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V-Spark Management Guide

Version 4.1

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Abstract

This document provides an overview of how to manage V-Spark settings, audio files, and folders, and organizational architecture at the company, organization, and user levels.

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V-Spark Overview

Voci V-Spark™ is an all-inclusive speech analysis application that enables you to visualize audio using state-of-the-art speech recognition, transcription, and text analysis technologies. V-Spark automatically transcribes audio into searchable text, then organizes and archives the data, and finally provides both intuitive graphical web and representational state transfer (REST) API interfaces through which you can examine and explore that data. The information is stored in a database where the audio can be searched and analyzed for compliance, customer insights, and agent performance. V-Spark has the most complete set of speech technologies in a single solution on the market today.

The current version of the V-Spark server is supported on Red Hat Enterprise Linux (RHEL) and Community Enterprise Operating System (CentOS) versions 7.8 and greater, within the version 7 family.

This document provides an overview of how to manage your customizable V-Spark interface. For information on how to analyze audio and call statistics using V-Spark, please see the **V-Spark Review and Analysis Guide**. For information on how to utilize the V-Spark Application Programming Interface please see the **V-Spark API Reference**.

Managing V-Spark

The V-Spark web server provides a powerful yet intuitive solution for transcribing, storing, and analyzing audio. V-Spark can host multiple clients on a single server instance (referred to as "multitenancy"), and provide different configuration access to users. This document introduces the hierarchical account management feature within V-Spark for administrators to be able to manage user accounts. The focus is to set up a secure environment where each user has the access they need to efficiently and effectively accomplish their objectives.

Tools You'll Need

Here's what you need to get started:

- Desktop or laptop computer with secure power supply, and with the latest version of Google Chrome installed
- Fast and reliable network connection
- The network address (URL) of your V-Spark server, and your login information

NOTE
You may need system administrator user account access to V-Spark to perform some of the instructions in this guide. Other instructions only require write access to a company or organization account.

Multitenancy

V-Spark supports both on-premise and cloud deployments. In both of these instances, setting up an organized and configurable multitenant solution is important for the security and functionality of the tool. Multitenancy enables multiple “tenants” or groups of users to have access to the same engine instance of V-Spark although configurations and data are kept separate.

In the cloud, multitenancy enables multiple companies to use the same V-Spark interface without each company knowing about one another. Alternatively, an on-premise deployment allows groups within a company to view audio independent of other groups, keeping private data separate from the larger set of company users.

Companies, Organizations, and User Accounts

V-Spark uses a 3-level hierarchical structure to define the entities that represent each distinct tenant. At the top level, each user account is associated with a single **Company**, generally defined as the company the user works for. A **company** must have at least one **Organization**, which generally represents a group or department within a company. At the lowest level, a **User Account** has configurable company- and organization-oriented permissions. For more information about user permissions see User Account Settings, Permissions, and Administration.

Monitored Folders and Applications

In V-Spark, audio is categorized by its source into folders and managed in the **Folders** section under **Settings**. Each folder is associated with one Organization within a Company. **Applications** are customized analytics tools set up in the **Applications** section also under **Settings**. Each Application can be associated with multiple folders of an Organization and cannot be shared across Organizations. These will be discussed in more detail in Folder Management and Application Management.

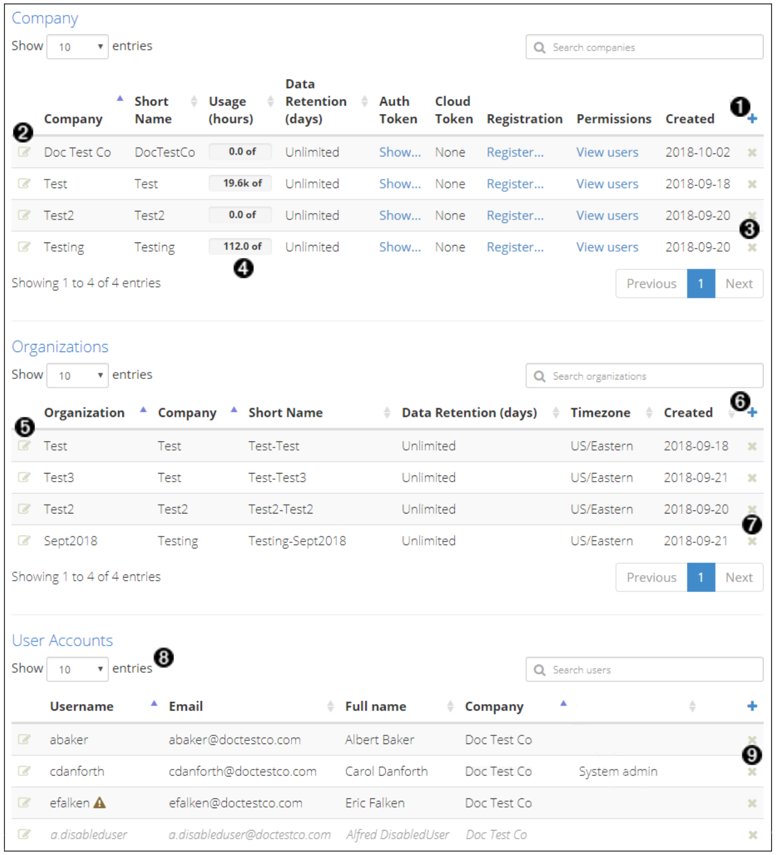
Company and Organization Management

Companies are the highest-level administrative group in V-Spark. Companies contain *organizations*, which are separate logical groups within a company.

To create or modify a company or organization, log into V-Spark , and navigate to the **Settings** page by using the **Main Menu**. Then use the breadcrumb menu to select the company and organization you want to view. The following screenshot shows the **Dashboard Menu** and how to navigate it:

❶ Main menu
❷ Breadcrumb menu
❸ Submenu

If you are a system administrator or a user with company- or organization-level **Create/Edit** permissions, you will see the **Accounts** section in the **Submenu**. There you can view or modify companies, organizations, and user accounts.



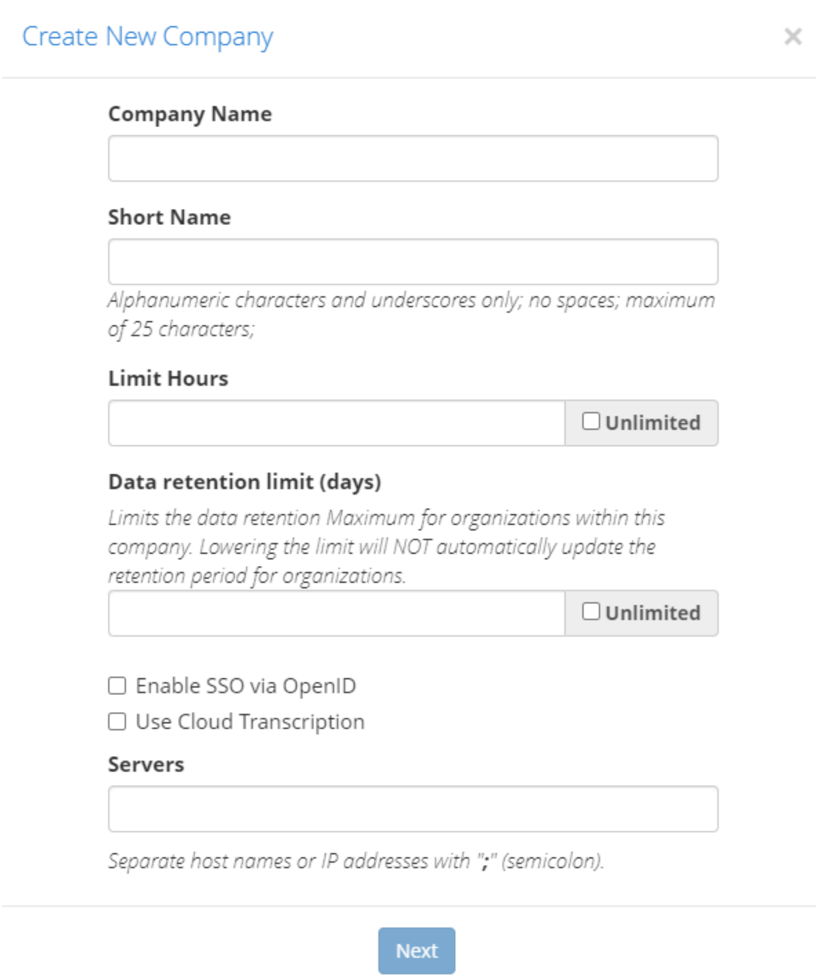
❶ Create a new company
❷ Edit a company
❸ Delete a company
❹ View the breakdown of usage by organization and folder
❺ Edit an organization
❻ Create a new organization
❼ Delete an organization
❽ Choose the number of entries per page
❾ Delete a user

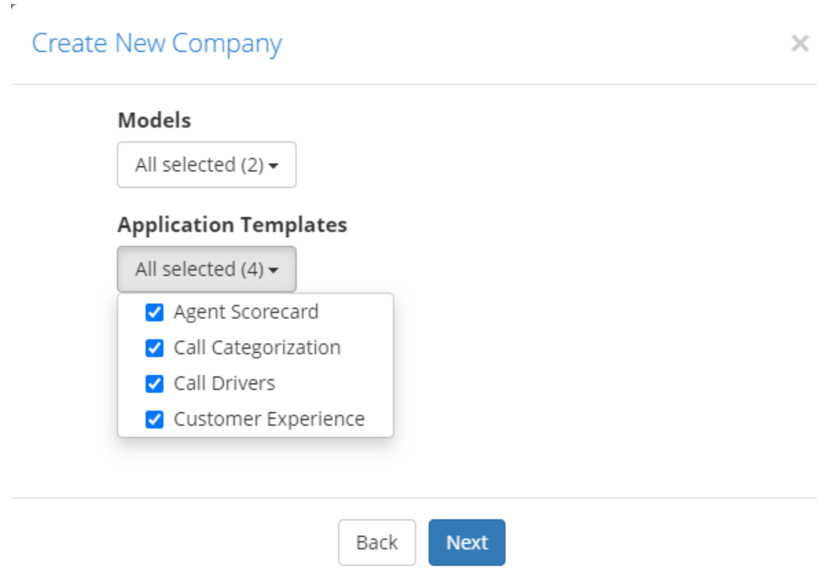
The next few sections explain how to create, view, modify, and delete a Company (if you are a system administrator) or Organization (if you have **Create/Edit** company-level permissions for its parent company). For information on User accounts and permissions, see User Account Management.

Create or Modify a Company

IMPORTANT
Only **System administrator** accounts have access to modify the **Companies** section.

Click **Add** ✚ on the **Companies** section of the **Accounts** page to create a company. The **Create New Company** dialog displays:





The **Create New Company** dialog has multiple screens. The company's transcription service must be specified and authenticated before language models and application templates can be configured.

This dialog contains the following fields:

- **Company Name**: The name of the company.
- **Short Name**: Short name reference of the actual company name since company names may be lengthy and include spaces (spaces are not valid in the short name). The company short name *cannot* be edited after the company has been created.
- **Limit Hours**: Limit the number of audio hours that the company can process through V-Spark. Once that limit has been reached, the company can no longer process new audio, but can still use V-Spark to examine existing calls.
- **Data retention limit (days)**: Limits the maximum data retention days for organizations within this company. For more information about data retention limits and their implications, see Data Retention Limits for Companies and Organizations.
- **Enable SSO via OpenID**: If checked, shows a third dialog screen with additional options for the configuration of single sign-on (SSO) authentication for users associated with this company. For more information on configuring and using SSO, refer to SSO-Enabled Companies.
- **ASR transcription type**: Choose between appliance-based or cloud transcription, as described in Appliance-based Transcription and Cloud-based Transcription.
- **Models**: Select the language models to be used for transcribing audio. The models listed will vary depending on the company's ASR transcription service licensing and configuration.
- **Application Templates**: Choose the application templates that will be available to company folders. See Application Management.

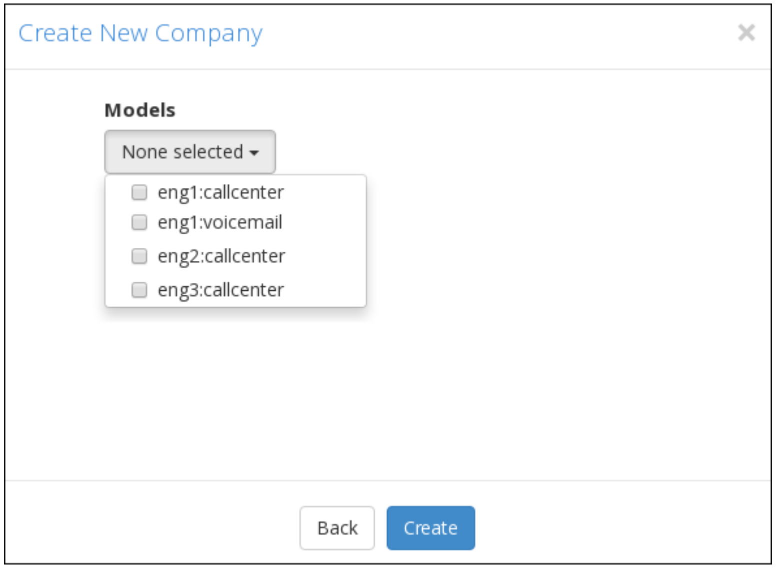
Once you are satisfied with the company's information, press the **Create** button. The company is created, and can be viewed in the **Company** section of the **Account Settings** page. Organizations and users can now be associated with the company.

To modify an existing company, click its **Edit** icon on the **Accounts** page. The **Update Company** dialog appears with the same fields as the **Create New Company** dialog; however, the company's **Short Name** field is disabled because that value may not be modified.

Appliance-based Transcription

For appliance-based transcription, configure the following settings.

- **Servers**: This field, shown on the first page of the **Create New Company** dialog shown in Create or Modify a Company, enables you to enter the name(s) of the server(s) that can be selected during the folder creation process. Enter the name(s) of the company's server(s) here.
  If you are entering the names of multiple machines, separate the machine names with semicolon (";") delimiters. For example, if there were two V-Spark appliances named `product-demo` and `asrsrvr1`, the correct entry is “`product-demo;asrsrvr1`”. If the servers are not found in the local area network, you will not be able to select models.
- **Models:** On the second page of the **Create New Company** dialog, you can select the different language models that are available when creating new folders using the **Models** drop-down menu:



IMPORTANT
To set up folders within the company, you must select at least one model in the **Models** drop-down menu.

NOTE
The models listed in the screenshot are shown for example purposes only. The list of models licensed for the current company may be different. For more information about language models, refer to Voci's language model documentation.

Cloud-based Transcription

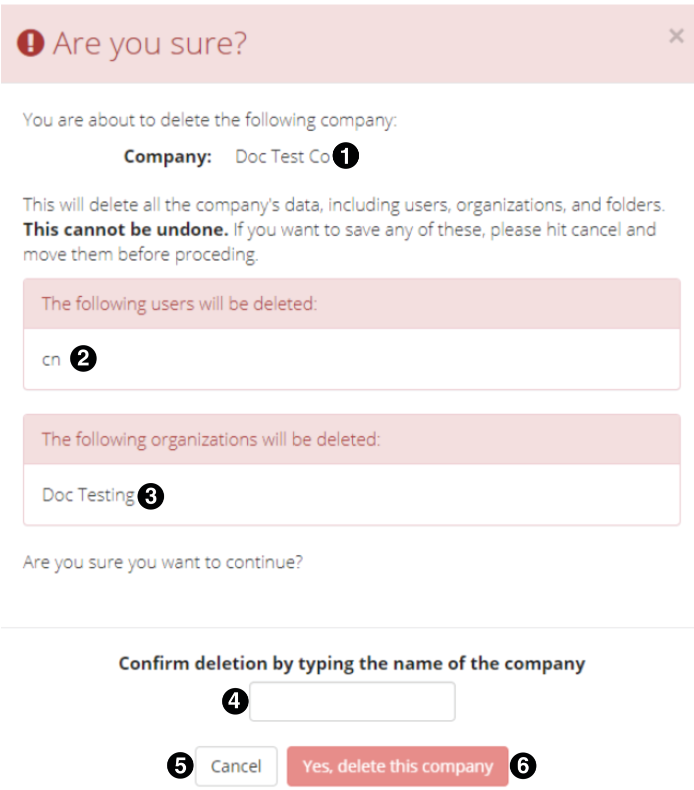
Create or Modify a Company shows an option to **Use Cloud Transcription**. This option is only relevant for customers using the Voci V-Cloud transcription service. All other users should leave this box unchecked. When this option is selected the following settings must be configured:

- **Cloud Token**: A V-Cloud token or alias will be provided by your Voci representative. This token authorizes the system to submit and bill transcription jobs to your V-Cloud account.
- **Custom Models**: Leave this field blank to use the system's default models. Contact your Voci representative for information about using additional or custom models. For more information about language models, refer to Voci's language model documentation.

