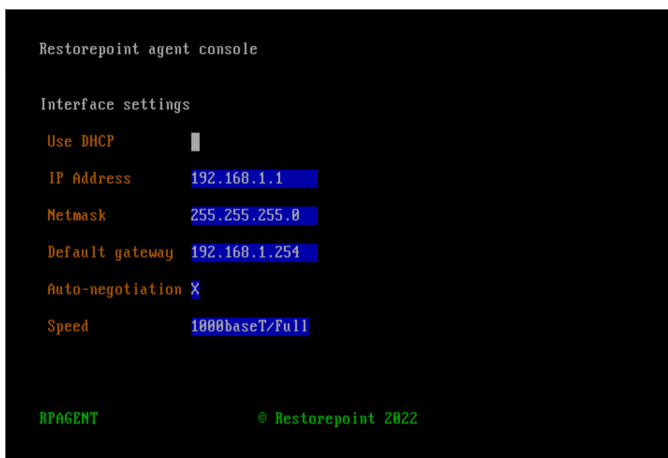
Agent Installation

An agent virtual appliance is deployed in a similar manner to a Restorepoint appliance (for more information, see the section on [Restorepoint Virtual Appliance](#)). Agents are kept up-to-date with software updates via the connection to the master appliance.

Initial Setup

To setup an agent, you must configure the network parameters and the details of the connection to the master:

1. Open the virtual machine console in your Virtual Infrastructure client.
2. In the login prompt, enter the default username (*admin*) and password (*admin*) for the agent.
3. Follow the prompts to change the agent shell password.
4. Select **IP Address Configuration** at the console menu:



```
Restorepoint agent console

Interface settings
Use DHCP      
IP Address    192.168.1.1
Netmask       255.255.255.0
Default gateway 192.168.1.254
Auto-negotiation X
Speed         1000baseT/Full

HPAGENT      © Restorepoint 2022
```

5. Enter the settings for IP address, Netmask, Default gateway, and Primary DNS server as prompted.
6. Enter *y* to confirm the settings. If the settings are applied successfully, the console menu will be redisplayed.

- Next, select **Initial Restorepoint Master Setup**:



The screenshot shows a terminal window titled "Restorepoint agent console". Below the title is a header "Restorepoint connection setup". There are three input fields: "IP Address", "SSH port", and "Password", each followed by a blue rectangular input box. Below the input fields are two buttons: "Save" and "Cancel". At the bottom left of the terminal, it says "RPAGENT" and at the bottom right, it says "© Restorepoint 2024".

- Enter the IP address of the master Restorepoint appliance, and a one-time password to verify the Agent to the master (only used for initial pairing).

Adding an Agent to Restorepoint

To add a configured agent to Restorepoint, navigate to the Agents page (**Administration > Agents**) and click **Add Agent**. The following dialog appears:

Enter the following details:

Name	A name for the agent.
Location	Where the agent is located. Pick an existing location, or enter a new one.
Domain (optional)	The domain of the devices that this agent will manage. For more information, see Administration Domains .
Email (optional)	The email for the user that is responsible for the upkeep of the agent.
Alert on disconnect	Select this checkbox to automatically email an alert if the agent goes offline. If the Email field is not filled in, the default notification address is used.
Alert on reconnect	Select this checkbox to automatically email an alert if the agent comes back online. If the Email field is not filled in, the default notification address is used.
Disable TFTP Server	Select this checkbox to disable TFTP servers.
Disable FTP Server	Select this checkbox to disable FTP servers.
Secondary	ID of an agent this agent is secondary to in a HA setup.

To	
Secondary IP Address	The IP address of the secondary agent.
Password	The one-time password entered in the agent setup.

After the agent is added, Restorepoint will display the agent list. The address and port will be automatically filled in once the agent has connected successfully for the first time. Note that only one agent can be set up at a time.

Changing the Master IP Address

If the IP address of the master Restorepoint appliance changes, any agents connected to that master need to be reconfigured with the new master details. To reconfigure an agent with the new master details:

1. SSH to the agent (or open the virtual machine console).
2. Log in using the agent's *admin* account.
3. Select **Change Restorepoint Master IP address** in the console menu, and apply the new master IP address.

NOTE: Do not use the option **Initial Restorepoint Master Setup** to set the new master IP address. If you use this option, it invalidates the master-agent authentication and would require re-pairing the agent to the master Restorepoint appliance.



Remote Operations Using Agents

Once you configure an agent, you can perform any operation (backup, restore, control etc.) on a device via the agent. The Restorepoint appliance will not connect directly to the device, the appliance will instruct the agent to perform the operation on its behalf.

To move an existing device to an agent, select one or more devices from the **Device Management** List, and click **Edit**, then select the correct Agent in the drop-down menu as shown:

The screenshot shows a 'Device Details' configuration page. It includes several input fields and buttons:

- Device Name:** A text input field containing 'Gaia' and a 'Resolve' button.
- Type:** A dropdown menu showing 'Check Point Edge' and buttons for 'Info' and 'Fingerprint'.
- Labels:** A dropdown menu showing 'Select labels'.
- Address:** A text input field containing '172.16.21.197' and buttons for 'Ping' and 'TCP Dump'.
- Disabled:** A checkbox that is currently unchecked.
- Open Terminal:** A button.
- Use Stored Credentials:** A checkbox that is currently unchecked.

Operations using agents are completely transparent for the user. For instance, bulk operations can be started for agent-managed and directly-managed devices simultaneously.

Managing Agents

You can view a list of the paired agents from the **Administration > Agents** page. To edit an agent's settings, click the name of the agent.

The settings include the **Name**, **Location**, **Domain**, **Email**, whether to **Alert on Disconnect/Reconnect**, or allow you to factory **Reset** the Agent for re-pairing. There are additional settings for Debugging agent connections.

Debug > Start works similarly to Appliance Debugging. It records a debug log that can be viewed using the **Debug > View** button.

Debug > Info collects and displays a series of system information from the Agent, such as RAM usage, Disk usage, and Uptime.

Debug > Remote allows remote management of an agent. This option will display a port number. You can connect to that port on your Restorepoint master appliance to redirect to the agent so that trickier issues can be diagnosed.

Chapter

11

Administration Domains

Overview

Administration Domains allow you to organize devices into separate domains and delegate their management to Domain Administrators.

Service Providers typically use this feature to restrict the scope of administrators to a subset of network devices.

Domains are only available with an Enterprise license.

