





Product User Guide

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Introduction

CloudFront Version Vault is a centralized platform designed to version, visualize, and manage AWS CloudFront distribution configurations. It simplifies the process of tracking changes, restoring previous states, and maintaining configuration history — giving teams confidence and control over their CloudFront environments. Every update to a distribution—whether it involves origins, behaviors, error pages, or other settings—is stored as a version. These versions allow you to monitor the evolution of your configurations, compare changes, and roll back instantly when needed.

Key Capabilities:

- Version History & Rollbacks: Store every configuration change as a version. Roll back to previous versions or copy configurations between distributions with a single click.
- Distribution Recovery & Cloning: Recreate deleted distributions using saved versions or create entirely new ones from any versioned state.
- Behavior & Configuration Management: Edit, reorder, or delete behaviors; manage origins, error pages, and geographic restrictions directly within the platform.
- **Tagging & Organization:** Add, update, and manage tags to organize CloudFront resources effectively.
- Visual Metrics: Gain insights with charts on request volume, error rates, and data transfer for each distribution.
- Scheduled Backups: Automate backups of distribution configurations using cron-based schedules.
- Secure & Extensible: Configure SSL settings for custom domains and enable email alerts with SMTP integration for critical events.
- User Access Control: Manage access using role-based permissions tailored to your organization.

Whether you're recovering from changes, replicating configurations, or managing multiple CloudFront distributions at scale, CloudFront Version Vault gives you full control with confidence.

Discover What's New in v1.2.1 🐆

- **Custom Error Pages: Create and edit CloudFront error responses for specific HTTP status codes.**
- Geographic Restrictions: Control content access based on country-level rules (Allow/Block list).
- Behavior Management: Easily reorder behaviors using Move Up/Down and delete them directly.
- Invalidations Enhancements: Copy an existing invalidation or create a new one with ease.
- Tag Management: Add, edit, or delete CloudFront tags to better organize your distributions.
- View Metrics Tab: Visualize traffic, error rates, and data transfer trends with live graphs.



2. **Getting Started**

2.1 Launching the Instance

- Subscribe to the CloudFront Version Vault AMI from the AWS Marketplace.
- Launch an EC2 instance using this AMI.
- We recommend using a t3.medium instance or higher for smooth performance.

2.2 Security Group Configuration

Open Required Ports: Ensure that the following Ports are open in your Instance's Security Group.

Note: It is recommended to open the below ports only for internal IP Addresses, do not keep ports open for all.



Port 443: For accessing the Web App.

2.3 IAM Role Attachment

1. Open IAM Console >> Go to Roles >> Click Create Role.

2. Select Trusted Entity:

- Choose AWS service.
- Use Case: EC2.
- · Click Next.

3.Permissions:

- Attach CloudWatchReadOnlyAccess policy here.
- Click Next >> Add a role named cloudfront-version-vault-role >> Create role.

4.Add Inline Policy:

- After creating, open the role >> Go to Permissions tab >> Click Add inline policy.
- Choose JSON tab >> Paste the policy json on page 03.
- Click Review policy, name it cloudfront-version-vault-inline-policy >> Create policy.

5. Attach Role to EC2 Instance:

- Go to EC2 console >> Select instance >> Actions > Security > Modify IAM role.
- · Attach the newly created role.