Delete a Company

WARNING
Deleting a Company permanently removes all information associated with it, including the Company's Users, Organizations, Folders, and Applications.

To delete a Company, select the **x** button to the right of the Company information in the **Accounts** section. A red pop-up warning screen displays that highlights the data that will be deleted when the company is deleted:



1. The name of the Company that will be deleted
2. The users associated with that Company whose accounts will be deleted
3. The names of the Organizations associated with that Company that will also be deleted
4. Type the name of the Company here to confirm
5. Select **Cancel** to return to the Company list
6. Select **Yes, delete this company** to confirm the deletion

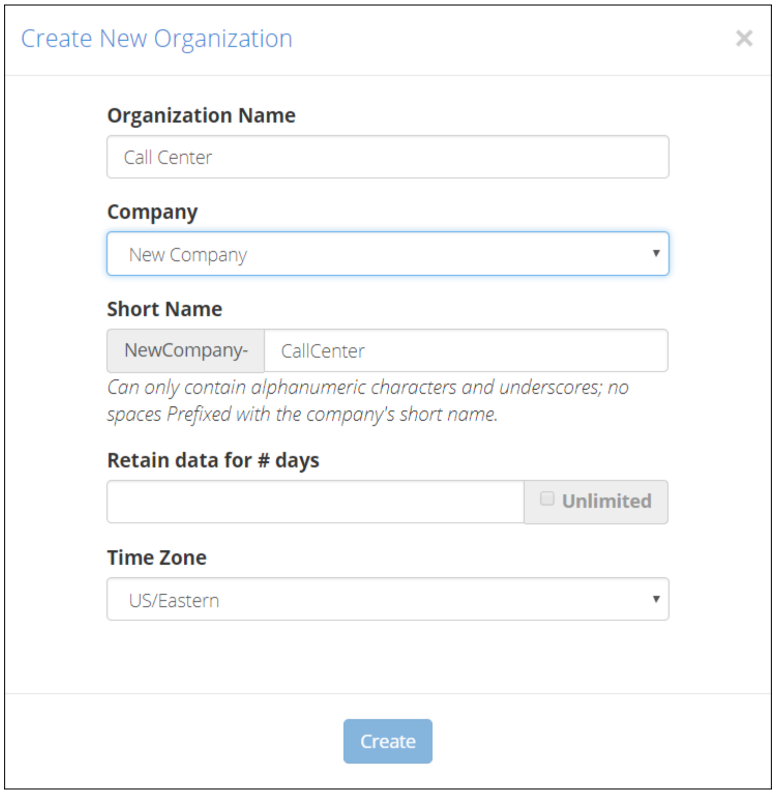
Before the Company is deleted, you must confirm the deletion by entering the name of the Company that will be deleted, and selecting **Yes, delete this company**.

The company name is shown near the top of the dialog. For security reasons, you cannot delete the company to which your account belongs (your home company), regardless of your permissions.

Create or Modify an Organization

NOTE
Only **System admin** users, or users with company **Create/Edit** permissions, can modify a company's Organizations.

Click **Add** + on the **Organizations** section of the **Accounts** page to create an organization. The **Create New Organization** dialog displays:



This dialog contains the following fields:

- **Organization Name**: The name of the organization within a company.

- **Company Name**: The name of the company of which the organization is a member.
- **Short Name**: Short name reference of the actual organization name, since organization names may be long with spaces. An organization's short name defaults to `company short name-organization name` in the dialog box. However, you may modify the organization portion of the short name before the organization is created.
- **Retain data for # of days**: Specifies how long calls will be retained in the system. For more information about data retention limits and their implications, see Data Retention Limits for Companies and Organizations.
- **Time Zone**: Each organization is assigned a time zone. This allows users of that organization to have customized dates and times specific to that time zone.

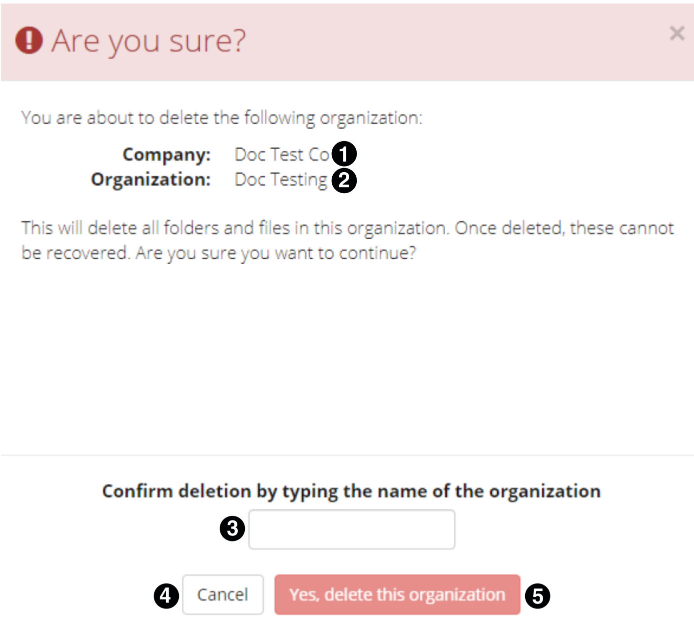
> **NOTE**
> Choose your organization's time zone carefully! The time zone associated with an organization cannot be modified after that organization is created.

To modify an existing organization, click its **Edit** icon on the **Accounts** page. The **Update Organization** dialog appears with the same fields as the **Create New Organization** dialog; however, the company's **Short Name** and **Time Zone** fields are disabled because those values may not be modified.

Delete an Organization

> **WARNING**
> Deleting an Organization permanently removes all information associated with that organization, including all of the Organization's Folders and Applications.

To delete an Organization, select the **x** button to the right of the Organization information in the **Accounts** section. A red pop-up warning screen displays that highlights the data that would be deleted when the Organization is deleted:



❶ The name of the Company associated with the Organization that will be deleted
❷ The name of the Organization that will be deleted
❸ Type the name of the Organization here to confirm
❹ Select **Cancel** to return to the Organization list
❺ Select **Yes, delete this organization** to confirm the deletion

Before the Organization is deleted, you must confirm the deletion by entering the name of the Organization that will be deleted, and selecting **Yes, delete this organization**.

The Organization name is shown near the top of the dialog.

Data Retention Limits for Companies and Organizations

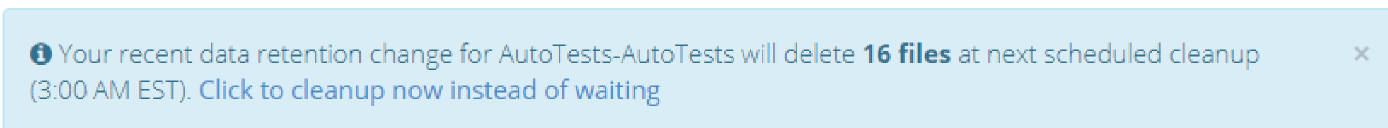
V-Spark data retention limits specify the maximum number of days that calls will be retained before being automatically removed from the system. This automated data cleanup mechanism prevents unneeded call information from accumulating on the system, consuming storage space.

NOTE
The data lifetime is measured against call "datetime" metadata, which is not necessarily when the call was loaded into the system. If historical data is to be loaded, ensure that the retention limit is sufficient to retain the historical data as desired.

A company's **Data retention limit (days)** setting (shown in Create or Modify a Company) restricts the maximum data retention limit for that company's organizations, whereas an organization's **Retain data for # days** setting (shown in Create or Modify an Organization) sets the actual retention period that is used for scheduled data cleanup.

NOTE
If a company's data retention limit is *decreased*, the data retention limits for organizations within that company are not checked to see if they are still valid. However, when an organization is updated, its data retention limit is checked to ensure that it does not exceed the data retention limits for its parent company.

If an organization's data retention limit is *decreased* to a period that would cause calls to be removed the next time data cleanup is executed, a message like the following displays:



This dialog provides a **Click to cleanup now instead of waiting** option that enables the user to remove the designated files from the system immediately.

The data retention cleanup schedule for an organization is based on its time zone and is configurable at the system level by system administrators.

User Account Management

User accounts are created within a single company and can have customized permissions for both entire companies and individual organizations. This section explains how to create, configure, and manage V-Spark user accounts.

> **IMPORTANT**
> Most user accounts have permissions limited to specific companies or organizations. The **Account Settings** page displays only entities that the active account has permission to view; similarly, these settings may only be changed by accounts with permission to modify.
>
> To be able to set permissions for any user in any company or organization, you must be logged in as a system administrator.

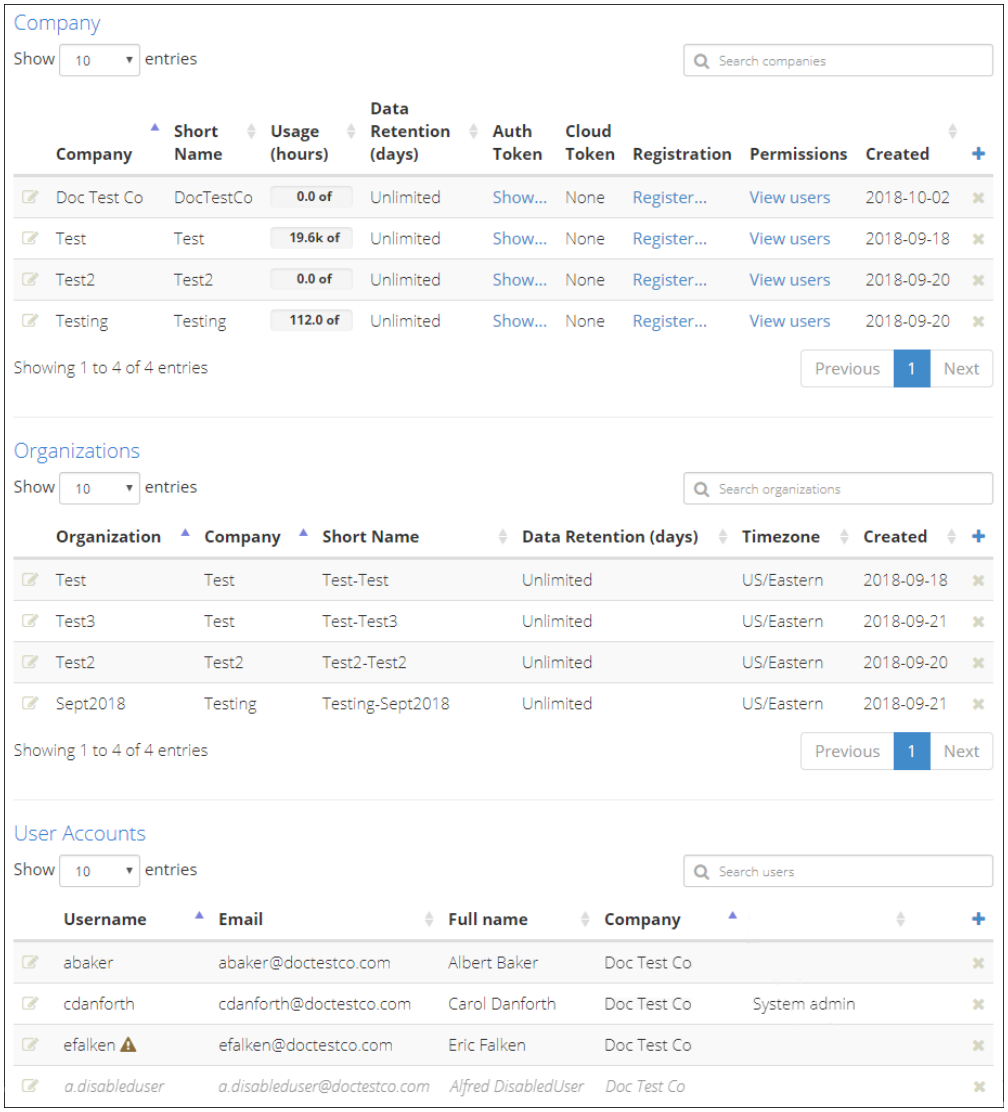
Select **Accounts** in the **Settings** menu to create, modify, and delete user accounts using the **User Accounts** section at the bottom of the **Accounts Settings** screen.

The **User Accounts** section displays a list of all V-Spark user accounts associated with companies that the active account has permission to edit. For each account, the list shows the user's username, email address, full name, and company.

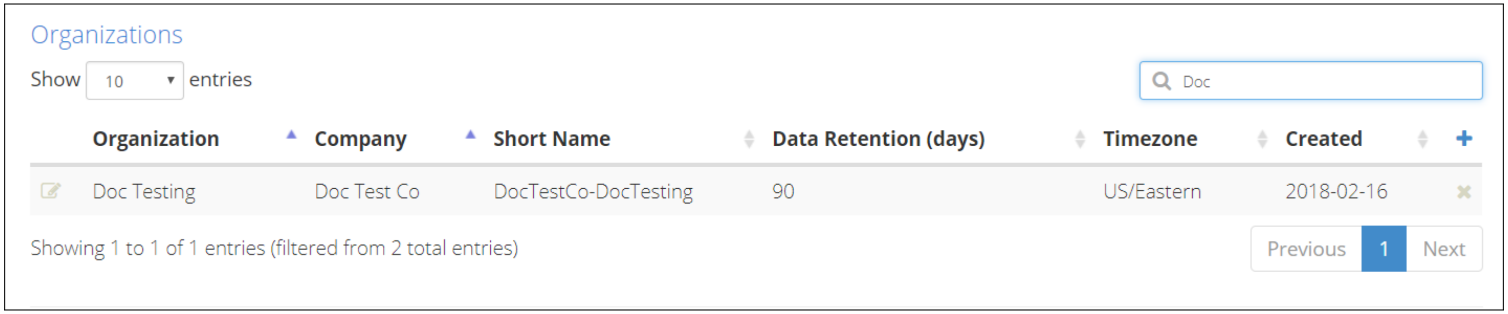
Select the icon to the left of each entry to display the **User Settings** page for that user account. Select the **x** button at the right of each entry to delete the user account.

If an account has been created but not verified, its username will have a warning icon next to it. If a user account has been disabled, the entry for that account is displayed in an italic typeface. If the active account has system administrator privileges, the last column of the list will display the words "System admin" for other user accounts that also have system administrator permissions.

The size of the list is limited by the number of lines chosen in the **Show entries** menu. If there are more entries in the list than are being displayed, use the **Previous**, **Next**, or page number buttons to navigate to the other pages of the list.



Each subsection of the page can be filtered to view just those items that you wish to see. For example, typing *Doc* into the "search organizations" filter returns only those organizations that contain "doc" in their name:

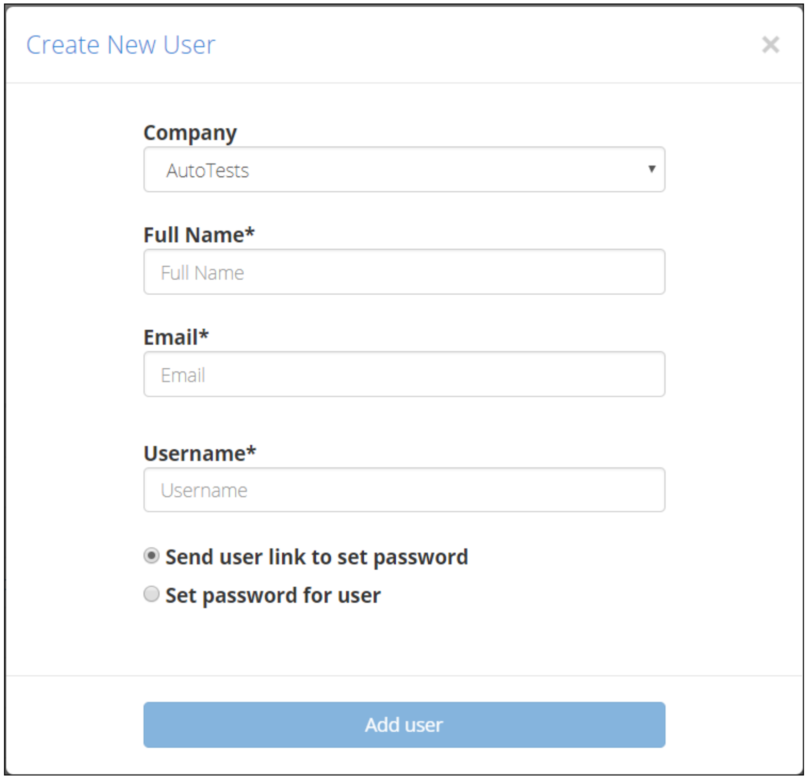


These filters can also be used for folders and applications under that tab of the Settings page.