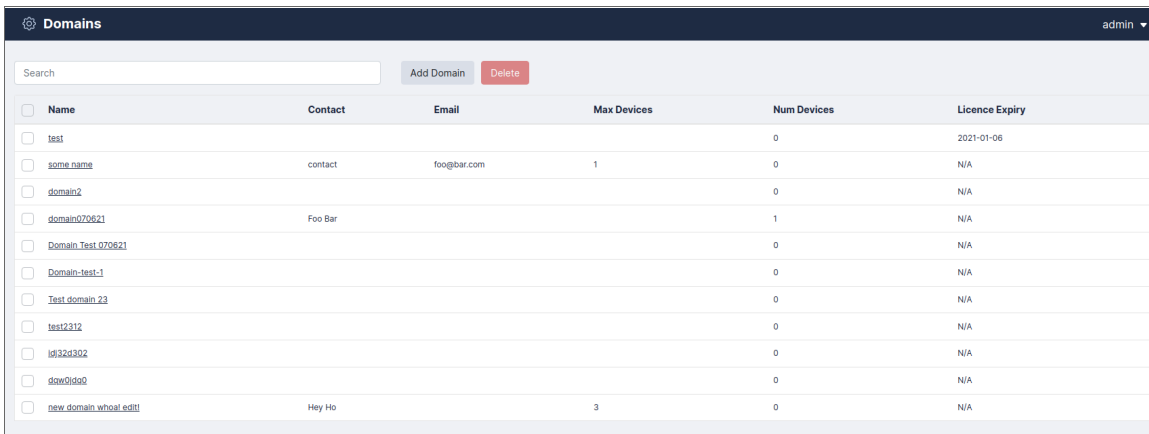
This chapter covers the following topics:

<i>Managing Domains</i>	109
<i>Administrator Roles</i>	111
<i>Adding a New Domain User</i>	112
<i>Editing Devices</i>	113

Managing Domains

The **Domain Management** page allows you to create, modify, and delete Administration Domains. This page is only displayed if you are logged in as a Global Administrator.

Click **Administration > Domains** on the menu to display the domain list:



<input type="checkbox"/>	Name	Contact	Email	Max Devices	Num Devices	Licence Expiry
<input type="checkbox"/>	test1				0	2021-01-06
<input type="checkbox"/>	some_name	contact	foo@bar.com	1	0	N/A
<input type="checkbox"/>	domain2				0	N/A
<input type="checkbox"/>	domain070621	Foo Bar			1	N/A
<input type="checkbox"/>	Domain_Test_070621				0	N/A
<input type="checkbox"/>	Domain-test-1				0	N/A
<input type="checkbox"/>	Test domain 23				0	N/A
<input type="checkbox"/>	test2312				0	N/A
<input type="checkbox"/>	test323302				0	N/A
<input type="checkbox"/>	dow01990				0	N/A
<input type="checkbox"/>	new domain whoal edit!	Hey Ho		3	0	N/A

To add a new domain:

1. Click **[Add Domain]**. The **New Domain** page appears:

Edit Domain

Details
Devices
Branding
Licence

Name

Contact

Telephone

Email

Address

Notes

Close
Save

2. Complete the following details:

Name	Enter a name for the domain (e.g., Customer Name, Business Unit, etc.).
Contact (optional)	Enter the name of the main contact for the domain.
Telephone (optional)	Enter a contact telephone number.
Email (optional)	Enter a contact email.
Address (optional)	Enter a customer or Business Unit address.
Notes (optional)	Enter any additional information.

3. Click the **Devices** tab to use the device selector and add devices to the domain. Additionally, you can configure the following:

- **Max. devices:** the maximum permitted number of devices that can be added to this domain.
- One or more IP address ranges that are allowed for this domain.
- A domain-wide NAT IP address, which overrides the system-wide setting. For more information, see [Network Address Translation \(NAT\)](#). This setting can be overridden by the device-specific setting.
- The devices that are part of the new domain.

- Click the **Branding** tab (optional) to customize the top left-hand side corner image that will be displayed to a Domain Administrator. Click **Choose File** to locate a suitable image file on your PC. For best results, the logo should be exactly 100 pixels wide and up to 100 pixels tall, and no more than 40KB in size.

Remove Licence Info	Hides the expiration date for users in this domain.
Remove Serial Number	Hides the appliance serial number for users in this domain.
Remove Help Menu	Disables access to help for users in this domain.

- Click the **License** tab (optional) to restrict the domain to expire on a certain date. Click **Enforce License** to enable the function, and choose a date.

Disable Schedule	Stops all scheduled jobs for this domain when a defined date is reached.
Prevent User Login	Disables users of this domain from accessing the appliance when a defined date is reached.

- Click **Save**. The system returns to the domain list.

To edit an existing domain, click the name of the domain.

Administrator Roles

If Administration Domains are enabled, administrators have either a global or a domain scope:

Global Users	Have visibility and can operate on all the devices on the system, regardless of the domain the devices are assigned to. Logs and status pages display information about all the devices defined on the system.
Domain Users	Users with at least one domain set. Their visibility is restricted to devices in their own domain(s). Logs and status pages only display information on the devices in the selected domain(s).

Restorepoint supports six built-in user roles:

Global Admin	A "Super User" that has full control on any aspect of the appliance:
	<ul style="list-style-type: none"> create/modify/delete devices in any domain
	<ul style="list-style-type: none"> create/modify/delete global and domain administrators
	<ul style="list-style-type: none"> initiate backups/restores
	<ul style="list-style-type: none"> change the appliance configuration
Global Backup	Backup Operator; can perform backups/restores of devices in any domain, but cannot modify devices, users, or appliance configuration.
Global View Only	Monitor Operator; can only view existing backups and verify that the system is operating normally.

Domain Admin	Has full control of devices and users in their domain. Does not have visibility of devices in other domains, cannot modify the appliance configuration, or transition the appliance from lock-down state to normal state. Logs and status screens only display information related to the domain.
Domain Backup	Can perform backups/restores of devices in their domain.
Domain View Only	Can only view existing backups, access logs, and status information of devices in their domain.

You can also define custom user roles. For more information, see [Custom User Roles](#).

You can use the **Users** page to add or delete administrator or modify their password, scope, or permissions.

Adding a New Domain User

To add a new domain user:

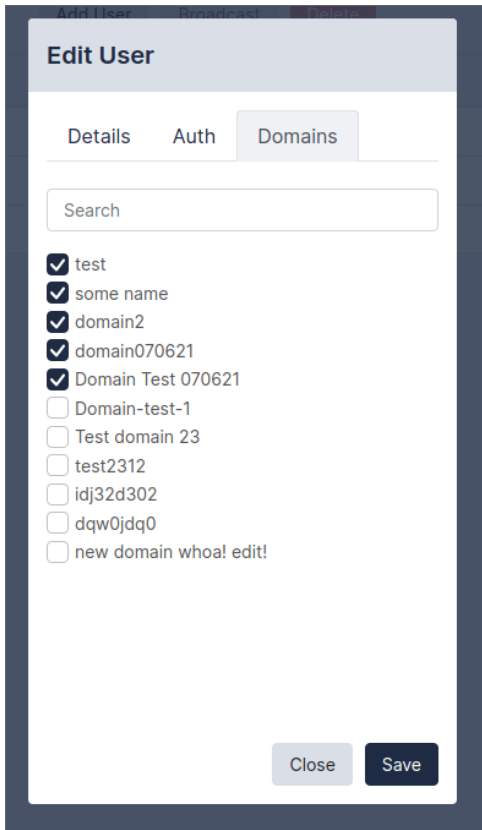
1. Select **Administration > Users** from the menu. Restorepoint displays the **User Management** page.
2. Click **Add User**. Restorepoint displays the **New User** page as shown:
3. Complete the following fields:

Full Name	Enter the full name of the user.
Username	Enter the new username (up to 16 characters).
Password	Enter the password for the new user (passwords must be between 8 and 24 characters long).
Role	Select the privilege level from the drop-down list. See for the privileges associated with each admin level.