2. Getting Started

```
"Version": "2012-10-17",
"Statement":[
  "Sid": "VisualEditor0",
  "Effect": "Allow",
  "Action": [
"s3:GetBucketAcl",
   "s3:PutBucketAcl",
   "lambda:ListFunctions",
   "lambda:GetFunction",
   "lambda:ListLayerVersions",
   "lambda:EnableReplication",
   "cloudfront:ListCloudFrontOriginAccessIdentities",
   "cloudfront:ListFunctions",
   "cloudfront:ListOriginAccessControls",
   "cloudfront:ListFieldLevelEncryptionConfigs",
   "cloudfront:ListOriginRequestPolicies",
   "cloudfront:GetDistribution",
   "cloudfront:ListDistributionsByRealtimeLogConfig",
   "cloudfront:ListKeyGroups",
   "cloudfront:ListSavingsPlans",
   "cloudfront:ListRateCards",
   "cloudfront:UpdateDistribution",
   "cloudfront:ListContinuousDeploymentPolicies",
   "cloudfront:GetDistributionConfig",
   "cloudfront:ListUsages",
   "cloudfront:ListResponseHeadersPolicies",
   "cloudfront:ListDistributionsByCachePolicyId",
   "cloudfront:ListDistributionsByLambdaFunction",
   "cloudfront:ListCachePolicies",
   "cloudfront:ListDistributionsByKeyGroup",
   "cloudfront:ListPublicKeys",
   "cloudfront:ListConflictingAliases",
   "cloudfront:ListTagsForResource",
   "cloudfront:ListRealtimeLogConfigs",
   "cloudfront:ListInvalidations",
   "cloudfront:ListFieldLevelEncryptionProfiles",
   "cloudfront:ListDistributions",
   "cloudfront:ListStreamingDistributions",
   "cloudfront:ListKeyValueStores",
   "cloudfront:ListDistributionsByWebACLId",
   "cloudfront:ListDistributionsByResponseHeadersPolicyId",
   "cloudfront:ListDistributionsByOriginRequestPolicyId",
   "cloudfront:CreateDistribution",
   "cloudfront:TagResource",
   "cloudfront:CreateInvalidation",
   "cloudfront:UntagResource"
  "Resource": "*"
```

2. **Getting Started**

- Open Browser: Navigate to your instance's public IP address or DNS name using a web browser.
- Access CloudFront Version Vault: The frontend will be accessible at https://<your-instance-public-ip>.
- · Login: Use the initial login credentials:
- Username: admin
- Password: AcRW%exB5o%4Qs

Note: Please make sure to reset the admin password!



2.4 User Role and Permission

• This application includes three user roles: Read-Only, Editor, and Admin. Each role has specific permissions that define what users can access and modify within the application.

1.Read-Only Role

- Login & Password Management: Users can log in and change their password.
- Access: Users with this role can only view data related to CloudFront distributions and versions.
- Restrictions: They are not permitted to modify, create, or delete any entity.

2. Editor Role

- Login & Password Management: Users can log in and change their password.
- Read-Only Permissions: The Editor role includes all permissions granted to the Read-Only role.
- Generate and Rollback CloudFront Versions: Editors can create new CloudFront versions and perform rollbacks on existing versions.
- Restrictions: Editors cannot manage other users or change their roles.

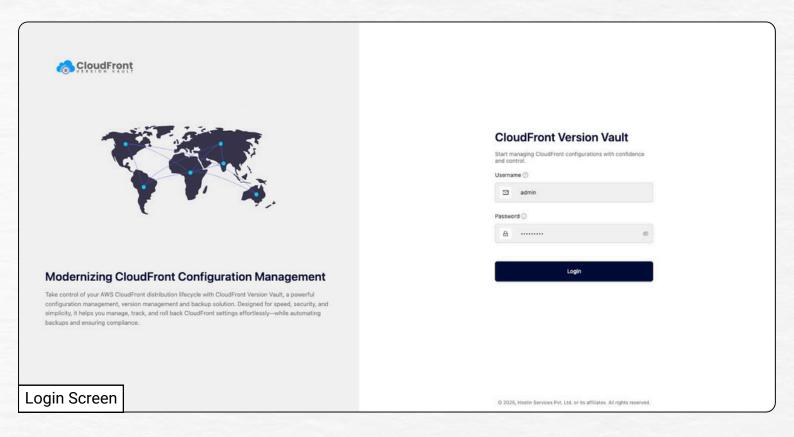
3. Admin Role

- Login & Password Management: Admins can log in, change their password, and manage other users passwords.
- **Full Access:** Admins have all permissions assigned to the Editor role.
- **User Management:** Create new users, Change the roles of existing users, Delete users from the application.
- SMTP Configuration: Configure SMTP settings to enable event-based email alerts.
- SSL Configuration: Secure your custom domain with certificate and key configuration.

Each role is designed to ensure that users have the appropriate level of access for their responsibilities. Be sure to assign roles carefully based on the user's responsibilities and required access level.



The CloudFront Version Vault dashboard enables users to view, manage, and restore CloudFront distribution configurations efficiently with a modern and intuitive interface.