Creating a User Account

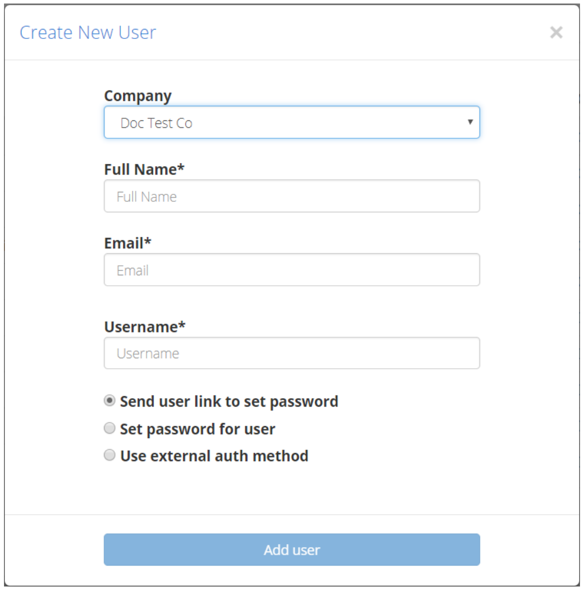
V-Spark user accounts can be created manually using the GUI, and manually or programmatically using the REST API's /config/users/ endpoint. For more information about using the API, see the API reference. Users may also request a new account if the installation has this feature enabled.

1. Select the blue **+** sign at the far right of the **User Accounts** section of the **Account Settings** screen.
   The **Create New User** window appears:



2. Use the **Company** drop-down menu to select the company that will be the account's home company.
3. Enter the user's **Full Name**, **Email** address, and **Username** (the user's login name for V-Spark). The username and email address for each user must be unique.
4. Specify the source for the new user's password. You must choose one of the available options:
    1. **Send user link to set password** — sends the new user an email with a link that can be used to set an initial password. When the password has been successfully set, V-Spark sends an additional email confirmation to the user.
    2. **Set password for user** — displays a **Password** field that can be used to set an initial password. Passwords must adhere to the installation's password requirements.
    3. **Use external auth method** — integrates the user's account with an external authentication method so that they do not need a V-Spark-specific username and password.

This option displays only if the installation has been configured to use external authentication, as in the following example:



Selecting **Use external auth method** displays a drop-down list of the external authentication mechanisms with which your installation has been integrated. The only currently supported external authentication method is OpenID Connect (OIDC) using single sign-on (SSO). Refer to Using Single Sign-On (SSO) with V-Spark for more information.

5. Click **Add user**.

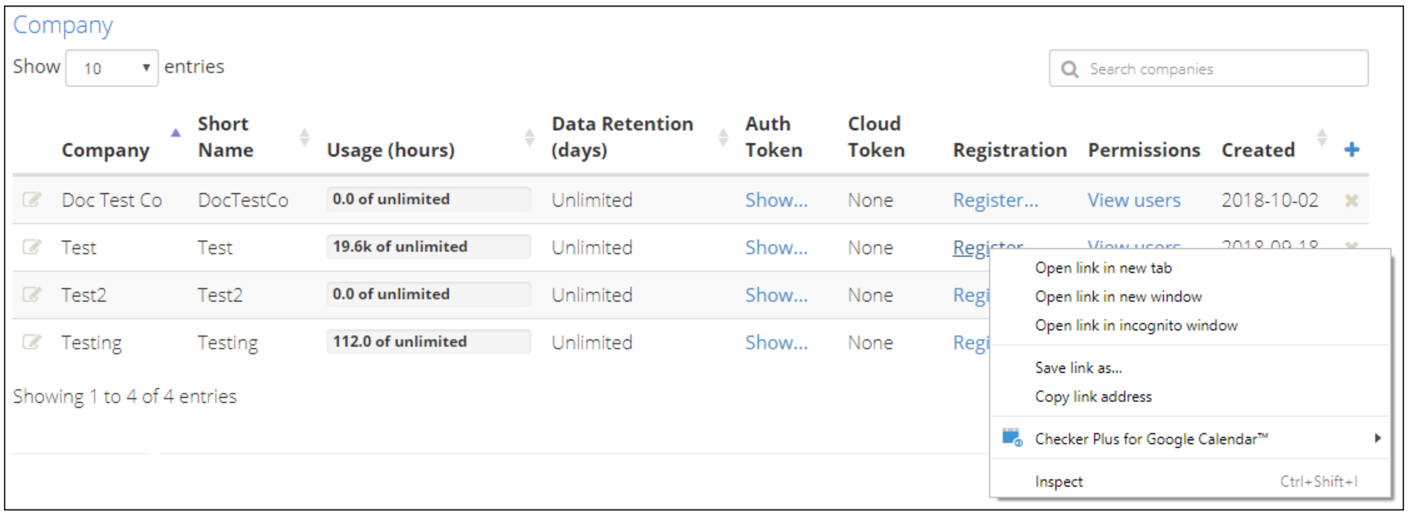
User-Requested Accounts

New V-Spark users may request accounts on the system from the login page. Requested accounts must be verified by a system or company administrator before they are enabled.

Enabling Users to Request a V-Spark Account

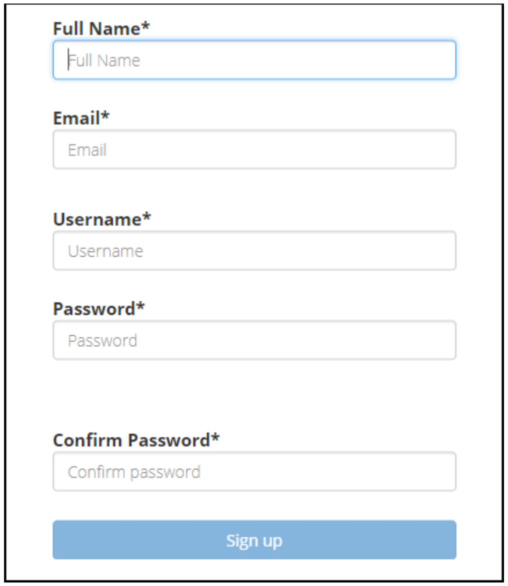
A company account must already exist before users can register for an account associated with that company. If a company exists in V-Spark, a user can request an account by following the registration link for that company.

Copy the registration link for that company by right-clicking **Register...** in the **Company** section of the **Accounts Settings** page:



Provide this link to unregistered users so that they can request a V-Spark account.

When an unregistered user uses the link, the **Sign Up** screen displays:



Users must log in with the account's username (and not with its email address).

NOTE
Users can also request V-Spark accounts by clicking **Sign up** on the V-Spark home page. A system or company administrator must verify the account. The account must be assigned to a company before the account can be fully verified.

Verifying User-Requested Accounts

When a user account is created using the **Sign Up** page, that account must be verified before the associated user can log in. A user who has **Create/ Edit** permissions for the company with which the user is associated must validate the new account. That user can also assign user permissions for the new user across companies and organizations.

The following example shows the section of the **Accounts** page where you can update user accounts:

To verify a new user account:

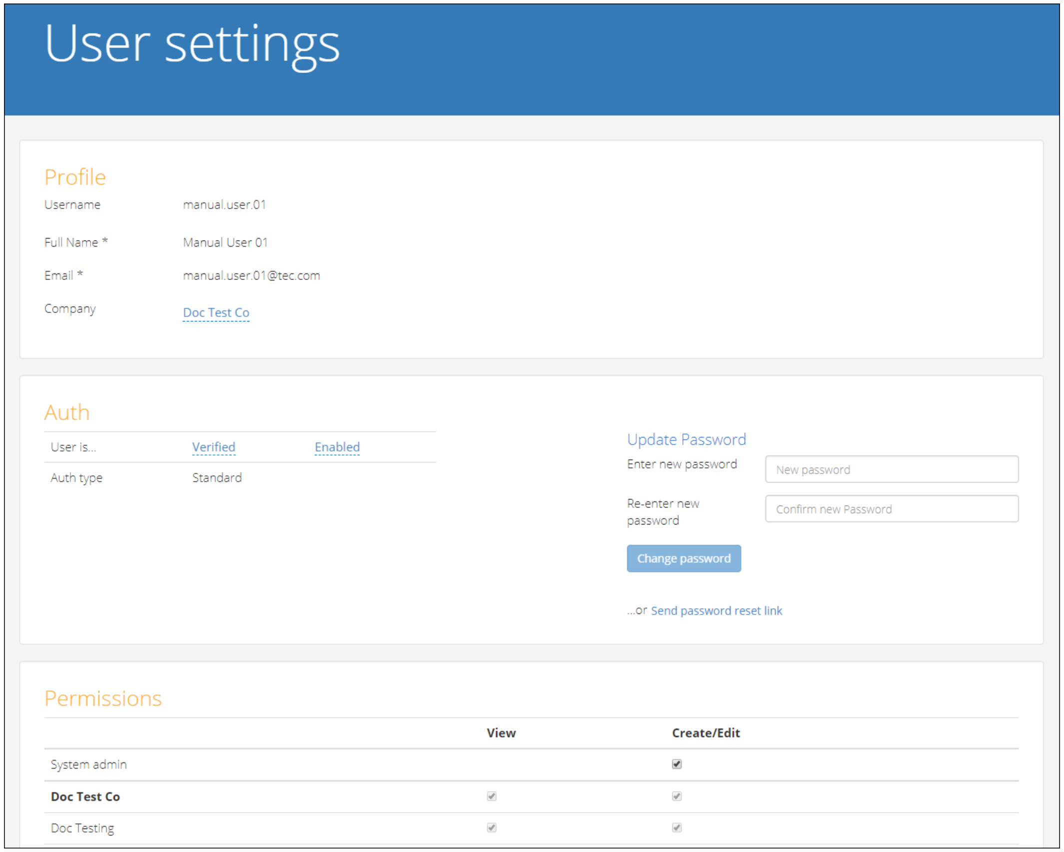
1. Log into V-Spark using an account that has **Create/Edit** permissions for the company with which the new account will be associated
2. Select the **Accounts** section of the **Settings** menu
3. Scroll down to view the **User Accounts** section
4. Click the edit icon to the left of the unverified user. The **User settings** page is displayed.
5. Assign the account to a company if it is not already associated with one.
    1. In the **Profile** portion of the page, check the **Company** field. If the user account is not associated with a company, select **Set user company**. If the user has already been assigned to a company, the name of the company will display, and no action is required.
    2. Select a company name from the drop-down menu to assign the user to a company.
    3. Click the check mark to proceed.
6. Verify the account
    1. In the **Auth** portion of the page, select the **Unverified** field. (If the user has already been verified, the field will be labeled **Verified**, and no action is required.) A **Verify user** pop-up displays.
    2. Select **Verified** from the left-hand drop-down menu.
    3. Select the check mark to close this pop-up and proceed.
7. To set a user's permissions, select the icon to the left of the entry for that user.
8. Select the check mark to close this pop-up and proceed.

User Account Settings, Permissions, and Administration

The **User Settings** screen shows general user account information, and also displays permissions. System administrators can use this screen to manage individual account permissions, and to disable and delete accounts.

User Permissions

The **Permissions** section at the bottom of the of the **User Settings** screen contains a row for each company or organization that has been defined in a V-Spark installation, as in the following example:



Each company or organization is listed with checkboxes that specify the user's permissions for that entity. Enabling **View** allows the user to see dashboards for that company or organization. Enabling **Create/Edit** allows the user to create new or modify existing data under that entity.

User Permission Levels

The **Permissions** section of the screen enables you to modify the user account's permissions for the entire system, as well as for each company and organization with which the account is associated.

1. **System admin** — gives a user **Create/Edit** permissions to all configurable settings. This level enables the user to create, delete, and modify users, companies, and organizations, and to view system status and modify system-wide settings
   Giving a user **Create/Edit System admin** permissions automatically selects both **View** and **Create/Edit** permissions for all companies and organizations in the installation.
   There is no **View** permission in the **System admin** section because the **View** permission is inherently available at the system level when a user already has the privilege to **Create/edit** any part of V-Spark's configuration data.
2. **company-level permissions** — grants permissions within the specified company.
   Create/Edit permission enables the user to manage other users in that company, and to create and modify organizations.
   View permission enables the user to view dashboards and transcripts for any existing or newly created organization within the specified company.
3. **organization-level permissions** — grants permissions within the specified organization.
   Create/edit permission enables a user to create and modify folders and applications that are associated with that organization.
   View permission enables a user to view dashboards and transcripts for that organization.

Company- and organization-level permission settings allow users to see (and, if enabled, to edit) organizations and associated folders outside their home company. As a result, specific users can serve as administrators across multiple organizations in a company, while securing the overall system against tampering.

Disabling a User Account

The **Auth** portion of the **User Settings** screen provides a field that enables you to temporarily disable an account. This field is either labeled **Enabled** or **Disabled**.

Selecting this field displays a pop-up from which you can select **Enabled** or **Disabled** for this account. Click the check mark button to accept the new value or click the **x** button to close the pop-up without making changes.

Deleting a User Account

1. Click **Accounts** on the the **Settings** menu and scroll to the **User Accounts** section.
2. Click the **x** at the far right of the user entry.
3. Click **Yes, delete this user** to confirm the deletion.

Password Management and Requirements

System administrators can change individual user passwords and configure password requirements for a V-Spark installation. Users can also change their own passwords.

Updating a user password from the system settings page

The Auth portion of the User Settings screen includes a section to **Update Password**, where an administrator can change an individual user's password.

This section also contains a **Send password reset link** button, which sends the user an email with a password reset link to be used in case that password is lost or must be changed.

Configurable Password Requirements

V-Spark may be configured to require that user passwords be a certain length, or that they are changed within a certain timeframe. These settings are global to a V-Spark installation and apply to all of its company entities.

The config option **min_passwd_len** enforces the minimum string length of passwords, and the option **max_passwd_lifetime** requires users to change their passwords after the specified number of days. Details for these options are described in the following table:

Table 1. Password configuration fields

Name	Values	Notes
min_passwd_len	default 7 -1 or any integer from 1 to 255 (inclusive)	• defines the minimum string length of the password • specifying a value of -1 deactivates the length requirement • invalid values are ignored and the default value 7 is applied
max_passwd_lifetime	default -1 -1 or any integer from 1 to 9007199254740991 (inclusive)	• defines the number of days after which the password must be changed • default value of -1 deactivates the password age policy • invalid values are ignored

Other Password Requirements

Some password requirements are not configurable and will be active in any V-Spark installation running version 4.0.2-1 or higher. These requirements include the following:

- A user may not change the account password to any of the previous four used.

- Passwords must contain both letters and numbers.
- A user must provide the current password to change the account's email address.

Password Policy Enforcement

Users whose passwords don't meet the requirements will be prompted to change their passwords on next login. If password policy criteria change, either because of reconfigured or newly added settings, users will be prompted to change their passwords if those passwords fail to meet policy criteria as a result of those changes. This behavior also applies in the case of upgrades from V-Spark systems without password policy functionality to a version with these policies active.