Privileges	View Only	Backup	Admin
View devices/configurations	Y	Y	Y
Run device operations	N	Y	Y
Add users/devices; modify system	N	N	Y

Table 4 : Default Administrator privilege levels (simplified)

Encryption Password	This field appears if an Admin-level administrator is selected. The encryption password must be between 8 and 24 characters long and must be different from the administrator password.
Domains	Assign the user to one or more domains to restrict the user's scope:



4. Click **Update**. The updated **Users** page appears:

The 'User Management' page shows a table of users. The table has the following columns: Name, Username, Role, Domain(s), Last Active, Added, Updated, Email, Type, and Disabled. The data is as follows:

<input type="checkbox"/>	Name	Username	Role	Domain(s)	Last Active	Added	Updated	Email	Type	Disabled
<input type="checkbox"/>	Admin User	admin	Admin		2022-01-06 11:58	2020-11-18 16:12	2020-11-18 16:34	admin@demo.com	Local	No
<input type="checkbox"/>	Admin User	admin	Admin	Domain Test 070621	Never	2021-07-07 09:32	2021-07-07 09:32	admin@demo.com	Local	No
<input type="checkbox"/>	Admin User	admin	Admin		Never	2021-11-24 09:53	2021-11-24 09:53	admin@demo.com	Local	No

Editing Devices

If Administration Domains are enabled, you can use the **Domain** drop-down menu in the **Edit Device** modal to move a device from a domain to another.

Device Details

Device Name
Zhone Ead 544

Type
Zhone EAD

Domain
Global

Agent

Search agents

[None]
testagent1

The domain selector will only be displayed if you are logged on as a Global Administrator.

Chapter

12

Logs

Overview

The **Logs** page displays detailed information about system activity.

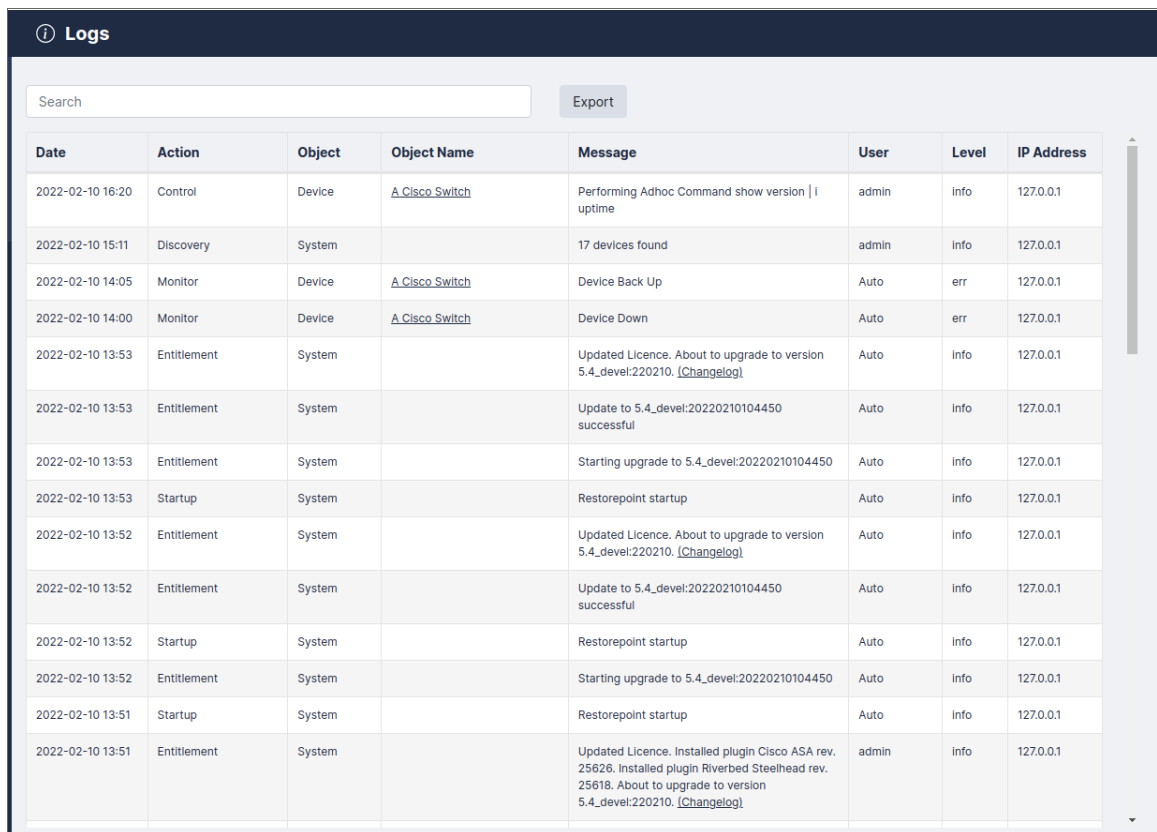
This chapter covers the following topics:

<i>Event Log</i>	116
<i>Syslog</i>	117

Event Log

These are the log messages for user activity, device operations, and system messages. A typical entry displays:

Date	The specific time of an event.
Action	The event type
Object	The device, user, or system configuration object to which the event refers.
Object Name	The device, user, or server that an action was performed on.
Message	The status, return, or error message associated with the event.
User	The user associated with the event (or Auto for scheduled events).
Status	OK or Error
IP Address	The IP Address that is associated with the event, or <i>localhost</i> .



The screenshot shows a web interface titled "Logs" with a search bar and an "Export" button. Below is a table of log entries with columns: Date, Action, Object, Object Name, Message, User, Level, and IP Address.

Date	Action	Object	Object Name	Message	User	Level	IP Address
2022-02-10 16:20	Control	Device	A Cisco Switch	Performing Adhoc Command show version I uptime	admin	info	127.0.0.1
2022-02-10 15:11	Discovery	System		17 devices found	admin	info	127.0.0.1
2022-02-10 14:05	Monitor	Device	A Cisco Switch	Device Back Up	Auto	err	127.0.0.1
2022-02-10 14:00	Monitor	Device	A Cisco Switch	Device Down	Auto	err	127.0.0.1
2022-02-10 13:53	Entitlement	System		Updated Licence. About to upgrade to version 5.4_devel:220210. [Changelog]	Auto	info	127.0.0.1
2022-02-10 13:53	Entitlement	System		Update to 5.4_devel:20220210104450 successful	Auto	info	127.0.0.1
2022-02-10 13:53	Entitlement	System		Starting upgrade to 5.4_devel:20220210104450	Auto	info	127.0.0.1
2022-02-10 13:53	Startup	System		Restorepoint startup	Auto	info	127.0.0.1
2022-02-10 13:52	Entitlement	System		Updated Licence. About to upgrade to version 5.4_devel:220210. [Changelog]	Auto	info	127.0.0.1
2022-02-10 13:52	Entitlement	System		Update to 5.4_devel:20220210104450 successful	Auto	info	127.0.0.1
2022-02-10 13:52	Startup	System		Restorepoint startup	Auto	info	127.0.0.1
2022-02-10 13:52	Entitlement	System		Starting upgrade to 5.4_devel:20220210104450	Auto	info	127.0.0.1
2022-02-10 13:51	Startup	System		Restorepoint startup	Auto	info	127.0.0.1
2022-02-10 13:51	Entitlement	System		Updated Licence. Installed plugin Cisco ASA rev. 25626. Installed plugin Riverbed Steelhead rev. 25618. About to upgrade to version 5.4_devel:220210. [Changelog]	admin	info	127.0.0.1

Use the **Export** button to export the event log as a CSV file.

Entries in the system log will be deleted according to the retention policy set on the [Log Settings and Alerts](#) page.