3.1 Application Layout

The application features a persistent sidebar offering the following primary navigation options:

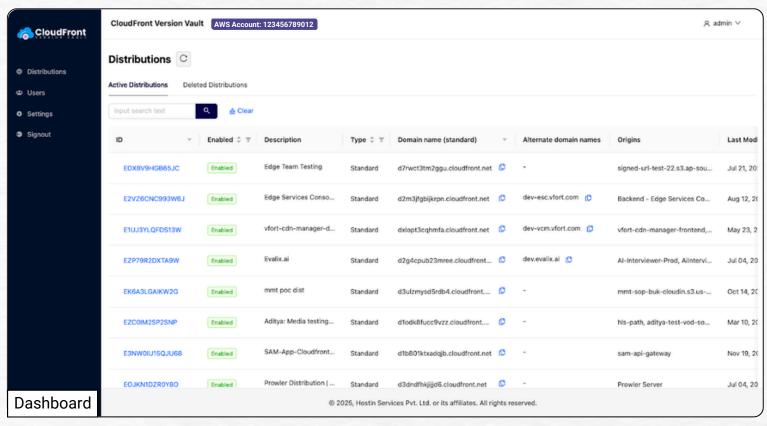
- **Distributions:** View and manage both active and deleted distributions.
- **Users:** The admin manages platform users and their access levels.
- **Settings:** Access password, Schedule management, Email Notifications, SSL Configuration.
- **Logout:** Securely sign out of the application.

3.2 Viewing and Managing Distributions

3.2.1 Accessing Distributions

- Click the **Distributions** menu from the sidebar.
- You'll see two tabs at the top:
 - Active Distributions (default).
 - Deleted Distributions.
- Below the tabs, the respective list of distributions is displayed.





3.2.2 Distribution Details View:

Clicking on a Distribution ID opens a detailed view with several tabs, designed to resemble AWS CloudFront's distribution information layout. Tabs include:

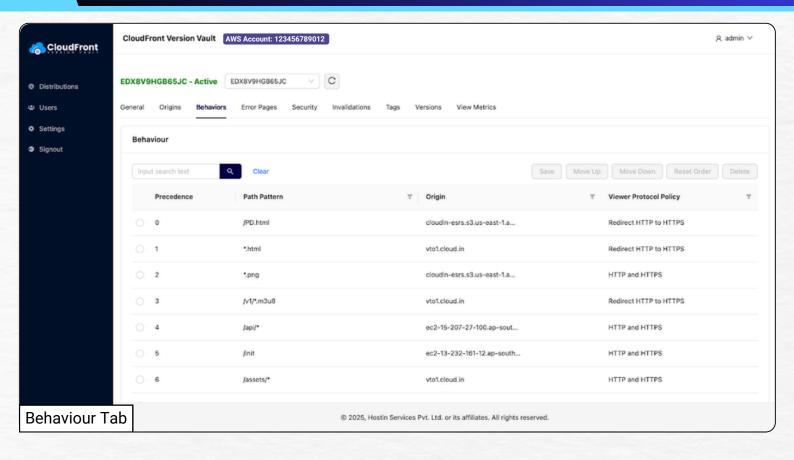
- General Info: Basic configuration and metadata.
- Origins: Origin domain and path settings.
- Behaviors: Cache and request behavior configurations.
- Error Pages: Set a custom error page in CloudFront for specific error codes.
- **Security:** Control access by country using CloudFront geo-restrictions.
- · Invalidations: History of cache invalidations.
- Tags: Use "Manage Tags" to organize your CloudFront setup with labels.
- Versions: Version history of distribution configuration.
- View Metrics: Shows your website's traffic, data flow, and error trends.
- Schedule Backups: A cron job auto-backs up CloudFront config changes regularly.

3.2.3 In-Depth Explanation

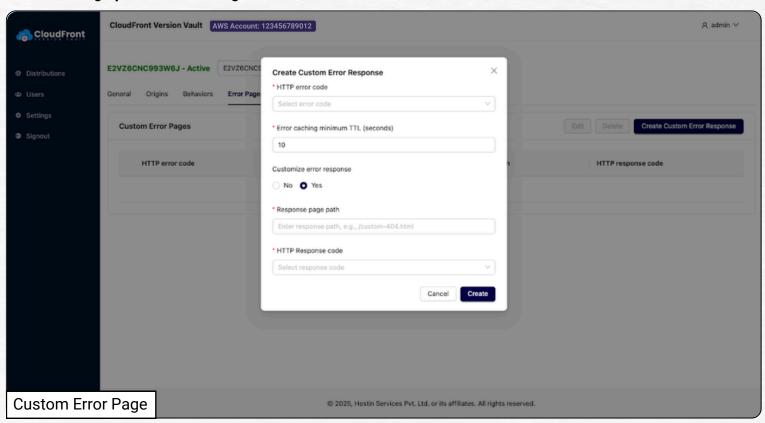
3.2.3.1 Configuring CloudFront Behaviours