Note also that:

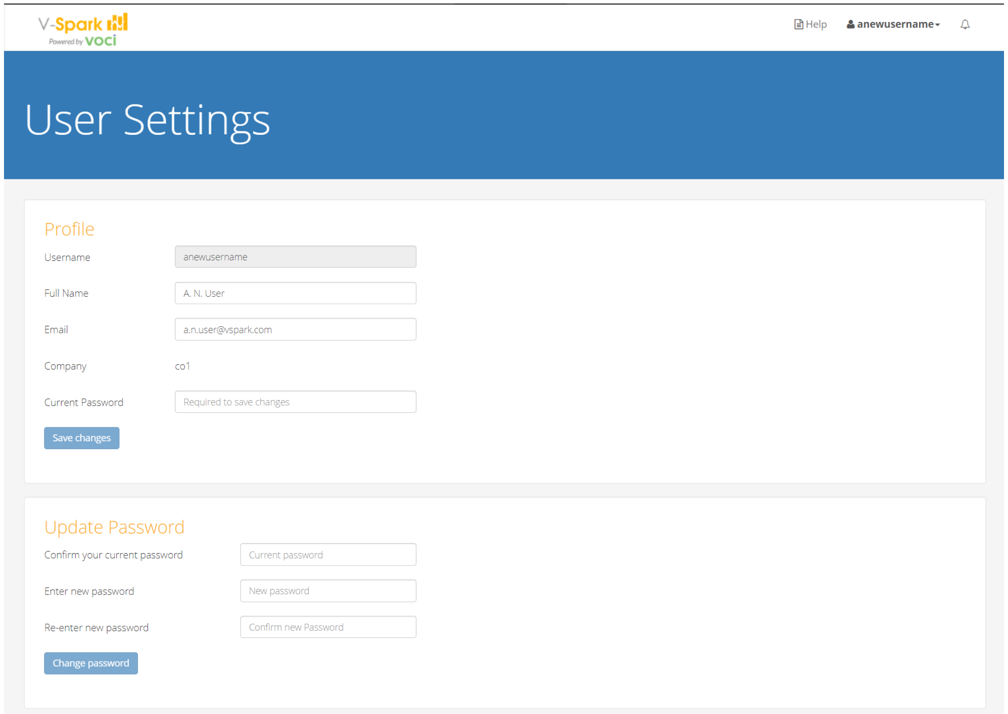
- Password rules are not configurable using the UI; they must be specified in the installation's config file.
- When users change passwords manually via the GUI, passwords that do not meet the length rule will be rejected.
- When passwords are set manually or programmatically via the API, passwords that do not meet the length rule will trigger a password change when the user next logs in.

Changing the Active Account's User Settings

1. Click the active account's **Username** at the top of the screen.
2. Click **Profile** from the drop-down menu. The **User Settings** screen displays.
3. Modify the active account's attributes as described in the following sections.

User Information and Passwords

The **Profile** section of the user settings page shows fields to update the active account's user details and password, as in the following screenshot:

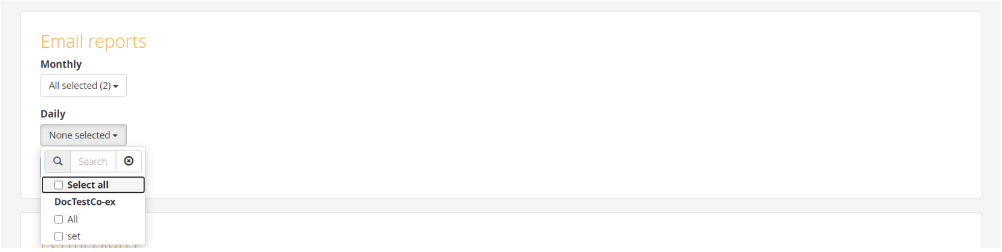


NOTE
The account's username cannot be changed after being set during account creation.

Click **Save Changes** after altering any profile fields before navigating away from this page. When updating the account password, click **Change password**.

Email Report Settings

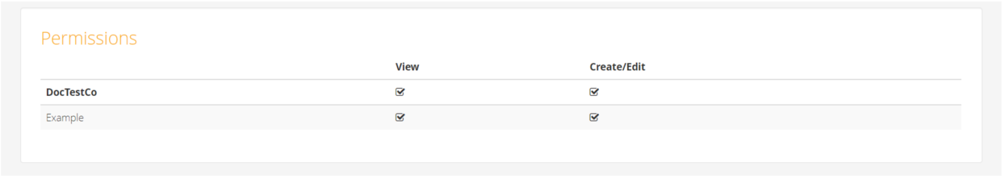
The **Email reports** section has two drop-down menus used to specify the folders to be included in monthly or daily reports, as in the following example:



Folders are grouped by organization under the organization's short name. If the active account has permission to view an organization, it can select and receive email reports from any of that organization's folders, or from all of that organization's folders.

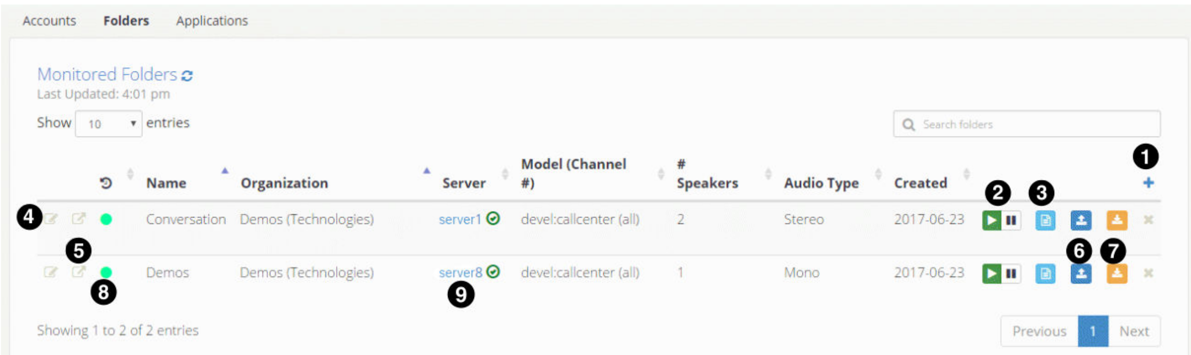
Permissions

The last section of the **User Settings** screen displays all entities the active account has permission to view or modify, as in the following example:



Folder Management

The next few sections explain how to configure and manage Folders, beginning with the **Monitored Folders** screen:

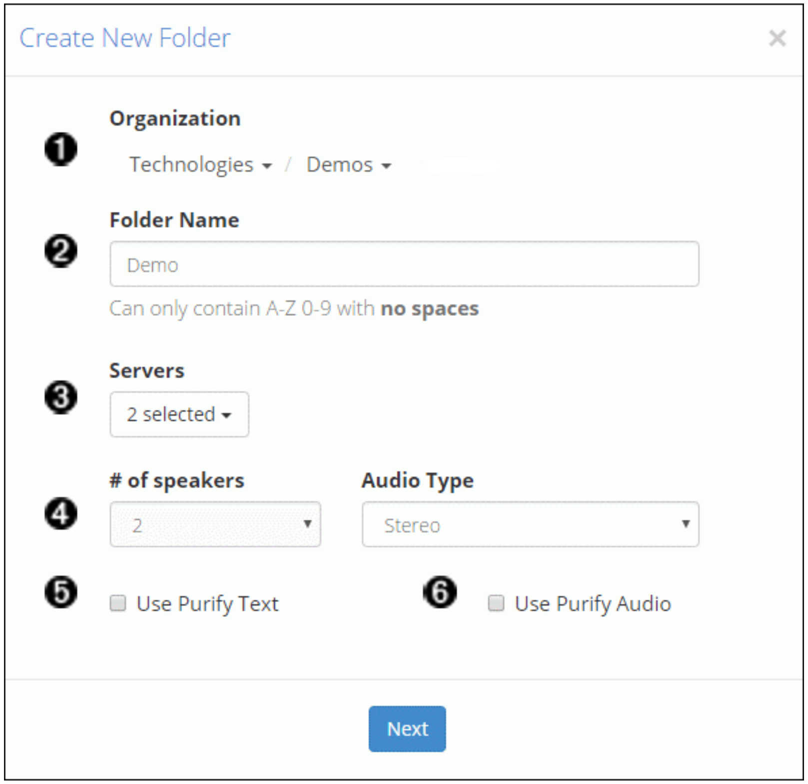


View the **Monitored Folders** list via the **Folders** section of the **Settings** screen. This list consists of Folders containing audio files and transcripts. The list displayed on this page is updated every minute.

❶ Create a new folder
❷ Pause file processing for a folder
❸ View folder processing status
❹ Edit a folder
❺ View folder on dashboard
❻ Upload audio to a folder
❼ Download a zip archive of files from the folder. Making this selection displays a dialog that allows you to specify the file type (JSON, text transcript, MP3) and date range of files to be downloaded. The maximum size of the zip file is 2 GB. To work around this limit, use a smaller date range or download specific types of files together.
❽ Indicates how recently files were last processed. Hovering over the indicator displays the time of last completion
❾ Shows the server name and a symbol indicating validity of the authorization token (green check for valid, red x for invalid)

Create a Folder

To create a new Folder, select the blue **+** button under the **Monitored Folder** section. Afterward, enter the requested information in the **Create New Folder** screen:



The following is a description of each field in this screen:

❶ **Organization**: Drop-down menu of which organization and company the folder belongs to. (This option cannot be modified after the folder is created.)

❷ **Folder Name**: The name of the folder. Folder names are case sensitive and must not be longer than 100 characters. Folder names cannot be changed after the folder is created.

❸ **Servers**: From the drop-down menu, select the name(s) of the V-Spark servers that you want to use for ASR. You must specify at least one active server.

> **NOTE**
> You may see an **x** button next to a language model name in the Folders table with the message, *"One or more servers does not have this model anymore."* This scenario can occur if you have more than one server selected, and those servers do not share the same language models. The scenario will only impact ASR if the model has been removed from all servers.

❹ **# of speakers**: The number of speakers in the audio files that are going to be placed into the folder. All language models work with all supported audio formats. (This option cannot be modified after the folder is created.)

❹ **Audio Type**: For single-channel audio, select *Mono*. For two-channel audio, select *Stereo*. If you don't know what type of audio you have, use the **Audio Evaluator** tool described in The Audio Evaluator. (This option cannot be modified after the folder is created.)

> **NOTE**
> If your single-channel audio contains two speakers, V-Spark will automatically diarize, or split, the audio according to speaker. Speakers in the resultant transcript will then be classified as either Agent or Client using a process called side classification.

> **NOTE**
> To prevent diarization of calls that contain more than two speakers, create your folder with "1 speaker" and "mono" settings.

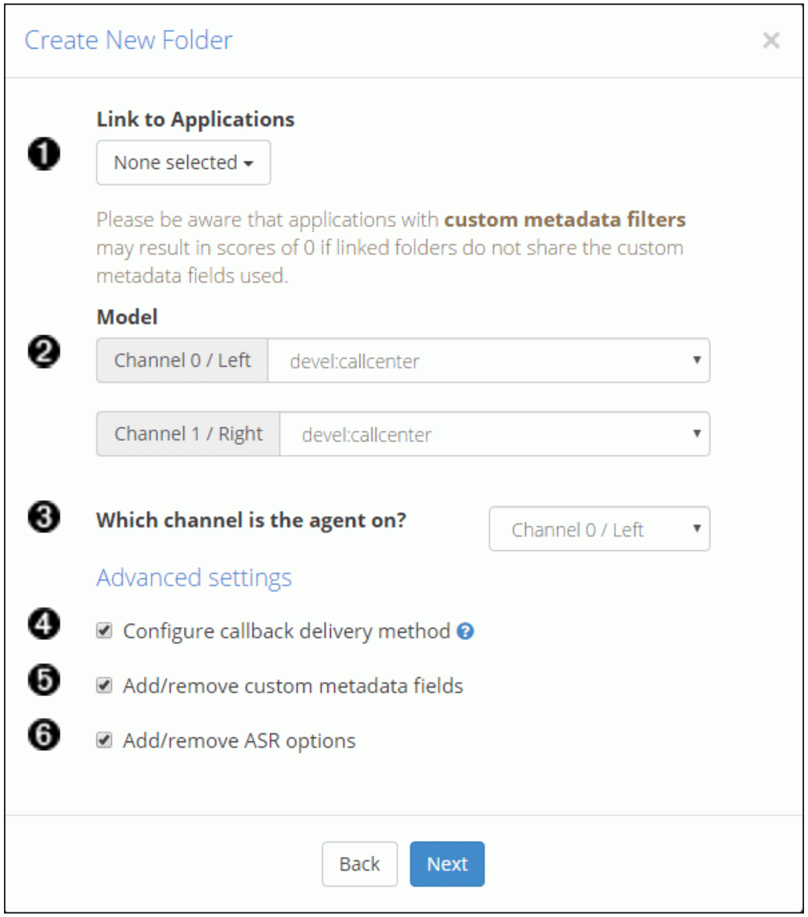
❺ **Use redaction Text**: Cleans the text transcript of any numbers for Payment Card Information (PCI) or other sensitive numbers that are in the audio source. (This option cannot be modified after the folder is created.)

❻ **Use redaction Audio**: Cleans the audio MP3 that gets generated of any locations where numbers exist for Payment Card Information (PCI) or other sensitive numbers that are in the audio source so that these numbers cannot be heard. Removing PCI information from audio and text protects a company from exposure in case of a data security breach. (This option cannot be modified after the folder is created.)

Choose values for these options carefully, as many of them cannot be changed after the folder is created.

> **NOTE**
> When the `Use redaction Text` and `Use redaction Audio` options are used with the 1-channel, 2-speaker settings, redaction accuracy is somewhat reduced. For maximum redaction accuracy, select 1-channel, 1-speaker in conjunction with the `Use redaction Text` and `Use redaction Audio` options. Note that this selection will prevent diarization, meaning that the 2 speakers will not be separated and distinctly labeled as different speakers on the File Details page.

Once the form has been filled out, select the **Next** button. The **Create New Folder** dialog displays additional Folder settings options:



This dialog enables you to set basic and advanced folder options. Select the **Next** button to continue through the pages of the dialog. After completing the settings, select the **Create** button to create the folder.

Basic Folder Settings

These settings should be configured for all folders:

❶ **Link to Applications**: Use the drop-down menu to select applications to use for analysis. See Linking/Unlinking Folders and Applications.

❷ **Model**: Select which language models to use for the folder. Folders cannot be created without selecting a model for each channel. Models are domain specific, and affect the accuracy of the transcription process. A "domain" is a type of audio such as voicemail, survey, call center, earnings calls, medical transcription, etc. Each domain has its own jargon, so selecting the proper one for each speaker is important for capturing each word correctly. You may only have one model installed. If you have more than one model available, and you are not sure which model is best for your audio, ask your Voci service representative.

❸ **Which channel is the agent on?**: For stereo files only. Select either 0 or 1, where 0 refers to the left audio channel and 1 refers to the right audio channel. **Correct analysis of your audio depends on this value, and it cannot be changed after the folder is created.** If later on you realize that the assigned Agent channel is incorrect, create the folder again using the other channel as the agent.

Advanced Folder Settings

These settings should only be configured for folders if the basic settings do not meet your needs.

❹ **Configure callback delivery method**: Select this option to enter a location where JSON files (and, optionally, MP3 or Text) will be sent automatically. See Callback Delivery Method.

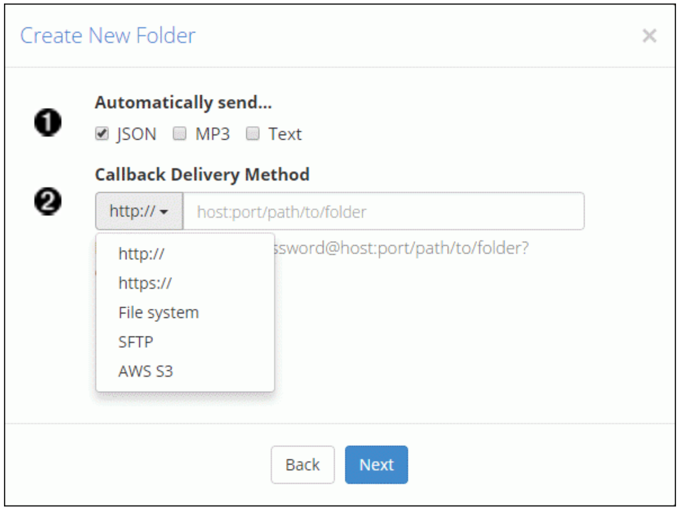
❺ **Add/remove custom metadata fields**: Select this option to add or remove custom metadata fields before creating the folder. See Custom Metadata Fields.

❻ **Add/remove ASR options**: Select this option to add and remove ASR tags and view existing ASR options before creating the folder. See ASR Options.

If you selected one or more advanced settings for the folder, after completing all settings, select the **Next** button to continue. When you have reached the end of the folder configuration, there will be a **Create** button instead of a **Next** button. Select the **Create** button to create the folder.

Callback Delivery Method

If you selected **Configure callback delivery method**, a dialog displays that enables you to configure the callback delivery method and to specify which kinds of files to send, as in the following screenshot:



❶ Select the file type to send automatically via callback. Choose from JSON, MP3, and Text.