Syslog

The following messages are logged to the Restorepoint syslog service by both the appliance itself and any devices configured to log to it.

Date/Time	Date/time of an event
Process	Syslog Process
Level	Syslog level (Alert, Critical, Error, Warning, Notice, or OK, corresponding to severity levels 1 - 6).
Message	Status/Error message associated with the event.
Facility	Syslog Facility
Source	The IP Address that is associated with the event or <i>localhost</i> .

Chapter

13

Appliance Administration

Overview

The **System Settings** page allows you to configure appliance-related settings, such as networking parameters and date/time settings.

This chapter covers the following topics:

System Settings	118
---------------------------------------	-----

System Settings

To access the **System Settings** page, expand the **Administration** menu and select **System Settings**.

Network Settings

Network Interfaces

Use the drop-down menu to override the default auto-detect setting of the Ethernet interface(s).

Primary / Secondary Interface

Use the **Network** tab (Administration > System Settings > Network) to set or update the network address for Restorepoint. The initial settings are entered when you first set up your appliance. Select your **Interface** first and then supply values in the following fields. Click **Save** when all updates have been made.

Use DHCP	Select this checkbox if you use DHCP for your interface and the other options will be disabled.
IP Address	Complete the specific address fields for your IPv4 and/or IPv6 Settings .

Subnet Mask	Enter the subnet mask associated with the IP address.
Speed/Duplex	Select the link speed and duplex from the drop-down list.
Auto Negotiation	Check whether or not you'd want to include Auto Negotiation for your interface.
Mode	Select your Mode type from the drop-down list.

IP Configuration

DNS Server	The DNS server address for your network. The DNS server must be able to resolve public names (for example, <i>support.restorepoint.com</i>), otherwise the appliance cannot retrieve software updates and license details.
DNS Server 2 (optional)	A second DNS server.
Gateway	The default gateway for your network. You can Ping these servers to check connectivity.
Domain Name	The default domain name.

Network Access

Restorepoint needs Internet access (HTTP/HTTPS) to retrieve software and plugin updates. If a proxy is required for Internet access, select **Use Proxy**, and supply the following information:

- IP address of the proxy server.
- Proxy port.
- Username/password, if your proxy requires authentication. Otherwise, leave this field empty.

Use the **Test Proxy** button to verify that the configuration is correct.

Network Address Translation (NAT)

Restorepoint may use back-connections (typically TFTP or FTP) to backup certain devices. If Restorepoint is accessing a device using back connections through a NAT router or firewall, back-connections will fail because the device will attempt to connect to the original, untranslated IP address. To avoid this problem:

- On your firewall, create a 1:1 NAT mapping (often referred to as Static NAT or Mapped IP) to translate the Restorepoint IP address to a public/routable IP address.
- Enter the public IP address for Restorepoint in the **NAT Address** box. The system-wide NAT IP address defined here can be overridden in the Domain settings, or in each individual device's settings.

The **Back-connection NAT** option needs to be selected in any device that is accessed by Restorepoint through NAT. For more information, see [Manually Adding a New Device](#).

Restorepoint supports multiple NAT addresses. The NAT IP address defined in this page can be overridden by the Domain or Device NAT IP setting.

Additional IPv4 and/or IPv6 Static Routes

If the devices that you want to add to Restorepoint are located on different networks, you may need to define additional IPv4 or IPv6 static routes.

To define a static route:

1. **IP Address / Mask length:** Enter the network address/netmask (in CIDR notation).
2. **Via IP address:** Enter the destination gateway IP address.
3. Click **Add**.
4. Click **Save**.

To remove a static route:

1. Click **Delete** next to the static route you want to remove.
2. Click **Save**.

Bandwidth Management

You may limit the amount of network bandwidth Restorepoint uses by selecting **Throttle SCP/SFTP** and specifying a speed (in kbps).

Appliance Operations

Platform

Restart software	Restarts the Restorepoint domain. May leave the system in an unstable state, use when directed by Restorepoint support.
Abort all tasks	Aborts all currently-running tasks. May leave network devices in an unstable state.
Reboot	Enables you to reboot your Restorepoint appliance. However, try to Restart software first.
Shutdown	Enables you to shutdown and power off your Restorepoint appliance. This is the safest way to shut down your Restorepoint appliance. Wherever possible, avoid using the front panel buttons to reset or shutdown Restorepoint.
Remote Support	Click Start to enable Technical Support to securely connect to your Restorepoint appliance for troubleshooting. To stop the remote support tunnel, click the Stop button on this page, or click the running task in the Activity Display , and click Stop Remote Support to terminate the secure connection. Note: This feature requires that your firewall allows SSH connections (TCP port 22) from Restorepoint to jmp1.restorepoint.com and jmp2.restorepoint.com . For notes on firewall configuration, see Firewall Requirements for notes on firewall configuration.
Open Console	Generates an appliance debug file that may help Technical Support diagnose your issue. Click Start to start the debug, retrace your steps, and then click Stop Debug . A link to download the debug log will appear next to this button.
Debug	Generates an appliance debug file that may help Technical Support diagnose your issue. Click

	Start to start the debug, retrace your steps, and then click Stop Debug . A link to download the debug log will appear next to this button.
After Power On	Defines what Restorepoint should do when returning from a power-off state. If Restorepoint should <i>Run Due Backups</i> , and treat any missed backups as <i>Overdue</i> , or <i>Recalculate Schedules</i> and just return to the normal backup schedule.

Branding

Restorepoint can display your logo in the top left-hand side corner, instead of the default one. Click **Change** and then **Browse** to locate a suitable image file on your PC. For best results, the logo should be exactly 30 pixels tall and up to 150 pixels wide, and no more than 40KB in size. Click **Revert** to return the logo to the default Restorepoint logo.

You can customize the user interface for Domain users in the Domains page. For more information, see [Managing Domains](#).

Software Updates

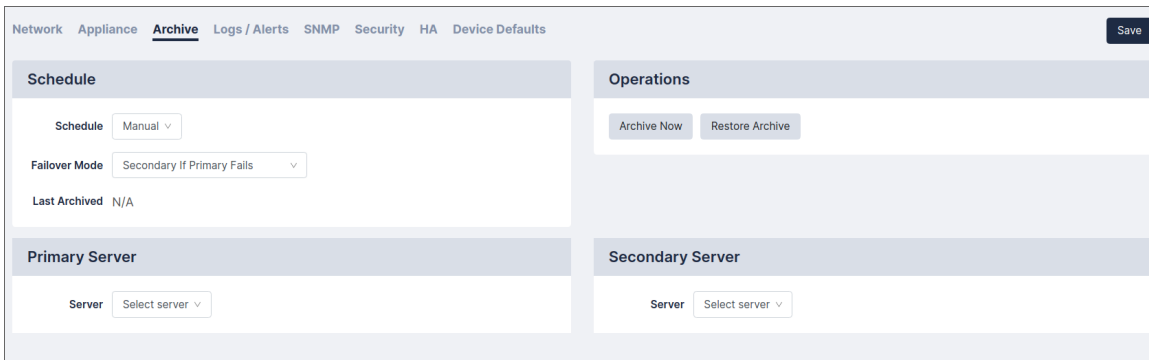
You can view the following software details in this section:

For more information, see [System Updates](#).