- You can change the order of these rules using the 'Move Up' and 'Move Down' buttons. Moving a behavior up means it will be checked earlier.
- Since the rules are checked from top to bottom based on "Precedence," being able to "Move Up" or "Move Down" a behavior allows you to change its priority. If a rule is more specific, you'll generally want it higher up so it's matched before a broader, more general rule.





3.2.3.2 Setting Up Custom Error Pages

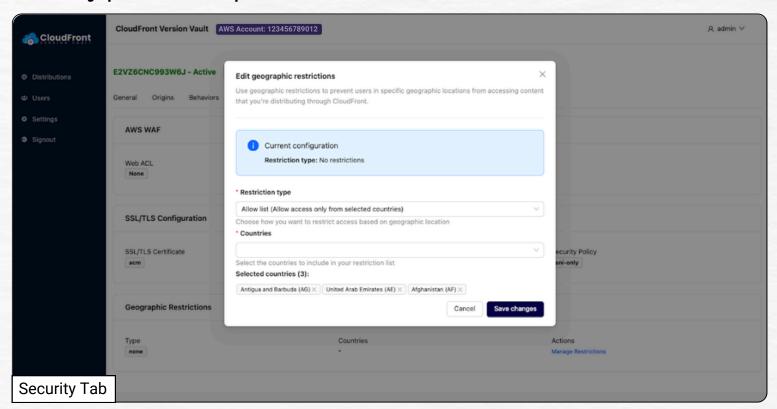




When a user tries to access content and your website has an issue (like a page not found or a server problem), CloudFront can show a custom error page you design.

- Go to "Error Pages" tab: This section lets you see and manage existing custom error pages.
- Click "Create Custom Error Response": This opens a window to set up a new custom error page.
- Choose the HTTP Error Code: You pick the type of error this custom page is for (e.g., "404" for "page not found" or "502" for a server issue).
- Error Caching Minimum TTL (seconds): This value determines the duration, in seconds, for which CloudFront
 caches an error response before reattempting to retrieve the correct content from the origin.
- Enable Custom Response: Select "Yes" to use your own custom page. If you pick "No," CloudFront shows its standard error message.
- Provide Page Path: If you chose "Yes," you'll enter the exact web address where your custom error page is stored (e.g., /my-404-page.html).
- Set Response Code: You decide what error code CloudFront should send back to the user's browser. It's usually
 the same as the original error (like sending a "404" response for a 404 error page).
- Create: Once everything's set, click "Create" to save your custom error page rule.

3.2.3.3 Geographic Restrictions Explained



This section lets you control who can access your website content based on their country.

a. Why Use Restrictions?

This is about blocking or allowing specific countries from accessing your content.



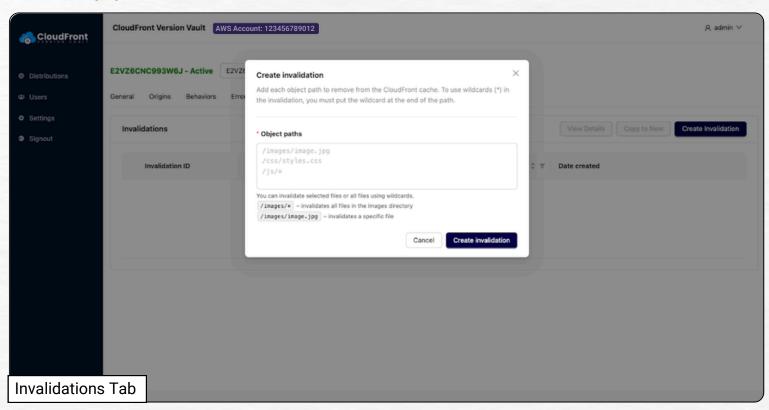
b. How to Set Up Restrictions

You choose how to control access to your content:

- No restrictions: Everyone can see it.
- Allow list: Only people from the countries you list can see your content.
- Block list: People from the countries you list cannot see your content.