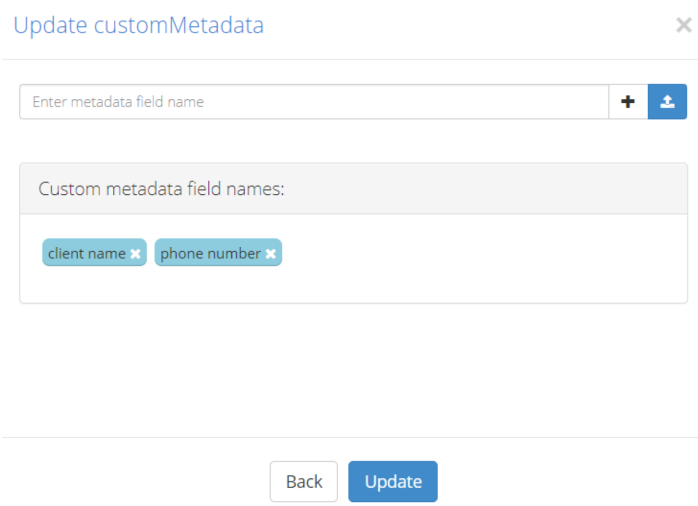
❷ Select the callback delivery method from the drop-down menu.

If the callback fails, V-Spark will retry delivery immediately. If the first retry also fails, V-Spark will wait for a period of time, then continue retrying at intervals. If the callback ultimately fails, the files are placed in the database directory.

NOTE
For more information on callback mechanism, including information about callback retries, see Using Callbacks in V-Spark in the **V-Spark API Reference**.

Custom Metadata Fields

If you selected **Add/remove custom metadata fields**, the **Update Metadata field names** dialog displays:



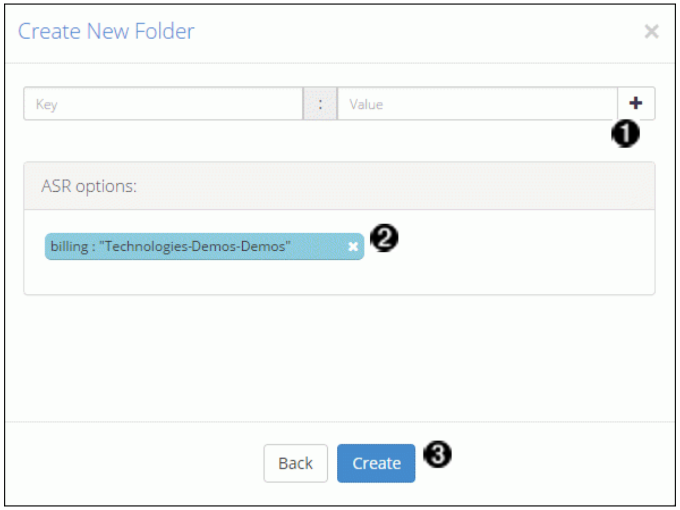
This dialog enables you to upload a text file that identifies the name of the metadata fields that you want to extract from the transcript of the audio that you will be uploading to the folder.

NOTE
See Configuring Custom Metadata Fields for more information about adding these fields.

See Viewing Custom Metadata for information about viewing the metadata associated with your audio.

ASR Options

If you selected **Add/remove ASR options**, the **Create New Folder** dialog displays with an **ASR options** section:



This dialog enables you to view and edit ASR tags.

1. Add ASR tags
2. View existing ASR options
3. Create folder and prepare to upload your audio

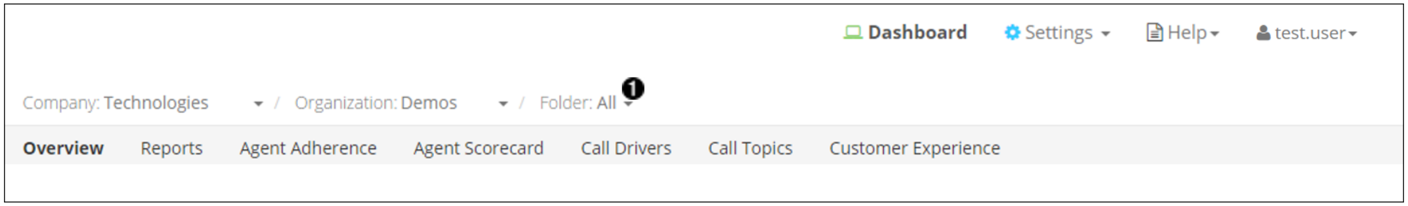
NOTE

For detailed information about available ASR options, refer to the following sections of the V-Blaze User Guide:

- Hinting Overview
- Deploying Substitutions
- Using Redaction

View a Folder

Once a folder is created, you can view it on the **Dashboard** either by using the **View on dashboard** button, shown in Folder Management, or by selecting **Dashboard** from the **Settings** menu and using the breadcrumb menu to select the correct **Organization** and **Folder**.



❶ Choose a folder from the **Folder** breadcrumb menu

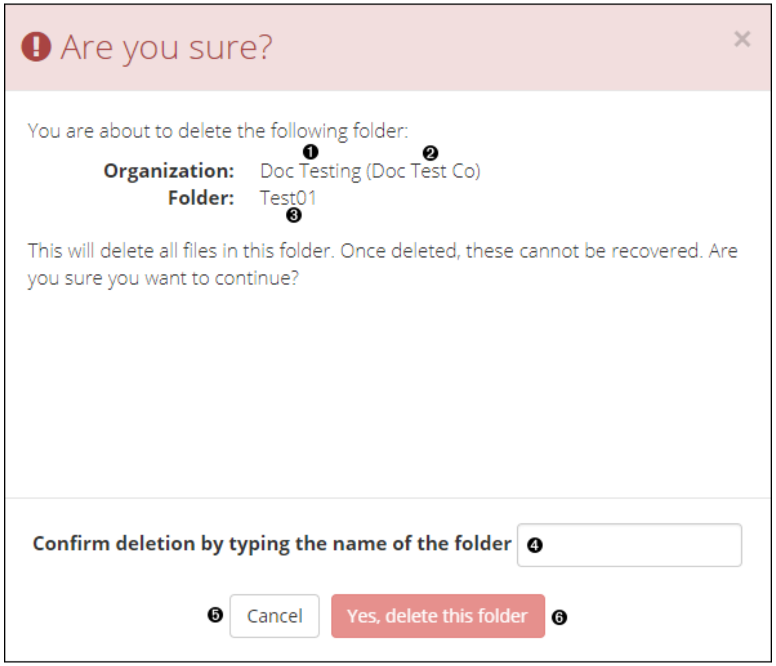
Modify a Folder

To edit an existing folder, select the edit icon to the left of the folder you want to modify, as shown in Folder Management. An **Update Folder** dialog will display that is identical to the **Create New Folder** dialog. Use this dialog to modify the folder information, and select the **Update** button to save your changes and continue.

Some folder options are not editable. For instance, the folder name cannot be changed after the folder is created. If you need to change any of these options, create a new folder with those options.

Delete a Folder

To delete an existing Folder, select the delete icon to the right of the Folder, as shown in Folder Management. A red pop-up warning screen then highlights the data that will be deleted when the Company is deleted:



❶ Organization the folder belongs to
❷ Company the Folder's Organization belongs to
❸ The name of the Folder
❹ Type the name of the folder here to confirm
❺ Select **Cancel** to return to the Folder list
❻ Select **Yes, delete this folder** to confirm the deletion

Before the Folder is deleted, you must confirm the deletion by entering the name of the Folder that will be deleted, and selecting **Yes, delete this folder**.

The folder name is shown near the top of the dialog.

Linking/Unlinking Folders and Applications

Applications and folders can be linked or un-linked in the **Create/Edit Folder** window or the **Create/Edit Applications** window to enable or disable application scoring. Only folders and applications within the same Organization can be linked. A folder can be linked to multiple applications and vice versa.

In the **Create/Edit Folder** window, shown in Create a Folder, there is a drop-down menu under **Link to Applications** where you can select which applications to link to the folder.

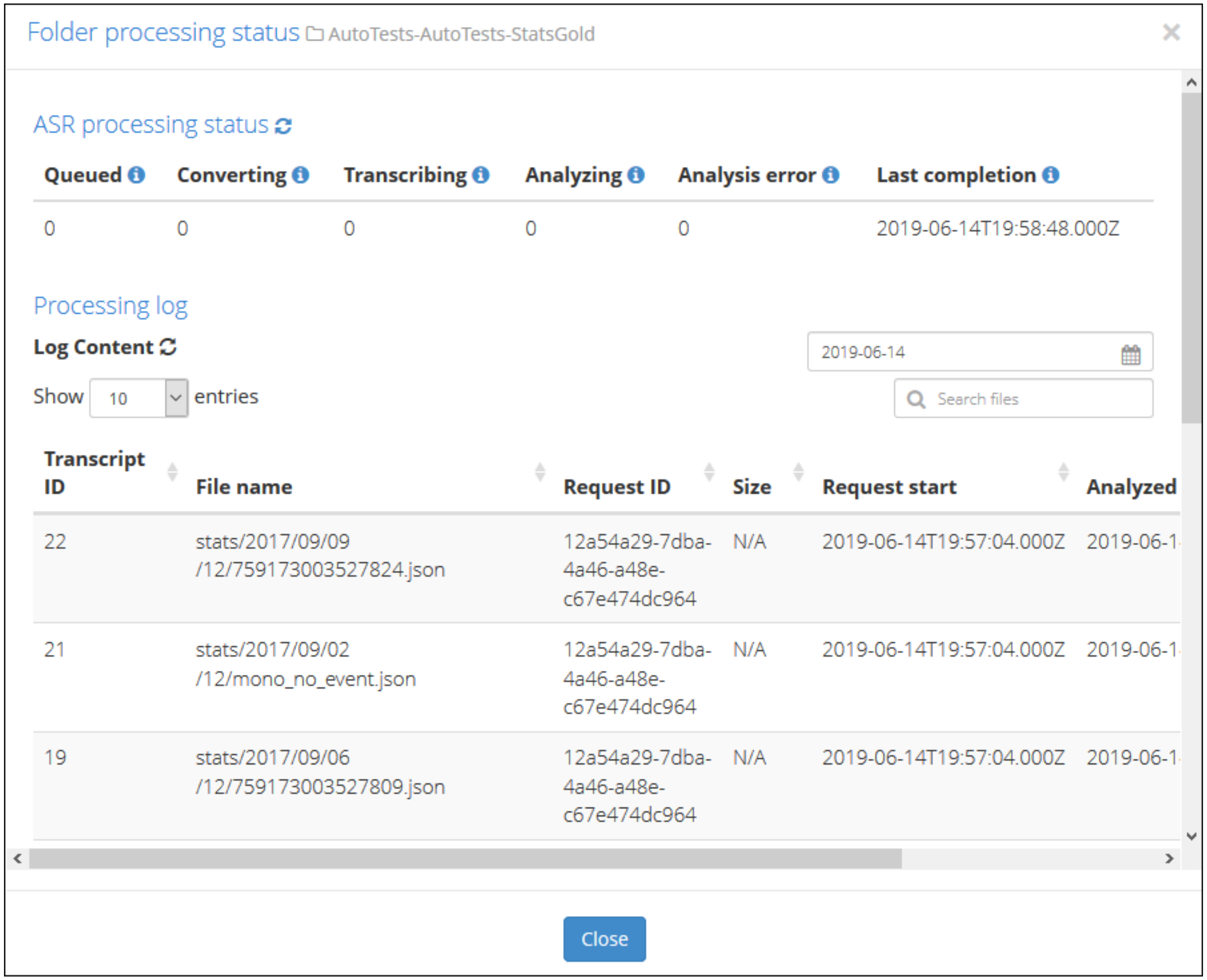
Similarly, in the **Create/Edit Applications** window, shown in Create an Application, there is a drop-down menu under **Link to Folders** where you can select which folders to link to the application.

Once a folder is linked to an application, new files uploaded to that folder will be scored by that application. You also will be able to reprocess the application to calculate new scores for that folder. See Reprocessing an Application for more information.

Folders and applications are un-linked by deselecting them from the drop-down menus mentioned above. When un-linked, a **Delete** data job will then appear in the **Application Jobs Queue**, and all of the scores for that application and folder pair will be deleted. See Application Jobs Queue for more information.

Folder Processing Status

Access the **Folder Processing Status** by selecting the **Show process log** button in the **Folders** section (Item 3 in Folder Management). A **Folder processing status** dialog displays:



Use this dialog to view the status of current ASR processing of uploads to the folder, and the log of past processing.

ASR Processing Status

The ASR Processing Status shows the status of files as they move through the following stages:

- **Queued**: The number of requests waiting to be transcribed.
- **Converting**: The number of files being converted to the format required for transcribing.
- **Transcribing**: The number of files being transcribed.
- **Analyzing**: The number of files that are being analyzed.
- **Analysis error**: The number of files that were processed by the ASR engine, but which could not be ingested properly by the Analysis engine.

  NOTE
  If the **Analysis error** column displays a value other than zero, hover the pointer over the **Analysis error** value to see the time and date of the most recent update to this column. If you see this number increasing, contact your System Administrator for assistance.

- **Last completion**: Displays the last time files were analyzed by V-Spark for this folder.

Hovering over the values for each column displays the datetime of the last update. **Analysis error** will only have a datetime if the count is greater than zero.

Processing Log

The Processing Log displays the following information:

- **Show entries**: Limits the number of entries displayed at one time. The default number is 10, but you can also opt to view 25, 50, or 100 file entries at a time by selecting a value from the dropdown labeled **Show entries**. Use the paging controls below the table to shift between sets of entries.
- **Date picker**: Use the date picker above the table to display only entries with particular **Request Start** dates. Dates with processing data are highlighted on the calendar to help you choose dates with data to display. Note, request dates correspond to when the files were uploaded to the system, and can contain data from previous days.
- **Transcript ID**: This ID number is useful when searching for a specific transcript at a later time. Items that fail analysis will not receive a **Transcript ID**.
- **File name**: The name of the audio file that was uploaded.
- **Request ID**: The identifier of the upload that contained the processed file.
- **Size**: The size of the uploaded file if it can be determined from the data or metadata in the file.

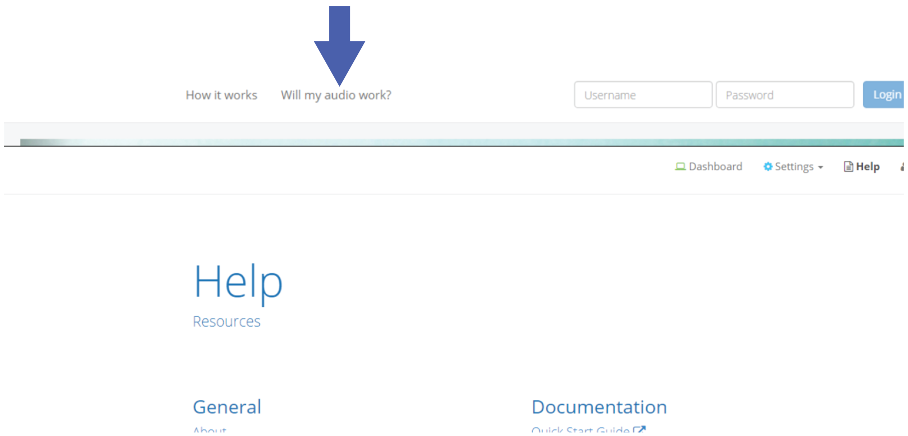
- **Request Start**: The date and time that the upload was completed and that the files contained in that upload were queued for processing.
- **Analyzed**: The date and time that conversion, transcription, and analysis were all completed.
- **Status**: Once a file is processed, its status can be:
  - `OK` - the file was processed without errors
  - `Analyze_ERROR` - file processing failed with the error shown. Items that fail analysis will not receive a **Transcript ID**.

Audio Management

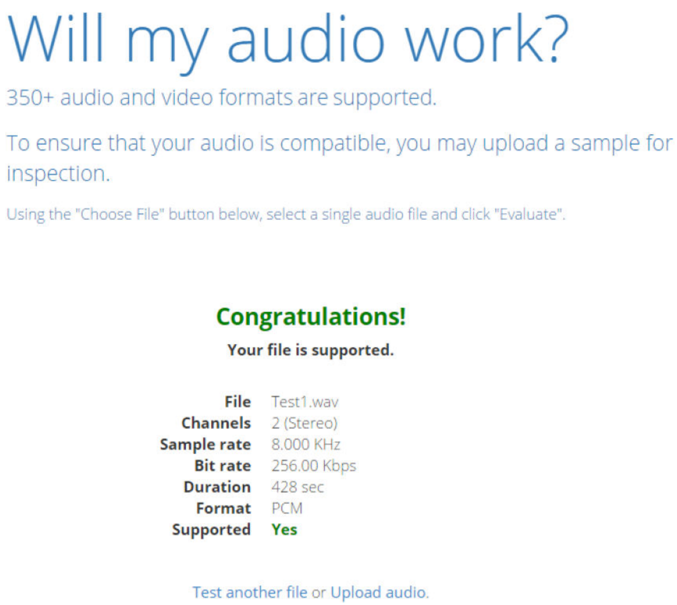
Before uploading files to a folder, make sure the audio format is supported. V-Spark's **Audio Evaluator** can help with this verification.