Date and Time

Use the selectors to set the date, time, and world time zone on the appliance. You can also enable the [Network Time Protocol \(NTP\)](#) (https://en.wikipedia.org/wiki/Network_Time_Protocol) and enter up to two NTP servers, such as *pool.ntp.org*.

System Archive



You can prepare for disaster recovery scenarios by archiving the Restorepoint configuration from the **Administration > System Settings > Archive** tab. Archiving the Restorepoint configuration allows you to back up the Restorepoint appliance automatically to up to two remote servers, including all device configurations stored on Restorepoint.

Taking an Archive

You can define the following settings for archiving:

For Primary and Secondary Archive servers, you can use a pre-defined server, or select *[New Server]* to enter the details for a server that you have not defined. For details on how to define a file server, See [File Storage](#).

For each Archive Server, you can define the following:

Retain	Enter the maximum number of archives to keep on the remote server. You reach this number, older archives will be removed.
Type	Define what each archive should contain. A <i>Full Archive</i> is a complete disaster-recovery backup. You can also choose to only save the most recent 1 to 5 configurations for each device, or only the Restorepoint database (only Restorepoint settings, no configuration backups).

Then, you have the options to:

- Click **Save**.
- Click **Archive Now** to start a manual archive operation.

Restoring from an Archive

Restoring from an archive allows you to quickly recover from a failure. For example, when installing a replacement appliance after a hardware problem. To restore the appliance from an archive:

1. Click the **Restore Archive** button on the **System Archive** page to display the list of available archives.
2. Select the archive to be restored.
3. Click **Restore**.

NOTE: You will need the password and encryption password for the *admin* account in order to complete the operation.

Workstation DB Archives

You can also a database-only export/import to a workstation instead of a fileserver. While not suitable for most disaster recovery scenarios, it allows for a quick migration of your Restorepoint settings from one appliance to another. You can use the **Export/Import DB Archive** buttons to save the Restorepoint database through your browser and reimport a previously saved database.

Log Settings and Alerts

You can use the log settings and alerts section to define your default log retention policy and the email address for system error notifications.

Navigate to the Logs/Alerts page (Administration > System Settings > Logs/Alerts) and supply values in the given fields. Then, click **[Save]** when finished.

Delete logs after	Enter a maximum age for events. Events older than this value are permanently deleted from the system. The default value is one month.
Send Syslogs	Select this checkbox to forward all log messages to an external syslog server. Log entries will still be available by clicking on Info > Logs or Info > Syslogs . If you use

	a syslog server, you will need to enter it's IP address and choose the syslog facility. Note that the facility setting only applies to forwarded Restorepoint logs, not forwarded operating system events.
Use SNMP Traps	Select this checkbox to forward log messages as SNMP traps to a Network Management Server (NMS). You will need to enter the NMS IP Address, the SNMP Version, and the community string.
Email errors to	Enter an email address for notifications.
Email errors from	Enter a sender email address to be used for notifications.
SMTP Server/Port	Enter the IP address of your mail server. Your mail server must be configured to allow Restorepoint to relay to internal and external recipients.
SMTP Username/Password	If your SMTP server requires authentication, enter the necessary credentials in this field. You can click [Resolve] to attempt to resolve IP address(es)/hostname(s).
Plain-text Emails	Select this checkbox if you prefer plain text emails instead of HTML.
Prevent Email alerts	Select this checkbox if you wish to suppress all email notifications.

SNMP

If your network has a Network Management System, you can use SNMP to perform some basic monitoring of your Restorepoint appliance. Restorepoint supports SNMP v1, v2c, and v3. Navigate to the SNMP page (Administration > System Settings > SNMP) to configure SNMP and supply values in the following fields:

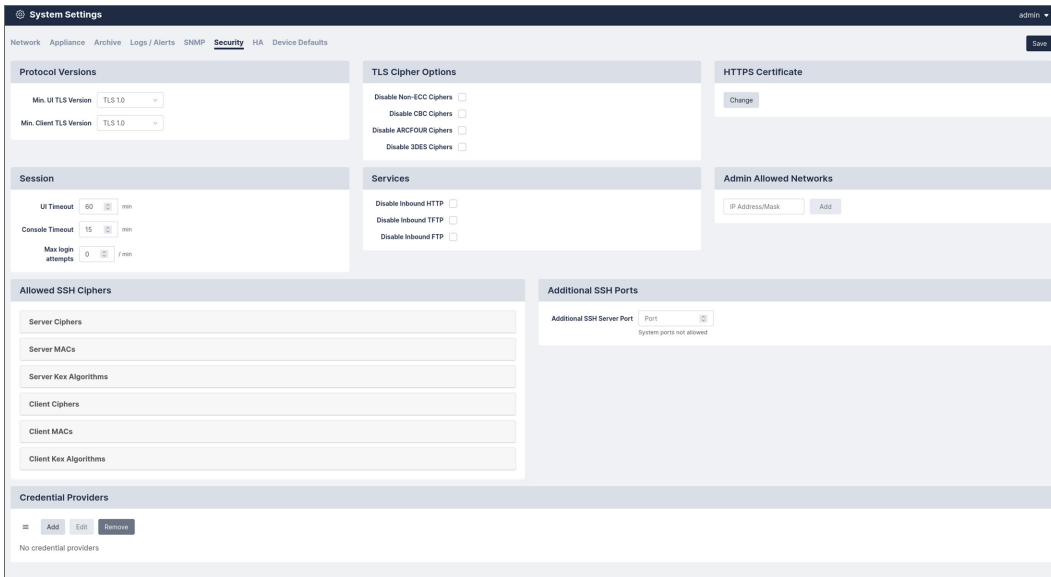
- Select which SNMP versions should be enabled by selecting the relevant checkbox.
- If you enable SNMP v1 or v2c, you must enter a **Community String** in the appropriate field.
- If you enable SNMP v3, you must define a username. Depending on the SNMP v3 security level, you may need to enter additional integrity/encryption passwords and integrity/encryption algorithms.

Click **Save**.

NOTE: SNMP settings (Administration > System Settings > SNMP) may need to be reset/updated after upgrading to 5.6.

Security

The **Security** tab (Administration > System Settings > Security) allows you to configure various global settings to mandate a higher level of network security for the Restorepoint appliance. Applying some of these settings may cause compatibility problems with legacy devices and clients.



Protocol Versions

The Protocol tab allows you to specify the minimum version of TLS that the Restorepoint UI can use and can communicate with devices. You can also prevent Restorepoint from falling back to SSHv1, if TLS is unavailable.

Services

You may wish to disable some functionality of Restorepoint for reasons such as PCI Compliance.

HTTPS Certificate

Click **Change** to modify the HTTPS certificate used by Restorepoint. The following dialog appears:

The **Type** drop-down will show you the different options available:

Self-Signed	Generates a self-signed HTTPS certificate with the current keypair.
New Key	Allows you to generate a new private/public keypair of the given length.
Create CSR	Allows you to generate a Certificate Signing Request, which your Certificate Authority (CA) will need to produce a signed certificate.
Upload Certificate	Once you have a signed certificate from the CA, you can upload it here.
Upload All	Alternatively, if you have a key/certificate pair already from your CA, you can upload both of them here.

Timeouts

UI Timeout	How long a user may stay logged-in to the Restorepoint UI without making a change or initiating an action. Default value is <i>60 minutes</i> .
Console Timeout	How long to keep a session for the VM Console open without an action. The default value is <i>15 minutes</i> .
Max login attempts	Allows you to automatically set users' maximum login attempts per minute. Default value is <i>0 minutes</i> . For more information, see Managing Users .