After choosing, you simply add the specific countries to your list (for example, the United Arab Emirates, UAE). Once you're satisfied with your selections, click "Save changes" to activate your new rules.

3.2.3.4 Managing Cached Content with Invalidations



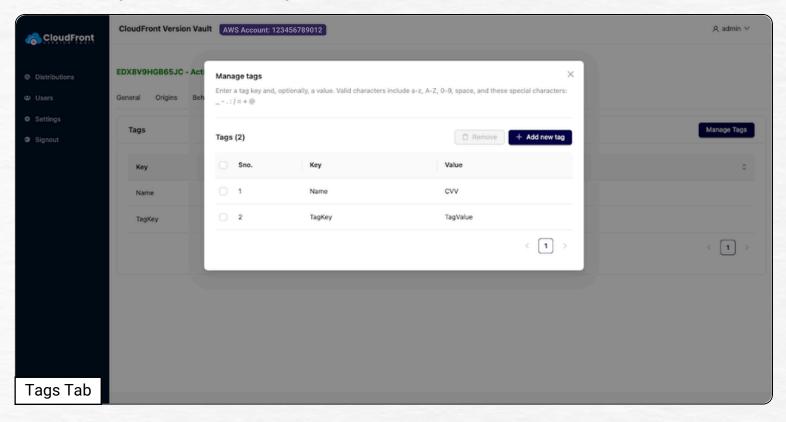
This section enables you to instruct CloudFront to refresh cached content, ensuring that users receive the latest versions of your files. CloudFront stores copies of your website files in its cache for faster delivery; invalidations are used to force an update of these cached versions.

a. Initiating the Invalidation

- To execute the specified invalidation requests, click the "Create Invalidation" button located at the bottom of the dialogue box. This action transmits the command to CloudFront, instructing it to clear the designated cached content.
- The "Copy to new" button enables the creation of a new invalidation request, pre-populating the fields with the details of a previously selected invalidation for convenience.



3.2.3.5 Labelling Your CloudFront with Tags

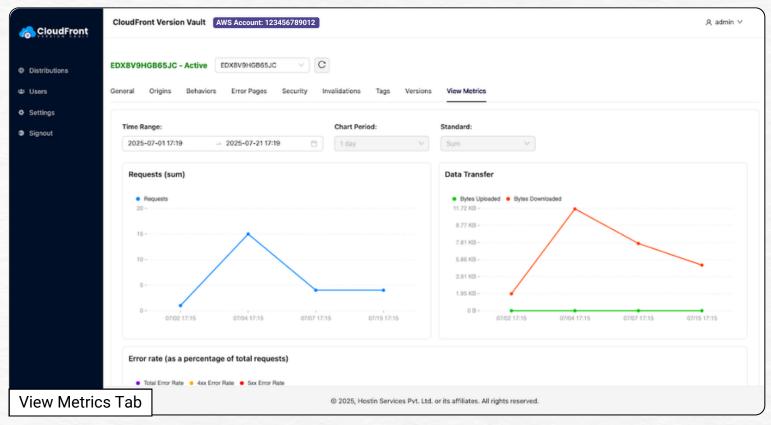


a. The "Manage Tags" Window

- When you click the "Manage Tags" button, a modal window appears where you can add or change your labels.
- To add a new tag, just click the "+ Add new tag" button.
- You'll see any tags already on your CloudFront setup. For example, you might see "TagKey" as "TagValue",
 "Name" as "CVV"

In short: Tags are custom labels you use to organize and easily find your CloudFront setups, especially when you have many.

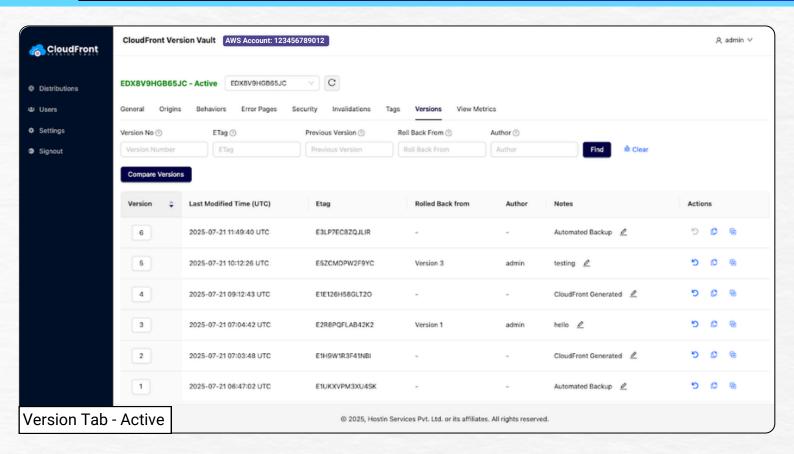
3.2.3.6 Understanding "View Metrics"



This section shows you how busy your website is and if anything is going wrong.