The Audio Evaluator

The Audio Evaluator tool is located under the heading **Will my audio work?** at the V-Spark homepage as well as on the **Help** page:



The following image shows the output of the Audio Evaluator for an audio file whose format is supported by V-Spark:



The Audio Evaluator provides information about the file including whether the audio format is supported natively by V-Spark and whether the audio is a *mono* (one-channel) or *stereo* (two-channel) file. Files submitted for evaluation are not saved.

The two rows labeled "Supported" and "Channels" are the most important. You will need to know the number of Channels in your audio when creating a folder for transcription. A green “Yes” for Supported means the file format is supported by V-Spark. If the result comes back as “No,” contact your Voci Sales Representative.

Upload Audio to a Folder

There are 2 ways to upload audio files to V-Spark. The first is a convenient, manual method using the web browser. The second method can be used for uploading audio via web services.

The types of files that are uploaded using the V-Spark web interface can be:

- zip files containing one or more audio files and optional metadata files in JSON or XML format
- Any single file with or without a file extension. These should generally be audio files, but any type of file can be uploaded, with or without a file extension. Files that are not supported by V-Spark will show in the processing log as being `UNSUPPORTED`.

The names of uploaded audio files and zip archives must adhere to the installation's filename requirements whether they are uploaded through the GUI or API. By default, these characters are not permitted in uploaded filenames: #*<>:?/\|{}$!'`"=^

Filename validation can be disabled by setting the **filename_validation** configuration setting to **off**. Custom filename character requirements can be defined by specifying a regular expression via **filename_validation_pattern**.

> **NOTE**
> Previously processed JSON transcripts can be re-uploaded to any folder in V-Spark using these methods without the ASR engine needing to re-transcribe the files. If you want to maintain the association between the audio and transcript files, both files must be uploaded in a zip file and must share the same file name except for the extension. (For example, an audio file called *File1.wav* should have a corresponding JSON transcript file called *File1.json*).

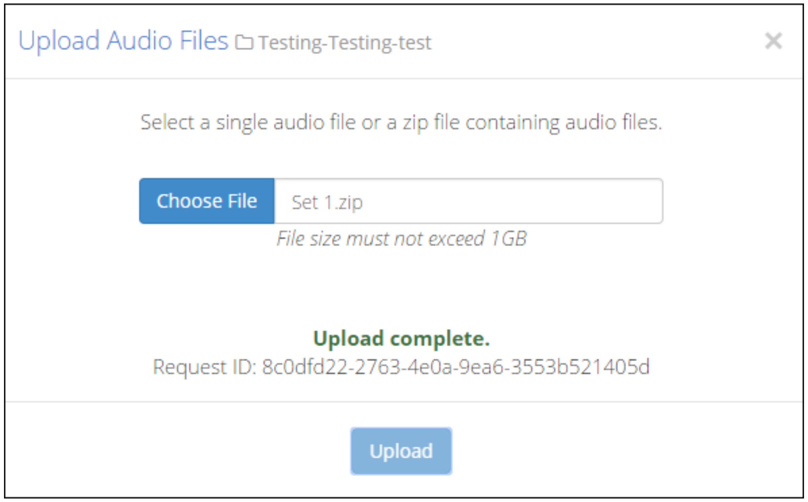
See Folder Processing Status for more details about checking the status of processed and pending files.

Once you have successfully uploaded your audio, you can then download transcripts of all the audio files contained in a folder by going to the Folders section and using the download button shown in Folder Management.

Web-based Audio Upload

As shown in Folder Management item 6, there is a blue upload icon to the right of each folder that enables you to upload a single audio file or a zip of multiple audio files to be ingested into V-Spark. File size is limited to 1 GB. Once your file has been uploaded, you can navigate to the **Dashboard** page and select your folder from the breadcrumb menu. After a few minutes you will start to see your audio data appear.

Whenever you upload audio files, you will see a **Request ID** in the **Upload Audio Files** pop-up window after your upload has been confirmed, as shown in the following screenshot:

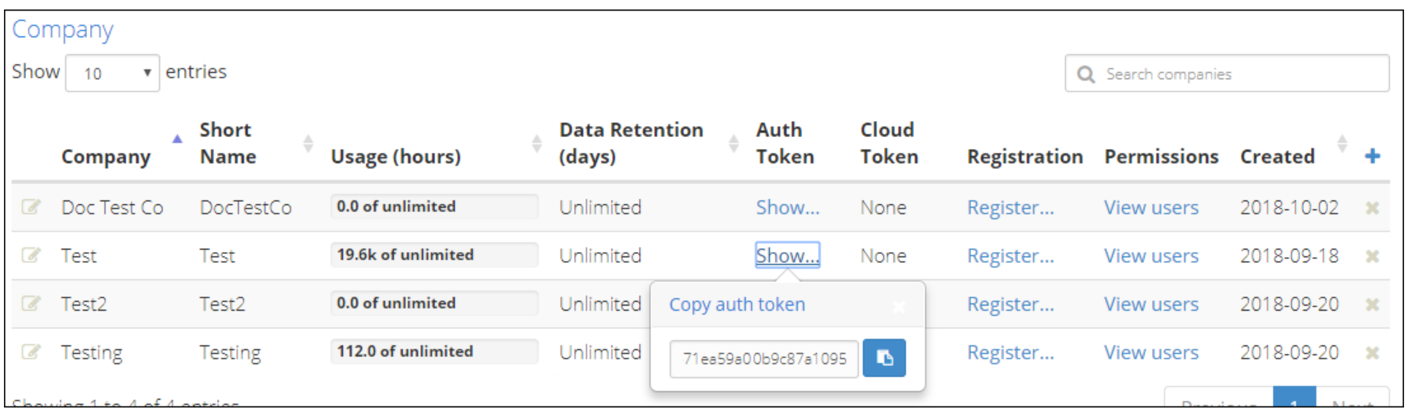


This **Request ID** will also appear in the JSON transcript, enabling you to track each transcript back to the original upload, view the Request ID on the **File details** page, and use the Request ID in search terms in the UI.

Web Services Audio Upload

Audio files can also be uploaded using a POST request made to V-Spark 's `/transcribe` API with the audio data to be decoded. **File size is limited according to your system's configuration. The default limit is 250 MB**. POST must be encoded as a multi-part/form-data request, with the audio to be decoded in a file field and the V-Spark Authorization token in the token field.

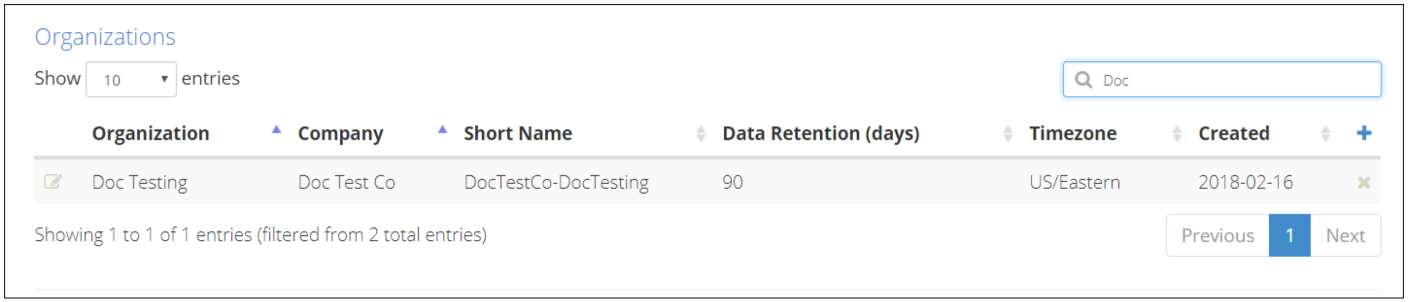
The **V-Spark Authorization Token** can be found on the Settings page with Company information, as shown in the following screenshot:



The following is an example POST to a V-Spark installation on the host `example.company.com` made using the **curl** command:

```
curl -F token=00112233445566778899aabbccddeeff \
     -F "file=@path/to/sampleaudio.zip;type= application/zip" \
     -X POST http://example.company.com:3000/transcribe/org_shortname/samplefolder
```

Note that *`org_shortname`* in this sample **curl** command refers to the Short Name assigned to the target organization, which can be found on the Settings page containing the Organization information, as shown in the following screenshot:



Users who have Amazon Web Services (AWS) Simple Storage Service (S3) configured can also import zipped input directly from S3 via the V-Spark API, such as in this example:

```
curl -F token=0123456789abcde0123456789abcde01 \
     -F aws_id=01234567890123456789O \
     -F aws_secret=0123456789012345678901234567890123456789O \
     -F s3key=s3://example.company.com/documentation-TEST.zip \
     -F region=us-east-1 \
     -X POST http://example.company.com:3000/transcribe/Test-Testing/Test01

9700fc31-f608-48b5-aaaf-bd264e811d9a
```

For more detailed information on using the V-Spark API, refer to the **V-Spark API Reference**.

Bulk File Download

Bulk download of MP3s, JSON files, and text transcripts are available via the orange download icon shown in item 7 in Folder Management. Downloads are sent as one or more zip file(s), with up to 10,000 files per zip file.

NOTE
The maximum size of this zip file is 2 GB. Trying to download files that produce a zip file larger than 2 GB will fail with an error message. To work around this issue, you can download multiple sets of files, using a smaller date range for each or by downloading specific types of files together.

Deleting Audio Files from a Folder

Delete audio files from V-Spark using the UI or with the API using the `/search` endpoint's **DELETE** HTTP method. Once the deletion is confirmed or the API call is made, V-Spark queues the file for deletion.

Deletion entails the removal of the audio file, its transcript and transcription results, and the rest of its system record. Summary charts and tables are not updated when an individual file is removed, but the file will no longer be available in the **Dashboard Files View**, nor will it appear in search results. A system under heavy load may take several minutes to fully delete the file and its record details, but this situation is unlikely.

Deleting Audio Files with the UI

NOTE
To delete audio using the UI, users must have write permissions for that audio record's organization.

1. Navigate to the **Dashboard Files View**.
2. Click the ✖ **Delete** icon for the audio file to be deleted. A confirmation dialog displays.
3. Once confirmed, V-Spark queues the file for deletion.

Using DELETE with /search

Files to be deleted with the `/search` endpoint must be filtered by company and organization, and may also be filtered by folder. Each file to be deleted must be specified individually by `tid`.

Synopsis - deleting single files

```
DELETE /search/CO_SHORT/ORG_SHORT?token=TOKEN&terms.tid=TID
DELETE /search/CO_SHORT/ORG_SHORT?token=TOKEN&tid=TID
DELETE /search/CO_SHORT/ORG_SHORT/FOLDER?token=TOKEN&terms.tid=TID
DELETE /search/CO_SHORT/ORG_SHORT/FOLDER?token=TOKEN&tid=TID
```

Multiple files may be deleted with a single request by specifying the `multi=true` parameter in addition to the **tid**s. By default, the maximum number of audio files that can be deleted at once is 1000. This maximum can be changed by updating the **simultaneous_tid_deletion_max** system configuration option.

Synopsis - deleting multiple files

```
DELETE /search/CO_SHORT/ORG_SHORT?tid=TID1,TID2&token=TOKEN&multi=true
DELETE /search/CO_SHORT/ORG_SHORT/FOLDER?terms.tid=TID1,TID2&token=TOKEN&multi=true
DELETE /search/CO_SHORT/ORG_SHORT/FOLDER?terms.tid=TID1,TID2&token=TOKEN&multi=true
DELETE /search/CO_SHORT/ORG_SHORT/FOLDER?tid=TID1,TID2&token=TOKEN&multi=true
```

Using the API to delete files requires the following variables and parameters:

`CO_SHORT`	The short name of the company by which the file is filtered.
`ORG_SHORT`	The short name of the organization by which the file is filtered.
`FOLDER` (optional)	The name of the folder by which the file is filtered.
`TOKEN`	Either the root authorization token, or a company authorization token with write permissions for the folder containing the file to be deleted.
tid=*`TID`* or **tid**=*`TID1,TID2,...`*	The **transcriptID** of the file or files to be deleted. The `terms.tid` and `tid` parameters are equivalent and interchangeable.
`multi=true`	If multiple **transcriptID**s are provided for the `terms.tid` or `tid` parameters, `multi=true` must be specified, or the request will return a 400 error.

The following is an example cURL call using the `/search` endpoint's **DELETE** method to delete a single file:

```
curl -X DELETE 'http://vspark-example.com:3000/search/docs-co/docs-org?token=12345678&tid=999'
```

The preceding example deletes an audio file that is associated with the *`docs-co`* company and *`docs-org`* organization, using the token parameter *`12345678`* and a **transcriptID** of *`999`*.

The following cURL example uses the `/search` endpoint's **DELETE** method to delete three files:

```
curl -X DELETE 'http://vspark-example.com:3000/search/docs-co/docs-org?
token=12345678&tid=9991,9992,9993&multi=true'
```

The preceding example deletes three audio files associated with the *`docs-co`* company and *`docs-org`* organization, using the token parameter *`12345678`* and the **transcriptID**s *`9991`*, *`9992`*, and *`9993`*.

Metadata Management

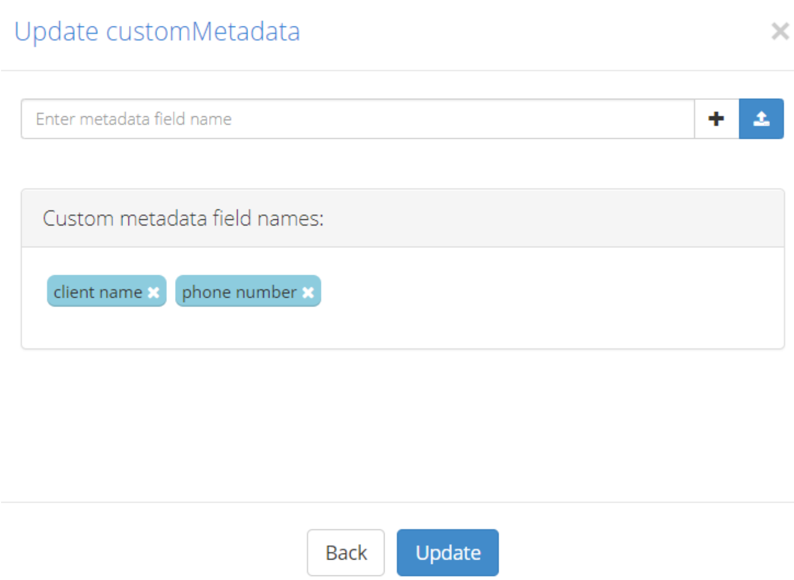
Audio files may include standard metadata, such as agent identification and recorded date. Audio files may also include custom metadata; usually, this metadata is defined by the customer using the recording system.

The following is a general workflow for using custom metadata when processing audio files:

1. Configure a folder's custom metadata fields individually using the UI or in a batch by uploading a file.
2. Prepare the metadata files in JSON or XML format, noting restrictions and formatting and syntax requirements.
3. Upload metadata files—either individually or with audio files—using the same methods as audio files:
   - with the V-Spark UI as explained in Web-based Audio Upload, or
   - with the `/transcribe` API endpoint and web services as explained in Web Services Audio Upload.
4. Search or view the custom metadata using the UI or in transcript output.

Configuring Custom Metadata Fields

When you create or edit an existing folder, you can configure custom metadata fields for that folder as shown in the following example of the **Update Metadata field names** screen:



To add custom metadata fields to a folder:

1. Click **Settings** > **Folders**. A list of all monitored folders displays.
2. To update an existing folder, click the **Edit** icon on the row with the folder you want to edit. To create a new folder, click the **Add** icon.
3. On the second page of **Create/Edit Folder** window, enable **Add/remove custom metadata fields** and click **Next** to display the **Update Metadata field names** dialog.
4. To add a metadata field name, type it into the **Enter metadata field name** field and click the **Add** button or press enter.
   To upload a file with multiple field names, click the **Upload** button and add the file from the browser. The file should contain the name of one metadata field in plain text on each line. For example:

```
client-phone
client-name
account-number
agent-name
```

All added field names are listed under **Custom metadata field names**. To remove a field name, click its ✖ **Delete** icon.