Admin Allowed Networks

This tab allows you to set a range of IPs (in CIDR format) that administrator accounts can connect from. For a per-user setting, see the section on [Managing Users](#).

High Availability

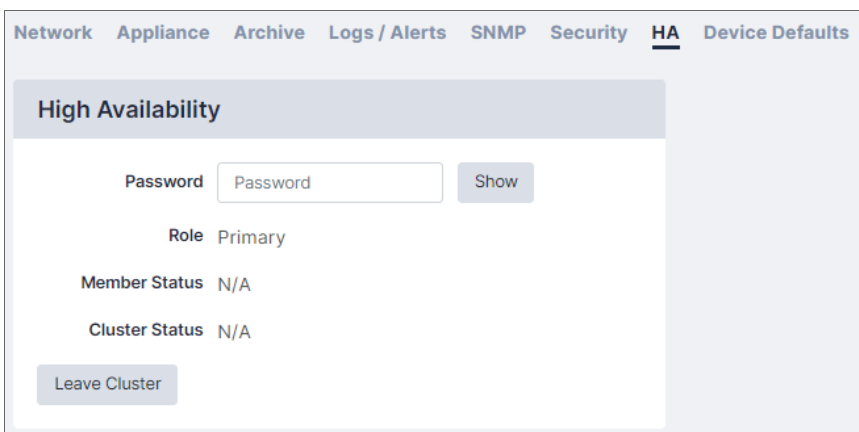
High Availability (HA) provides a way to minimize the effects of hardware failure, by configuring two Restorepoint appliances in a cluster.

Under normal operating conditions, the primary cluster member is active and the secondary is in standby mode; the active appliance performs all network operations, and replicates all settings and device configurations to the standby appliance. Restorepoint replicates data both incrementally (for example, just after a backup is retrieved from a device) and by performing full synchronizations on a regular basis.

If the primary member becomes unavailable because of a hardware failure, other network problem, or from losing power, the secondary member will automatically become Active, and carry on as normal. If the primary recovers, it will automatically take over from the secondary and become active.

HA does not require the appliance to be installed on the same network, as long as the traffic requirements are met (see below).

Software updates and upgrades are managed at the cluster level; updating the active appliance will automatically update the standby appliance.



The screenshot shows the 'High Availability' configuration page. At the top, there is a navigation bar with tabs: Network, Appliance, Archive, Logs / Alerts, SNMP, Security, HA (selected), and Device Defaults. Below the navigation bar, the page title 'High Availability' is displayed. The main content area contains a 'Password' field with a 'Show' button, a 'Role' dropdown set to 'Primary', 'Member Status' set to 'N/A', and 'Cluster Status' set to 'N/A'. A 'Leave Cluster' button is located at the bottom left of the configuration area.

HA Requirements

- HA is a separately licensed feature.
- Only appliances of the same model can be clustered and appliances must be running the same software version.
- Cluster members must be able to communicate over HTTPS to exchange heartbeat information and data synchronization. TCP/443 traffic should be permitted bidirectionally between the appliances.

Creating a Cluster

To create a cluster, on the Primary Restorepoint appliance:

1. Click **Create Cluster**.
2. Type a password to be used between appliances in the cluster.
3. Click **Save**.

On the secondary Restorepoint appliance:

1. Click **Join Cluster**.
2. Enter the same password you entered on the Primary appliance.
3. Enter the IP Address of the Primary appliance.
4. Click **Save**. The cluster will perform the initial full sync.

After the cluster is created, this screen can be used to monitor the status of the cluster or to leave the cluster.

- **Role** displays which position the appliance takes in the cluster (*Primary* or *Secondary*).
- The **Member Status** displays if the current appliance is *Active* or *Standby*.
- The **Cluster Status** displays the status of the Secondary appliance on the Primary or the amount of time between heartbeat synchronizations on the Secondary.

You can use the **Leave Cluster** button to break the cluster. When you click Leave Cluster, all synchronization will stop, the two appliances will keep the existing configuration, and the appliances will carry on independently.

Chapter

14

Labels

Overview

You can use Labels to filter and group devices. Labels can be created by users and confined to a specific domain. When you create a new device or edit an existing device, you can set Labels for that device.

Here is an example of real world label-usage:

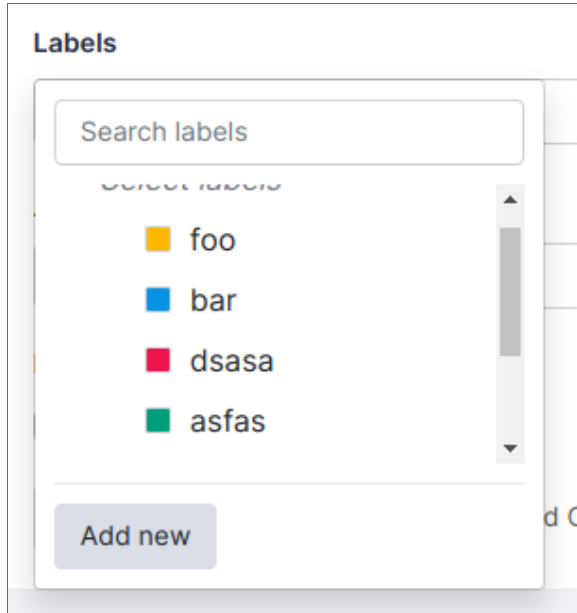
In an office, a user consistently works with a set of devices because these devices are in that office. A label can be assigned to these devices. Use the label "Office Name"; this "Office Name" label, when set, can be used to filter and view any devices in the user's Device Table that are relevant devices to the "Office Name" label.

Labels can be found and edited on:

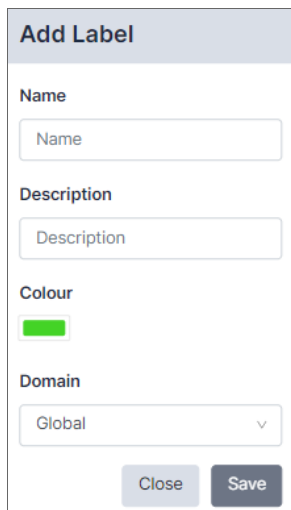
- The **Device Details** tab when adding a device (Devices > Add) or editing a device (Devices > Select Device).

To add or edit a label from the **Device Details** tab:

1. Click your desired device from the Device Management page.
2. In the **Device Details** tab, click inside the **[Labels]** search field. You can search labels and/or add labels by clicking **[Add new]**.



3. Enter your new label's **Name**, **Description**, **Colour**, and **Domain**.

A screenshot of a form titled "Add Label". The form has four sections: "Name" with a text input field containing "Name"; "Description" with a text input field containing "Description"; "Colour" with a color selection box showing a green swatch; and "Domain" with a dropdown menu showing "Global". At the bottom of the form, there are two buttons: "Close" and "Save".

4. Click **[Save]**.

These label options are also described in [Adding a new user](#).

See the following link for the API used to create labels: https://restorepoint.dev/api.html#operation/create_label

Chapter

15

SAML

Overview

A “Single Sign On” (SSO) option is available via SAML authentication.