- a. The "Requests" graph simply counts how many times people tried to access your website. More requests mean more visitors.
- b. The **Data Transfer** graph shows how much information moved around, with the green line representing **Bytes Uploaded** and the red line representing **Bytes Downloaded**.
- c. Error Rates: This graph indicates the frequency of issues encountered by users accessing your website.
 - **Total Error Rate:** Represents the aggregate percentage of all errors.
 - **4xx Error Rate:** Denotes client-side errors, typically caused by incorrect user requests (e.g., a "Page Not Found" error).
 - 5xx Error Rate: Signifies server-side errors, indicating an issue with the website's hosting infrastructure or application.

Basically, it's a quick way to see your website's traffic and health at a glance.

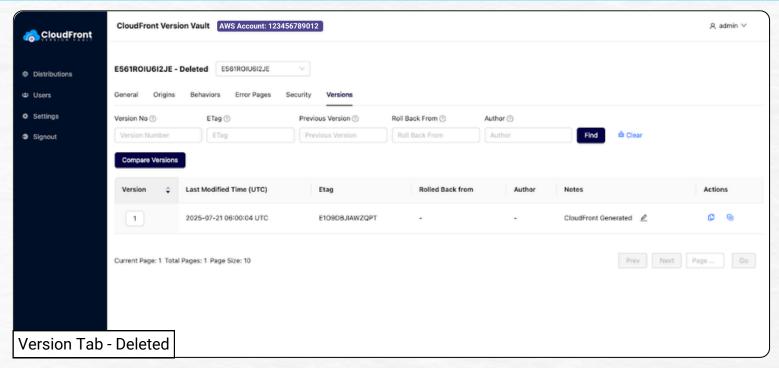


3.3 Working with Versions

3.3.1 Versions Tab (For Active Distributions)

In the Versions tab of an active distribution:

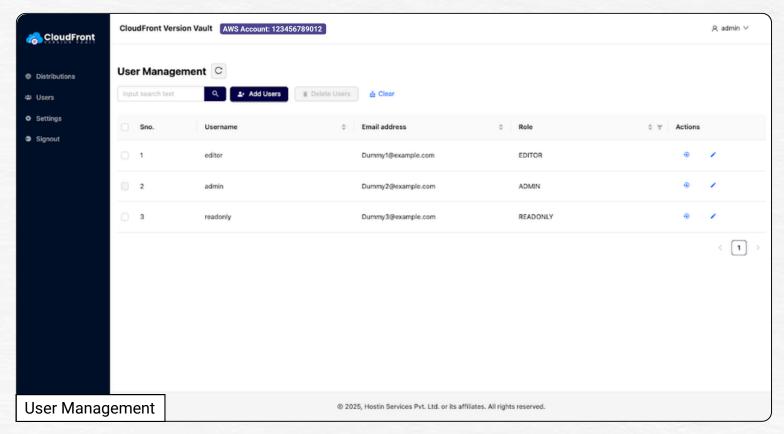
- You'll find a version table listing all saved configurations.
- For each version, the following actions are available:
- (5) **Rollback:** Revert the distribution to this version.
- (b) Copy to Another Distribution: Apply this version's config to another existing distribution.
- (Create New Distribution: Launch a brand-new distribution using this version's config.
- **Compare:** View configuration differences between two selected versions.