You can configure SSO in SAML tab:

Administration > Auth Servers > SAML

In the SAML tab there are 2 fieldsets:

1. Service Provider Settings
2. Identity Provider Settings



To set up SAML:

1. Note the **ACS URL** and **Entity ID** values that appear in the **Service Provider Settings** window.
2. Enter these values into the relevant part of your SAML IdP. This will generate some IdP Metadata.
3. This IdP Metadata (usually some XML) needs to be entered into the **IdP Metadata** field in the **Identity Provider Settings** window.
4. Click [**Save**]. The metadata is then uploaded to Restorepoint.

Now that SAML is setup, a new button will appear on the login page called "Login with SSO". You can click this button without entering values in the other fields and it will either:

- Redirect the user to their SAML IdP to login
- Log them in to Restorepoint if the user already has a valid SAML SSO session

Chapter

16

System Updates

Overview

System updates are managed centrally by Restorepoint from the **Appliance** tab (Administration > System Settings > Appliance). By default, the appliance checks and automatically installs any available software upgrades and updates, including:

- System software updates
- Device plug in updates
- License updates

Ensure that your firewall is configured correctly to allow system updates. For information on firewall configuration, see [Firewall Requirements](#).

Disabling Automatic Updates

Although Restorepoint strongly recommends that all updates are automatically applied, you can override this behavior and disable automatic version upgrades:

1. Navigate to the **Software Updates** widget (Administration > System Settings > Appliance).
2. Select the **Disable Automatic Version Upgrades** checkbox.
3. Click **[Save]**.

Minor software updates that do not change the user interface or modify any Restorepoint functions are automatically downloaded and applied, to override this behavior and disable automatic minor updates:

1. Navigate to the **Software Updates** widget (Administration > System Settings > Appliance).
2. Select the **Disable Automatic Minor Updates** checkbox.
3. Click **[Save]**.

Manual Updates

Use the **[Force Check]** button to manually check for updates. To force check for updates:

1. Navigate to the **Software Updates** widget (Administration > System Settings > Appliance).
2. Click **[Force Check]**.
3. A notification appears that an appliance is checking for an update and the task is added to the task bar.
4. If an update is available, an **[Update Now]** button displays. Click **[Update Now]**.
5. Once the update downloads, you are redirected to a **Service** page while Restorepoint verifies the update.
6. Once the update is verified and complete, you are redirected to the **Login** page.

If Restorepoint is deployed on an isolated network and cannot connect to the update server, you can also use the **Software Updates** widget to manually update the appliance offline. To update the appliance offline:

1. Navigate to the **Software Updates** widget (Administration > System Settings > Appliance).
2. Select the **This appliance is not connected to the Internet** checkbox.
3. A Manual Upgrade button displays. Click Manual Upgrade.
4. Instructions display on how to download an update package using a computer without an internet connection and upload it to the appliance. Follow these instructions to manually update your appliance.

NOTE: When this option is enabled, all update and upgrade operations (including enabling software features or applying new license details) must be manually performed by the administrator.

Chapter

17

Getting Help

Overview

Click **Help** to display Restorepoint documentation for your current page.

You can also click **Help > Help Index** to access the HTML userguide, download a PDF copy, or access the Plugin Guide (**Help > Plugin Guide**).

This chapter covers the following topics:

<i>Error Messages</i>	136
<i>Using the System Shell</i>	138
<i>Factory Reset</i>	139
<i>Frequently Asked Questions</i>	140
<i>Contacting Technical Support</i>	140
<i>Support Portal</i>	141

Error Messages

Errors During Backup Operations

Connection timeout

Possible causes:

1. Restorepoint can't connect to the device using the specified protocol.

Solution: Check that the protocol is correct and that there is connectivity to the device (e.g., no firewall is blocking the required ports). If the device uses back-connections, also check that this is not blocked, and/or NAT is correctly configured on Restorepoint. Check **Help > Plugin Guide** to verify the connectivity requirements for this particular device.

2. The device is not sending the expected output to Restorepoint within the allocated time.

Solution: Check that you have selected the correct plugin and that the device firmware/operating system is supported by Restorepoint.

Connection failed: Device SSH key has changed

Restorepoint has detected that device's SSH key has changed

Solution: This error typically occurs because the device has been replaced. If the device has been replaced, edit the device and click **Clear Cache**.

Timeout waiting for username prompt

Restorepoint can connect to the device but did not receive a username prompt.

Solution: Check that you are using the correct plug-in. If the device is not configured to prompt a username, leave the Username field empty in the device definition.

Timeout waiting for password prompt

Restorepoint can connect to the device but did not receive a password prompt.

Solution: Check that you are using the correct plug-in and that the device username and password are correct.

Timeout waiting for device prompt

Restorepoint can connect to the device but did not receive the device CLI prompt.

Solution: Check that you are using the correct plug-in and that the device username and password are correct.

Error creating backup

Restorepoint can connect to the device but is not able to create a backup on the device. This can be caused by a number of circumstances, usually a lack of available disk space.

Solution: Connect to the device manually from your PC or from the Restorepoint system shell and attempt to create a backup to determine the cause of the error.

Error transferring backup

Restorepoint can connect to the device and create a backup on the device but is not able to transfer it back. This is usually due to a firewall blocking a required port (e.g., TFTP) between Restorepoint and the device. If your device has a large backup file (several Mbytes) and you are backing up over a WAN, this error message can be caused by a timeout during file transfer.

Solution: Check the Plugin Guide (**Help > Plugin Guide**) and ensure that the TCP or UDP ports required by your device are not blocked by any firewalls.

Incorrect checksum after transfer

Wherever possible, Restorepoint calculates an MD5 checksum of the backup file before and after transfer to ensure the integrity of the file. If the checksum changes, this indicates that the file got corrupted in transit.

Solution: Retry the backup. An isolated error of this type may indicate a problem on the network (e.g., faulty switches or cables). A reoccurring error may be caused by a large backup file and/or a slow network, where only part of the file is transferred. Try and reduce the size of the backup if possible; use SCP or FTP instead of TFTP wherever possible.

Wrong parameter found at . ^ . position

Solution: Check that you have specified the correct unit when backing up a 3Com 5500 switch.

Error backing up the device/Could not hold conversation with device

Although a failure will normally generate a specific error message, you may occasionally encounter a generic error.

Solution: Check that the device credentials are correct, that you are using the correct device plug-in, and that the required TCP/UDP traffic is allowed between Restorepoint and the device. If you are still unsuccessful, contact Technical Support.

Other Messages

Cryptfs not mounted

The encrypted storage was not mounted correctly after a reboot. This may happen if the appliance is powered off without a clean shutdown.

Solution: Login with your username, password, and encryption password. Restorepoint will attempt to check and mount the encrypted storage. If you keep receiving this message every few minutes, contact Technical Support.

Couldn't connect to update server

Restorepoint needs to communicate to the update server (`support.restorepoint.com`) to check whether new software or device plug-ins are available.

Solution: Check the following:

1. Check that the DNS servers configured in the **System** page are correct and are working properly.
2. Check that a firewall is not blocking HTTPS traffic from Restorepoint to `support.restorepoint.com`.
3. If Restorepoint uses a proxy to access the internet, check that the correct proxy username and password are being used and that the password for the proxy user account has not expired.
4. If Restorepoint is located on a network without internet access, disable automatic updates by selecting **This appliance is not connected to the Internet** in the **System** page.

License expired

You've either received a license has expired message or can't obtain software updates.