3.3.2 Versions Tab (For Deleted Distributions)

In the Deleted Distributions tab, selecting a Distribution ID and navigating to its Versions tab allows you to:

- Copy to Existing Distribution.
- (5) **Recreate Distribution** using a selected version.
- · Compare Versions



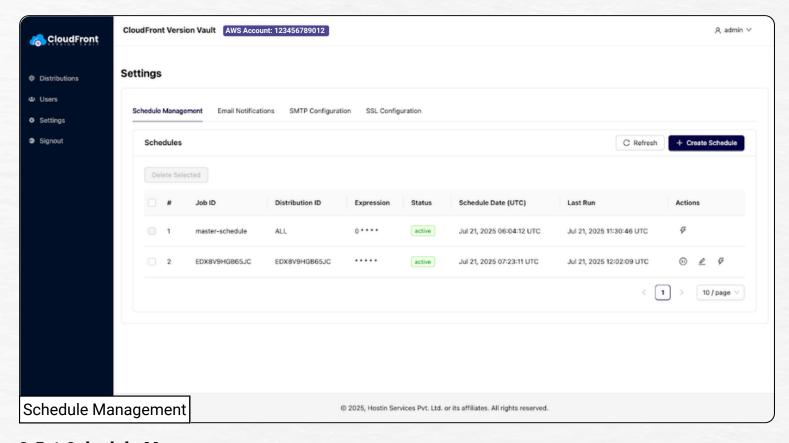
3.4 User Management

Accessible via the Users option in the sidebar, the User Management interface allows the admin to perform the following actions:

- · Add, modify, or delete users with the following roles:
 - Admin: Full access to all application features including user and role management.
 - Editor: Has the same permissions as the Admin role, except cannot add or modify users.
 - Read-Only: Can view distribution info but cannot perform actions.

3.5 Settings Tab

Within the Settings menu, the following key options are available:



3.5.1 Schedule Management

a. Accessing Schedule Management

Go to Settings >> Schedule Management.

b. Master Schedule

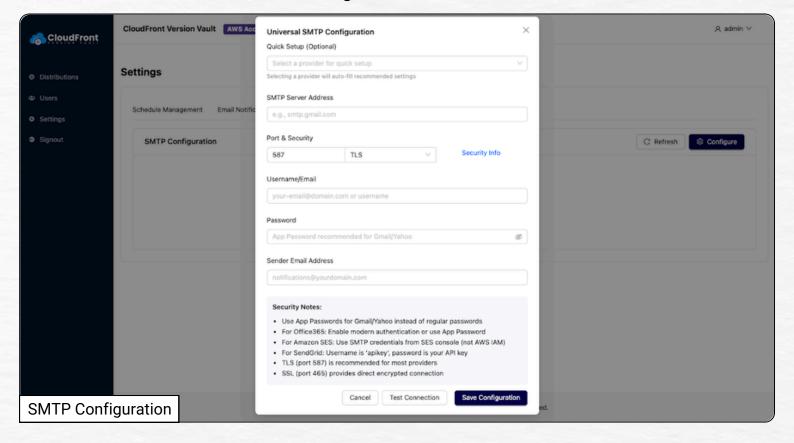
- · It checks for configuration changes and monitors deleted distributions across all entries every hour.
- Detect changes in configuration for every distribution.
- Monitor deleted distributions and disk usage, and send alerts if usage exceeds 90% if SMTP and email are configured.



c. Distribution-Specific Schedules

This schedule monitors changes in a particular CloudFront distribution.

3.5.2 Email Notification and SMTP Configuration



Step 1: SMTP Setup

- The admin adds the email server settings (SMTP).
- Once it's set, the system is ready to send emails.

Step 2: Notification Triggers

The system watches for important events like:

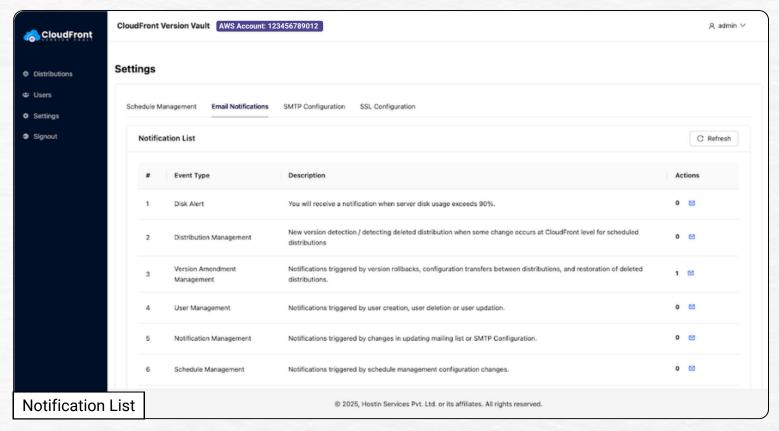
- Low disk space.
- User changes.
- Distribution updates.

When something happens, the system prepares an email.

Step 3: Sending the Email

- The system sends the message using the SMTP server.
- The email goes out from the sender you set up to the right people.
- To manage recipients, the user clicks the mail icon in the Action tab, which opens the mailing list.
 modal. From there, they can add new emails or delete existing ones using the available options.





3.5.3 SSL Configuration

SSL (Secure Sockets Layer) certificates are like a digital passport for your website. They make sure that the connection between your users and your CloudFront distribution is secure and private. This is important for protecting sensitive information and building trust.

Steps to Configure SSL

Step 1: Go to SSL Configuration

To get started with SSL, simply go to:

- In the left sidebar, click on Settings.
- Then, click on the SSL Configuration tab.
- On the SSL Configuration screen, look for the Configure button (usually on the right side).
 Click it to begin setting up your SSL certificate.

Step 2: Fill in Your SSL Details

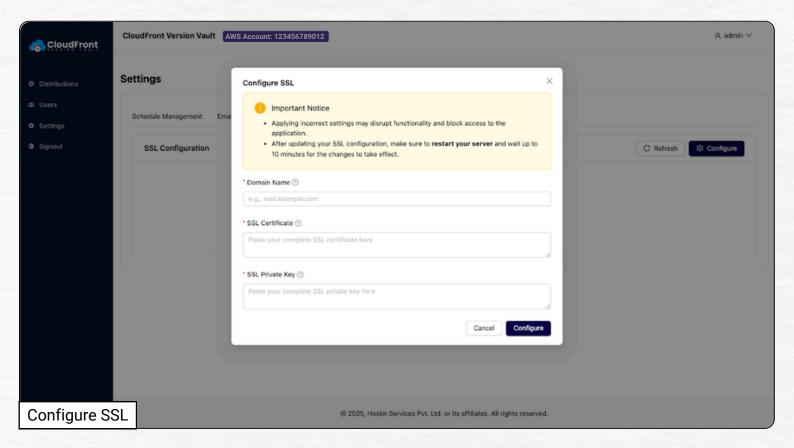
Now, you'll need to provide three key pieces of information for your SSL certificate:

Step 3: Save Your Configurations

 Once you've entered all three required pieces of information, click the Configure button at the bottom of the pop-up window.

That's it! Your CloudFront Version Vault will now use your provided SSL certificate to secure the connections for your specified domain.





1. Domain Name

- This is the web address (like yourwebsite.com or mail.example.com) that your SSL certificate is for.
- Enter your domain name here.

2. SSL Certificate

- This is the actual certificate code you received from your SSL provider (like Let's Encrypt, DigiCert, etc.).
- It's a long string of characters that typically starts with ----BEGIN CERTIFICATE---- and ends with
 ----END CERTIFICATE----.
- Carefully copy and paste your complete SSL certificate into this box.

3. SSL Private Key

- Every SSL certificate has a matching private key. This key is crucial for decrypting the secure connection.
- It's another long string of characters, usually starting with -----BEGIN PRIVATE KEY----- or -----BEGIN RSA PRIVATE KEY----- and ending with -----END PRIVATE KEY----- or -----END RSA PRIVATE KEY-----.
- Carefully copy and paste your complete SSL private key into this box.

Keep this private key very secure and do not share it with anyone!



4. Conclusion

CloudFront Version Vault is a robust and intuitive tool designed to streamline the management of AWS CloudFront distributions. It empowers users with full visibility and control over distribution configurations, making tasks like rollback, monitoring, and version management seamless.

With CloudFront Version Vault, you can:

- Roll back to any previous version of a distribution.
- Copy any saved version to another distribution or create a new distribution from it.
- Compare two versions side-by-side to identify configuration changes.
- Schedule monitoring tasks using cron-based or master schedules.
- Receive real-time email alerts via configurable SMTP settings.
- Secure your environment using custom SSL certificates.
- Manage user access and permissions with role-based controls (Admin, Editor, Read-only).

We recommend reviewing version history regularly, keeping SMTP and SSL configurations up to date, and enforcing appropriate access control for all users.

Thank you for Trusting CloudFront Version Vault. 🐪