Solution: Contact your Restorepoint Account Manager.

Using the System Shell

The system shell provides some useful command line network tools that can be used to troubleshoot connectivity problems. To start the system shell, log in to the Restorepoint console using an *admin* account and select **System Shell**.

```
RESTOREPOINT CONSOLE

1) IP address configuration
2) Static routes
3) System shell
4) Remote Support
5) Shutdown
6) Reboot
7) Restart Restorepoint
8) Factory reset
9) Exit

System Shell - type 'exit' or CTRL+D to return to the menu
shell> _
```

The available commands are:

help	Lists the available commands.
ping	Sends an ICMP Echo Request packet to a network host.
tracert	Displays the route packets take to a network host.
nslookup	Query a DNS name server.
telnet	Connect to a host using the TELNET protocol.
ssh	Connect to a host using the SSH protocol.
tcpdump	Displays the network traffic.
exit	Returns you to the main menu.

Ensure that you are familiar with these tools before using the system shell.

Factory Reset

If you need to reset your Restorepoint appliance to factory settings, you can follow the factory reset procedure. Note that the factory reset will permanently erase **ALL** of the information stored on the appliance, not just the system settings. In particular:

- The encryption key will be deleted.
- All the device data (configuration and backups) will be erased.
- All the administrators (except *admin*) will be deleted.
- All plugins will be deleted.
- System settings will be reset to their default values.
- The password for the *admin* user will be reset to `admin`.

Note : To reset the appliance, you must have the admin password. If you need to reset Restorepoint and you do not know the admin password, contact Technical Support.

To start the factory reset procedure:

1. Log in as *admin* on the Restorepoint console.
2. Choose the **Factory reset** option.
3. Confirm that you understand and accept that your data will be lost and enter Yes, otherwise enter No to abort:

```
RESTOREPOINT CONSOLE

1) IP address configuration
2) Static routes
3) System shell
4) Remote Support
5) Shutdown
6) Reboot
7) Restart Restorepoint
8) Factory reset
9) Exit

Factory Reset
Are you sure you want to reset the system to factory settings?

*** ALL DATA WILL BE LOST ***

and the appliance IP address will be reset to 192.168.1.1.
Please enter Yes or No: Yes_
```

The system will then erase the database and reset the system settings to their default values. This can take some time, depending on how much data is stored on the appliance. Do not shut down or power off the system before the reset has completed or you may damage the appliance. Restorepoint will automatically shut down at the end of the procedure.

Frequently Asked Questions

I have forgotten my encryption password

See [Connecting to Restorepoint after a reboot](#) and [Password Reset](#) for more information.

I cannot connect to the web interface

Check that you have network connectivity. The power and network LEDs on the front panel of your Restorepoint appliance should be lit. If you are in an environment using a proxy server, check that you are connecting to the device on port 443, or that your browser is set to bypass connection to the device.

I cannot add a device

Check that the model and firmware version of the device you are adding is on the list of supported devices. The list of supported devices can be found in the Plugin Guide ([Help > Plugin Guide](#)).

I do not get notifications

Verify that you have connectivity to the SMTP server specified in the **Logs/Alerts** tab of the **System Settings** page and that Restorepoint is able to relay email to your SMTP server. You need to specify a valid email account that notifications are sent to.

Scheduled tasks are not running

Check that the task is not paused in the **Info > Schedule** page.

I have a device that is not supported but would like to see support for it

Contact Technical Support and let us know the vendor, product, model, and version of the device. Wherever possible, Restorepoint will endeavor to add support for your device.

I still need assistance and require remote support

If you are having problems and need a support engineer from Restorepoint to help troubleshoot the issue, click the **Remote Support** option on the Restorepoint appliance to create an SSH tunnel to our support server which allows a support engineer to assist you. Alternatively, our support team can set up a web session with you (WebEx, join.me, GoToMeeting, or similar).

Contacting Technical Support

You can contact Restorepoint Support at support@restorepoint.com, or by telephone at **+44 844 571 8120**. Telephone support is available 9:00 to 17:30 GMT or 5:00 to 13:30 EST Monday to Friday, excluding [UK public holidays](#). Technical support is also available through your reseller.

Support Portal

You can open a support ticket at any time using the Restorepoint Contact Us page at <https://www.restorepoint.com/contact-us>. Access to the portal requires registration and a valid software license.

Chapter

18

Copyright and Contact Information

Overview

Copyright Notice

Copyright © 2008 - 2023 Restorepoint Ltd. This document and any information therein are confidential and copyright property of Restorepoint Ltd and without infringement neither the whole nor any extract may be disclosed, loaned, copied or used for manufacturing, provision of services or other purposes whatsoever without prior written consent, and no liability is accepted for loss or damage from any cause whatsoever from the use of the document. Restorepoint Ltd retain the right to alter the document at any time unless a written statement to the contrary has been appended.

Trademarks

Restorepoint is a trademark of Restorepoint Ltd. All Rights Reserved. All other trademarks and registered trademarks appearing in this document are the property of their respective owners, and are used for identification purposes only.

Contact Details

Telephone: +44 844 571 8120

General Inquiries: info@restorepoint.com

Sales Inquiries: sales@restorepoint.com

Support Inquiries: support@restorepoint.com

© 2003 - 2024, ScienceLogic, Inc.

All rights reserved.

LIMITATION OF LIABILITY AND GENERAL DISCLAIMER

ALL INFORMATION AVAILABLE IN THIS GUIDE IS PROVIDED "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED. SCIENCELOGIC™ AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

Although ScienceLogic™ has attempted to provide accurate information on this Site, information on this Site may contain inadvertent technical inaccuracies or typographical errors, and ScienceLogic™ assumes no responsibility for the accuracy of the information. Information may be changed or updated without notice. ScienceLogic™ may also make improvements and / or changes in the products or services described in this Site at any time without notice.

Copyrights and Trademarks

ScienceLogic, the ScienceLogic logo, and EM7 are trademarks of ScienceLogic, Inc. in the United States, other countries, or both.

Below is a list of trademarks and service marks that should be credited to ScienceLogic, Inc. The ® and ™ symbols reflect the trademark registration status in the U.S. Patent and Trademark Office and may not be appropriate for materials to be distributed outside the United States.

- ScienceLogic™
- EM7™ and em7™
- Simplify IT™
- Dynamic Application™
- Relational Infrastructure Management™

The absence of a product or service name, slogan or logo from this list does not constitute a waiver of ScienceLogic's trademark or other intellectual property rights concerning that name, slogan, or logo.

Please note that laws concerning use of trademarks or product names vary by country. Always consult a local attorney for additional guidance.

Other

If any provision of this agreement shall be unlawful, void, or for any reason unenforceable, then that provision shall be deemed severable from this agreement and shall not affect the validity and enforceability of any remaining provisions. This is the entire agreement between the parties relating to the matters contained herein.

In the U.S. and other jurisdictions, trademark owners have a duty to police the use of their marks. Therefore, if you become aware of any improper use of ScienceLogic Trademarks, including infringement or counterfeiting by third parties, report them to Science Logic's legal department immediately. Report as much detail as possible about the misuse, including the name of the party, contact information, and copies or photographs of the potential misuse to: legal@sciencelogic.com. For more information, see <https://sciencelogic.com/company/legal>.

ScienceLogic

800-SCI-LOGIC (1-800-724-5644)

International: +1-703-354-1010