5. Save the list of custom metadata tags by clicking the **Create** or **Update** button. Changes will not be saved if you navigate away from the window before saving.

Metadata Restrictions

All metadata uploaded to V-Spark have the following restrictions:

- **All metadata field names are case-insensitive**, including reserved and custom field names. For example, **AgentID**, **agentid**, and **AGENTID** are equivalent metadata fields.
- Custom metadata values and field names may be composed of any valid Unicode characters, except for the reserved non-alphanumeric characters **:** (colon, Unicode 003A) and **=** (equals sign, Unicode 003D).
- If you upload metadata via XML rather than JSON, your **metadata field names cannot contain spaces**. Metadata *values* can contain spaces in both XML and JSON.
- The following field names are reserved for V-Spark functions, and cannot be used for custom metadata:

agent	agent_v3	caller (apprx)	datetime
agent (apprx)	_all	caller_phonetic	duration
agent id	all	caller_phonetic_v3	file
agentid	all (apprx)	caller_v3	filenamelowercase
agent_phonetic	_all_phonetic	client	speakers
agent_phonetic_v3	caller	client (apprx)	

NOTE
V-Spark uses the **datetime** field to represent the audio's recording date and time. Although **datetime** is in the reserved list, it may be specified in custom metadata to override the default value, which is the ingestion time if not otherwise specified. The **datetime** field is always assumed to be expressed in Coordinated Universal Time (UTC).

Preparing Metadata Files

Once you have configured your metadata fields, you can upload your audio along with one metadata file per call. Currently V-Spark accepts JSON or XML files that have the same filename as the audio file, but with `.xml` or `.json` extension in place of the original extension.

For example, an audio file named **`ABC.wav`** could be uploaded with a metadata file named **`ABC.json`** or **`ABC.xml`**. If you are uploading JSON metadata files along with previously processed transcripts, your metadata files must use the **`.jsonmeta`** extension. Your JSON or XML file must be 100% valid; V-Spark does not do any error correction on metadata files.

NOTE
Metadata timestamps without time zone information are interpreted with the organization's time zone and *not* the system time zone.

The following is an example of the XML format:

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
    <metadata>
        <agentid>10005</agentid>
        <datetime>2015-06-02 13:29:20</datetime>
        <agentname>John Smith</agentname>
        <client-phone>123-456-7890</client-phone>
    </metadata>
```

The following is an example of the JSON format:

```
{
    "metadata":
        {
            "agentid": "10005",
            "datetime": "2015-06-02 13:29:20",
            "agentname": "John Smith",
            "client-phone": "123-456-7890"
        }
}
```

NOTE
A leading `-` in custom metadata is reserved for exclude phrases. As a result, any leading `-` at the beginning of your custom metadata values will be replaced with #. For example, if you have a fieldname for Call Direction with a metadata value of `-inbound`, the metadata value will be changed to `#inbound`.

Uploading Metadata and Audio

Metadata can be uploaded by the same methods as audio files: via web-based interface or via web services, as described in Upload Audio to a Folder.

To upload metadata and audio together, place both sets of files in the same zip file and import the zip file using the upload method of your choice. You **must** use zip files to upload metadata and audio together in a clustered V-Spark implementation.

NOTE
If you upload JSON metadata files along with previously processed transcripts, your metadata files must use the extension `.jsonmeta`.

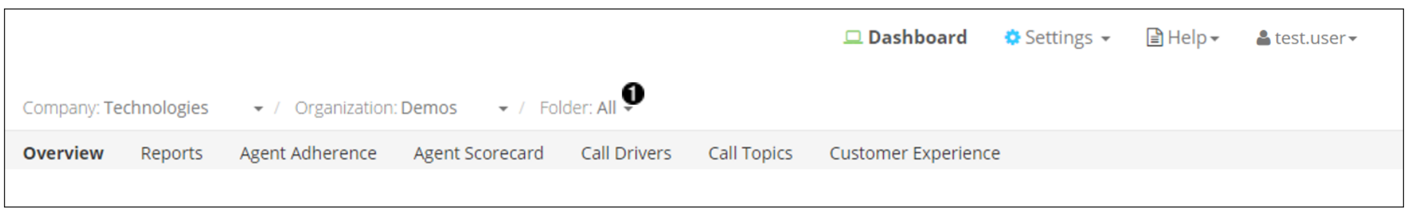
Viewing Custom Metadata

Custom metadata for individual transcripts can be viewed in three places:

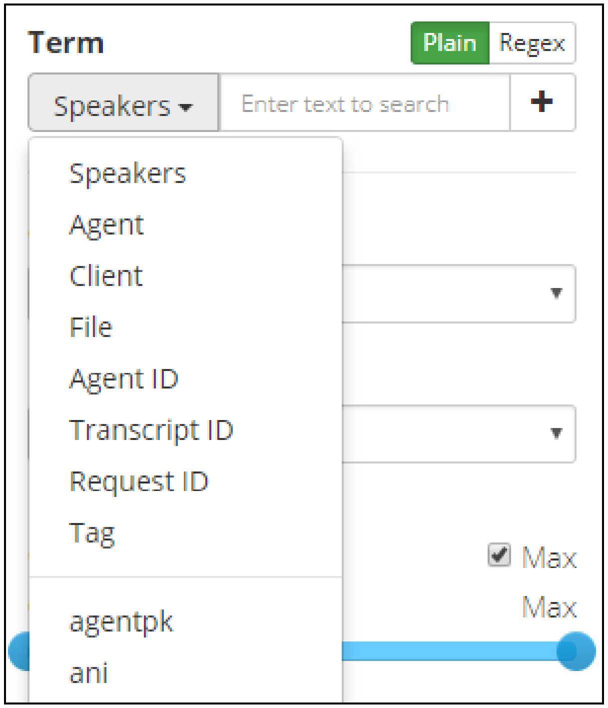
- Search results in the **Dashboard** Files View
- A transcript's File Details page
- A transcript's JSON output

Viewing Custom Metadata in the Dashboard Files View

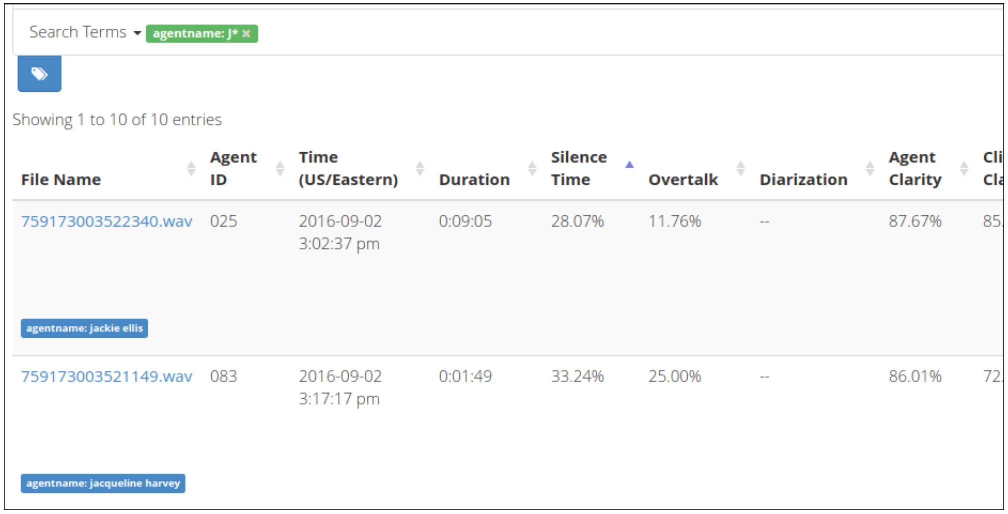
1. Navigate to the **Dashboard** and select the folder whose metadata you want to view from the breadcrumb menu, as in the following example:



2. Perform a plain text search on the file's metadata fields. Custom metadata fields appear at the end of the list, as with the **agentpk** and **ani** entries in the following example:

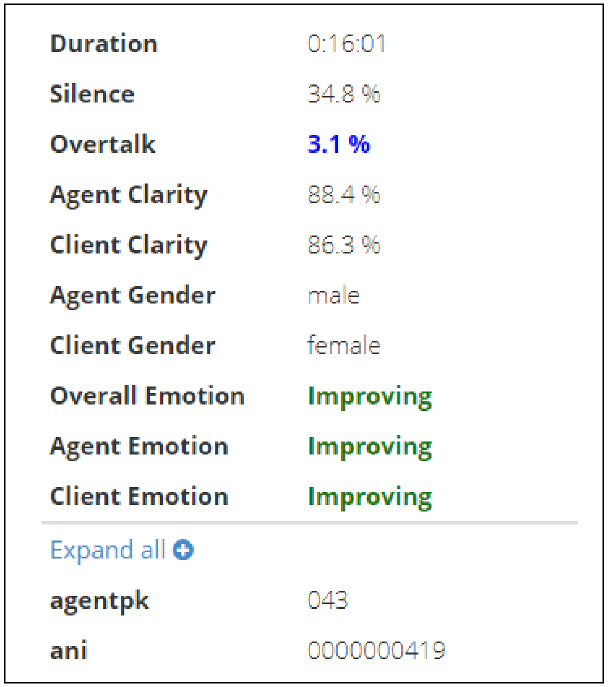

Term
Plain
Regex
Speakers
Enter text to search
Speakers
Agent
Client
File
Agent ID
Transcript ID
Request ID
Tag
agentpk
ani
Max
Max

3. Custom metadata for each returned file will appear in search results, as with the **agentname** entries in the following example:



Viewing Custom Metadata on the File Details page

1. Navigate to the File Details page of a transcript whose metadata you want to view.
2. The File Details page lists all file metadata, with custom fields at the end of the list, as with the **agentpk** and **ani** fields in the following example:



Viewing Custom Metadata in JSON output

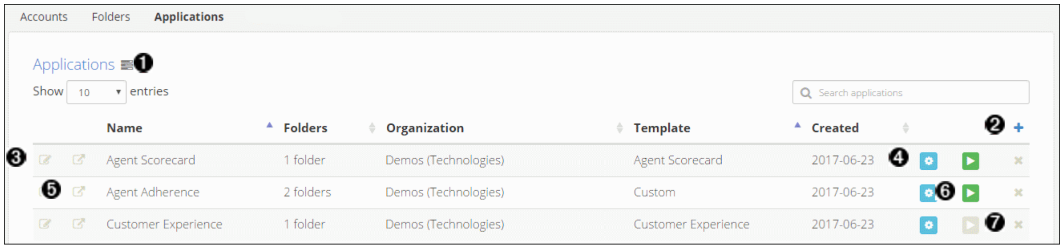
1. Navigate to the File Details page of a transcript whose metadata you want to view.
2. Click the **JSON** link to download a JSON version of the transcript.
3. Custom metadata will appear in the **client_data** section of the JSON transcript. It will resemble the following example:

```
"client_data": {
    "manager_name": "Melissa Thompson",
    "total_hold_time": "25",
    "skill": "0",
    ...
}
```

Application Management

Applications score audio for particular sets of phrases that correspond to various categories. The next few topics explain how to configure new applications, how to manage applications, and how to view application scores.

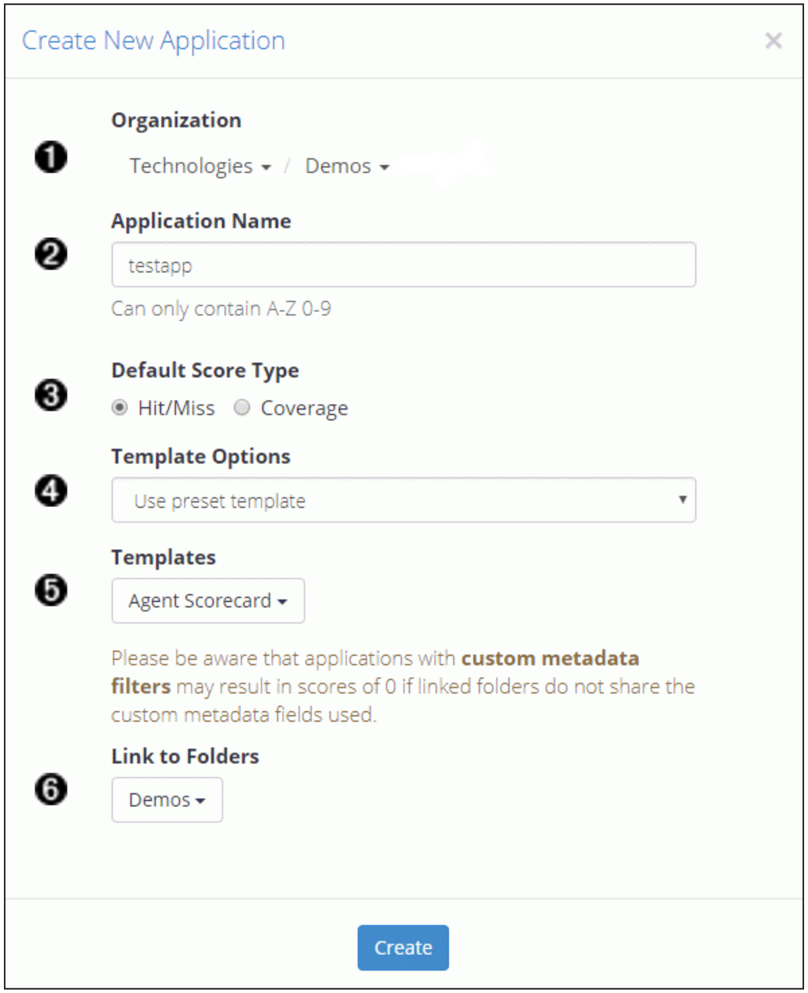
Choose **Applications** from the **Settings** menu to display a list of defined applications. In the **Applications** list, you can create and delete applications, monitor the application queue, modify application settings, access the application configuration editor, and reprocess an application. This list is shown in the following screenshot:



❶ View application jobs queue
❷ Create a new application
❸ Edit application settings
❹ Edit application categories and phrases
❺ View application on dashboard
❻ Reprocess an application
❼ Delete an application

Create an Application

Create a new application by pressing the blue **+** button. The **Create New Application** dialog displays:



❶ **Organization**: Drop-down menu of companies and organizations to which the Application belongs
❷ **Application Name**: The application name
❸ **Default Score Type**: Choose the default score type to be *displayed* on graphs. **Hit/Miss** is selected by default. See the **V-Spark Application Development Guide** for a detailed explanation of scoring.
❹ **Template Options**: Offers three options for template generation:

- **Build from scratch** - create a custom application
- **Use preset template** - use a defined template, if any have been provided with V-Spark
- **Copy from existing organization** - enables users to create a new application based on any existing application

❺ **Templates** - depending on the template option selected, this is a list of either preset templates or existing applications from other organizations to copy.

❻ **Link to Folders** - The name(s) of the folder(s) this application will score.

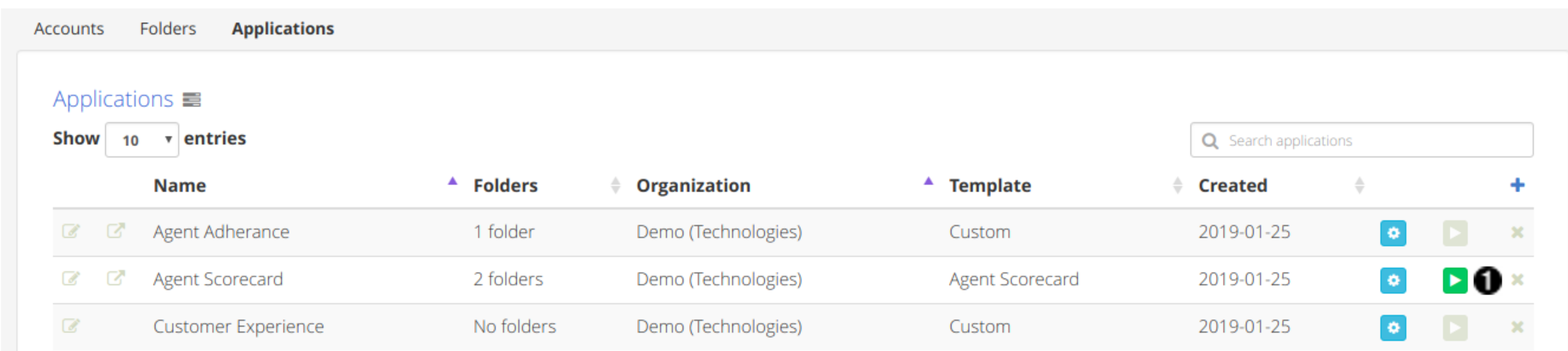
Modify an Application

Modify an application by selecting the **Edit** icon to the left of the application in the **Settings**, **Applications** section. The fields in the dialog display that results are the same as the **Create New Application** window.

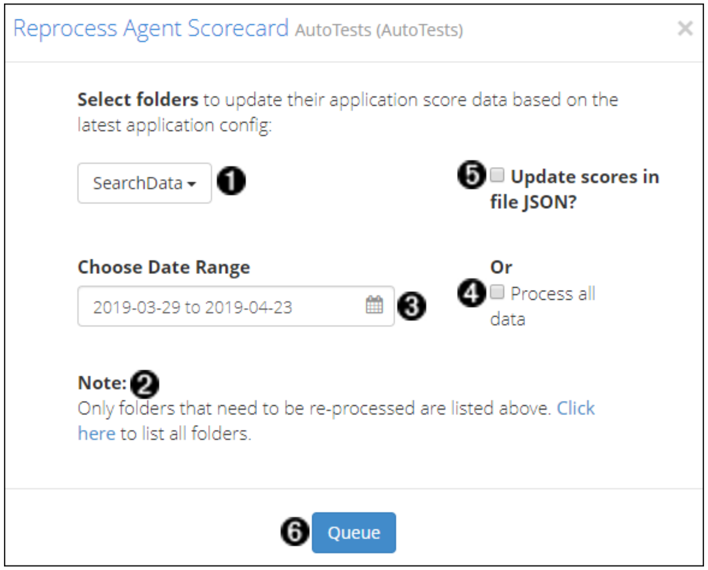
Reprocessing an Application

Reprocessing an application consists of scoring a folder's *existing transcripts* against an application configuration. Reprocessing an application is necessary when a folder that already contains transcribed audio is linked to a new application, or when the application's configuration is modified.

Applications can be reprocessed from the **Applications** page found in the **Settings** menu. A reprocess button is available for every application listed in the **Applications** table. The reprocess button appears **active** (green) when the application has been modified, even if changes do not result in new scores.



1. Locate the application in the **Applications** table and select the green **Reprocess Application** button on the right-hand side of the table to view the "Reprocess Agent Scorecard" dialog.



Use the dialog to choose which folder and transcripts should be rescored using the current application configuration.

1. **Select folders** for reprocessing. By default, this drop-down will only list folders with transcripts that have not been scored against the application's current configuration.
2. **List all folders** that are linked to the selected application in the folder selection drop-down.
3. **Choose Date Range** for transcripts to be reprocessed. This action will rescore all transcripts starting from the chosen start date through the chosen end date.
4. Select to **process all data** in the selected folders
5. Select to **update scores** in JSON transcript files. This option will slow reprocessing and should only be used if you use the bulk download feature or APIs to extract JSON transcripts for analysis.
6. **Queue** application reprocessing for the selected date range

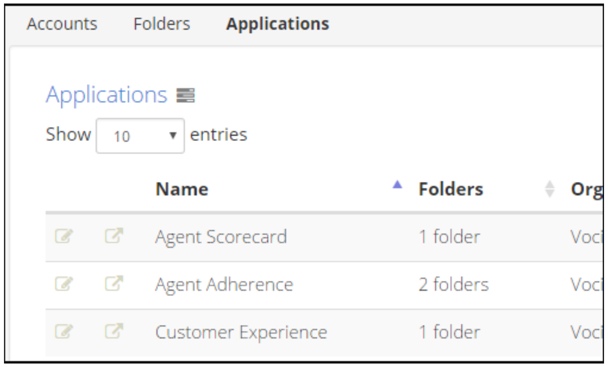
Once application reprocessing jobs have been queued, the progress of scoring can be monitored by viewing the Application Jobs Queue.

Delete an Application

To delete an existing Application, select the delete icon on the right side of the Application, as shown in Application Management. You will then be prompted to verify the deletion.

Application Jobs Queue

The Application Jobs Queue enables you to monitor the progress of various jobs including application reprocessing and folder application score deletion. It will display automatically after submitting a reprocessing or delete request, or can be displayed using the queue button found at the top of the Application Settings page.

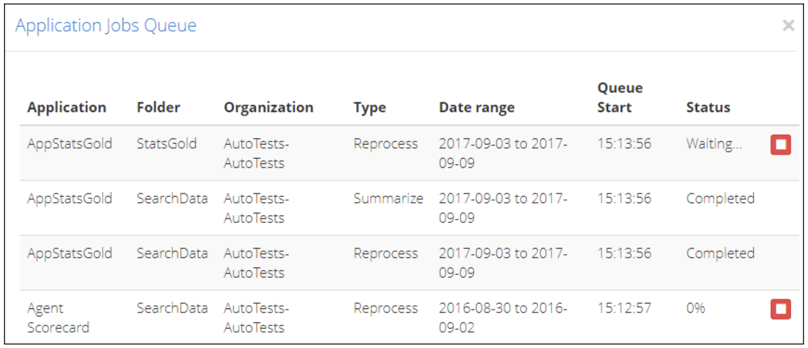


The queue displays **Application**, **Folder**, and **Organization** names as well as the **Type** of job (Reprocess, Summarize, or Delete), the **Date range** that was selected for reprocessing, **Queue Start**, and the **Status** of each job. **Queue Start** is a timestamp of when a job starts reprocessing after that job has been added to the queue.

All reprocessing jobs remain in the application queue for 30 minutes. The **Status** column indicates the status of the job.

- **Waiting...** - in the queue to be reprocessed
  Waiting jobs will also have a **stop** button visible. Use the stop reprocessing function to remove this waiting job from the queue.
- **Percent Completed** - reprocessing has started, and is partially complete
  Reprocessing jobs will also have a **stop** button visible. Applications that are reprocessing cannot be edited in the application editor. Use the stop reprocessing function if you need to make an application configuration change for improved scoring. A reprocessing job that is stopped early may have incomplete or inaccurate file scores which may or may not be displayed on the dashboard.
- **Completed** - processed successfully
- **WARNING** - processed, but difficulties were encountered
- **ERROR** - not processed successfully

If there is a warning or error, contact your System Administrator for more information.



Application Jobs Queue

Application	Folder	Organization	Type	Date range	Queue Start	Status	
AppStatsGold	StatsGold	AutoTests-AutoTests	Reprocess	2017-09-03 to 2017-09-09	15:13:56	Waiting...	
AppStatsGold	SearchData	AutoTests-AutoTests	Summarize	2017-09-03 to 2017-09-09	15:13:56	Completed	
AppStatsGold	SearchData	AutoTests-AutoTests	Reprocess	2017-09-03 to 2017-09-09	15:13:56	Completed	
Agent Scorecard	SearchData	AutoTests-AutoTests	Reprocess	2016-08-30 to 2016-09-02	15:12:57	0%	

System Status, Settings, and Activity

V-Spark system administrators may manage system-wide settings, and may view system status, processing and performance information, and user activity and system events by using two options in the **Settings** menu: **System** and **Activity Log**. These options are available only to system administrator accounts.

System and Performance Monitoring

> **NOTE**
> The **System Status** page was revamped with V-Spark version 4.0.2-1. Systems using any 4.0.1 release will see data laid out differently from how it is described on this page. Systems using any release prior to 4.0.1-7 do not have access to the **System Status** page.

Click **Settings** > **System** to view the **System Status** page. Data on this page can be used to view system attributes, service status, and data processing flows.

System information is divided into two tabs: **System Status** shows basic information about host system hardware, along with service uptimes, usage, and other metrics. **Processing & Performance** shows audio call, folder, ASR, and callback queue and processing metrics. The data fields displayed in each tab are listed in the following tables:

Table 2. System Status Tab Fields

Section		Description
System		
	CPU	Displays host CPU attributes, including the number of CPUs, threads per core, cores per socket, and model name.
	Load Averages	Displays the average system load over the last minute, 5 minutes, and 15 minutes.
	Memory	Displays memory usage, including slab and sreclaimable memory.
Services Overview		
	Uptimes	Displays the active status for each V-Spark component, and if it is active, indicates how long it has been running.

Section		Description
	Elasticsearch	Displays the attributes of each Elasticsearch node, along with the number of objects stored, the space consumed, the latest and oldest documents, and the total number of calls stored.
	Redis	Displays the memory usage and number of objects stored in Redis.
	SQL	Displays the space consumed (in MB) and number of objects stored in SQL.
	(Local) Storage	Displays the size, usage, availability, use percentage, and mount location of each local storage filesystem.

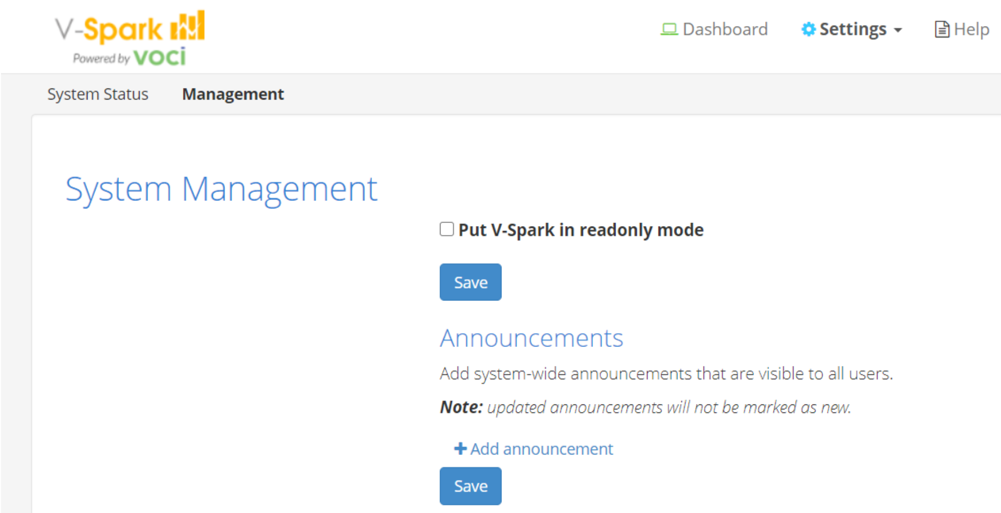
Table 3. Processing & Performance Tab Fields

Section		Description	
Queue Status		Displays metrics for call submission and processing queues.	
	Calls	Lists how many calls (audio files) there are at various points of system data flow:	
		Submitted	The number of calls submitted but not yet active in the ASR processing flow.
		Active in ASR	The number of calls submitted for ASR transcription, but not yet complete.
		ASR Complete	The number of calls successfully transcribed by the ASR engine.
		Analysis	The number of calls with transcription results in active analysis.
		Waiting for Callbacks	The number of calls with enqueued callback results.
		Callbacks	The number of callbacks completed.
		Total	The total number of calls processed by the system.

Section		Description
	Time to Analysis Completion	Displays the minimum, average, and maximum audio processing turnaround times over the following time increments: • the last 15 minutes • the last hour • the last 4 hours • the last day • the last week **NOTE** Analysis completion time values do not include callback processing time.
	Submitted Queue	Displays the number of calls submitted to each folder for transcription and analysis.
	Active in ASR Queue	Displays the number of calls in active processing in each folder.
Folder Activity		Displays a data table of all system folders sortable by the following activity fields:
	Files Ingested	The total number of audio and metadata files added to Elasticsearch and assigned a **transcriptID** in each listed folder. Files deleted after ingestion are not represented in this count.
	Audio Duration	The total duration of the folder's audio data in seconds.
	Files Completed	The total number of folder audio files that have been successfully processed.
	Last Active Date	The last date on which there was activity in the folder.

System Settings

System administrators can modify system-wide settings by selecting **Settings** > **System** and then selecting the **Management** tab, as in the following example:



Read-only Mode

The **Readonly** section of the **System Settings** page allows you to enable or disable read-only mode, which allows administrators to perform maintenance or diagnose performance problems while a V-Spark installation is still running.

While in read-only mode, V-Spark cannot process new data, and user, folder, company, organization, and system settings cannot be changed. V-Spark may still be used to examine existing data that has already been processed.

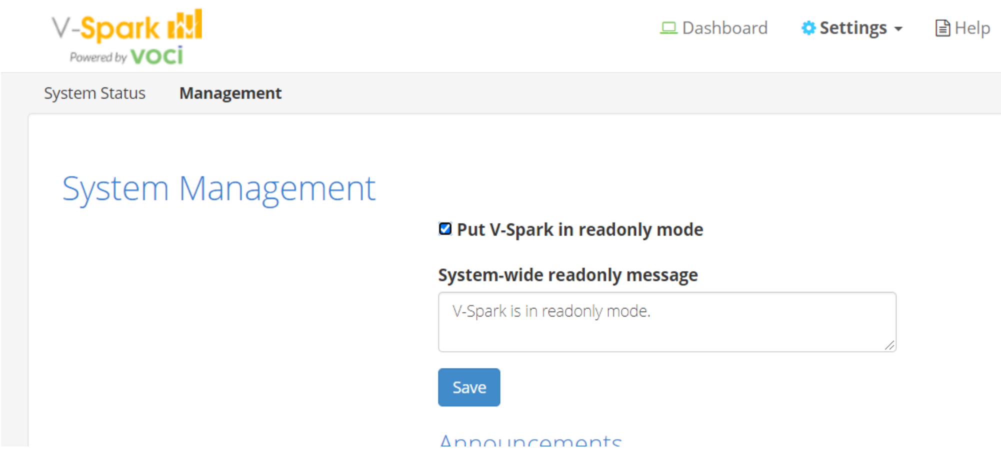
NOTE
Enabling read-only mode affects only V-Spark processes. The host system's other processes will continue to operate normally.

To enable or disable read-only mode:

1. Click **Settings** > **System** and select the **Management** tab.
2. Select the **Put V-Spark in readonly mode** checkbox.

A text box containing the default announcement displays. This message may be edited, and it appears when any user logs in while read-only mode is enabled.

3. Click **Save** to save the message and enable read-only mode.
4. To disable read-only mode, deselect the **Put V-Spark in readonly mode** checkbox and click **Save**.



NOTE
Read-only mode can also be managed programmatically using the API. For more information, refer to *Using POST with cURL and the /config API* and *Using POST with Python and the /config API* in the **V-Spark API Reference**.

Safe Mode and Low Storage Conditions

If V-Spark does not have sufficient storage, it will automatically enter safe mode, which is similar to read-only mode. Any file processing when safe mode activates will complete, but no new data can be added to the system.

All users will see a notification banner indicating that the system is in safe mode. Users can still use V-Spark to examine data that has already been processed, and can reprocess applications against that existing data.

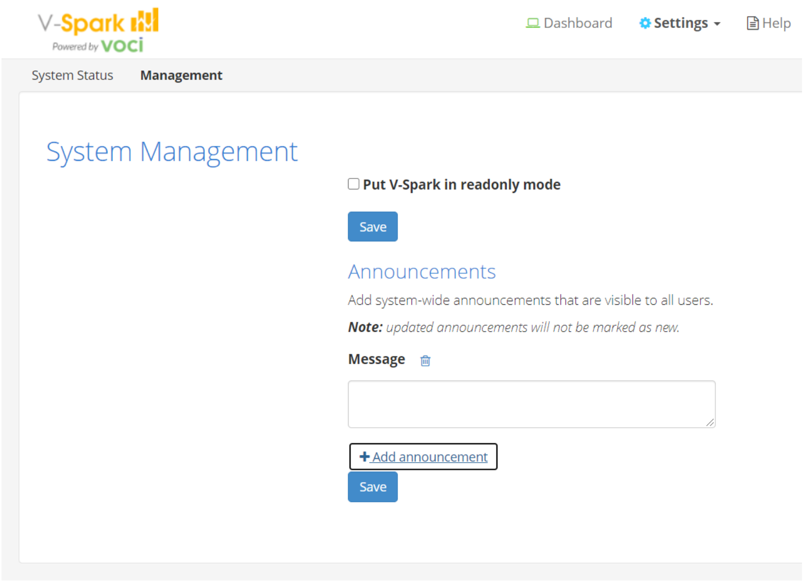
V-Spark may not be taken out of safe mode until it has sufficient storage.

Announcements

The **Announcements** section of the **System Settings** page enables system administrators to add, change, and remove system-wide announcements. New announcements are displayed to all users the first time that they log in after an announcement is created.

Use the following procedure to create an announcement:

1. Click **+ Add announcement**. The following textbox displays:



2. Enter the text of your announcement in the textbox and click **Save**.

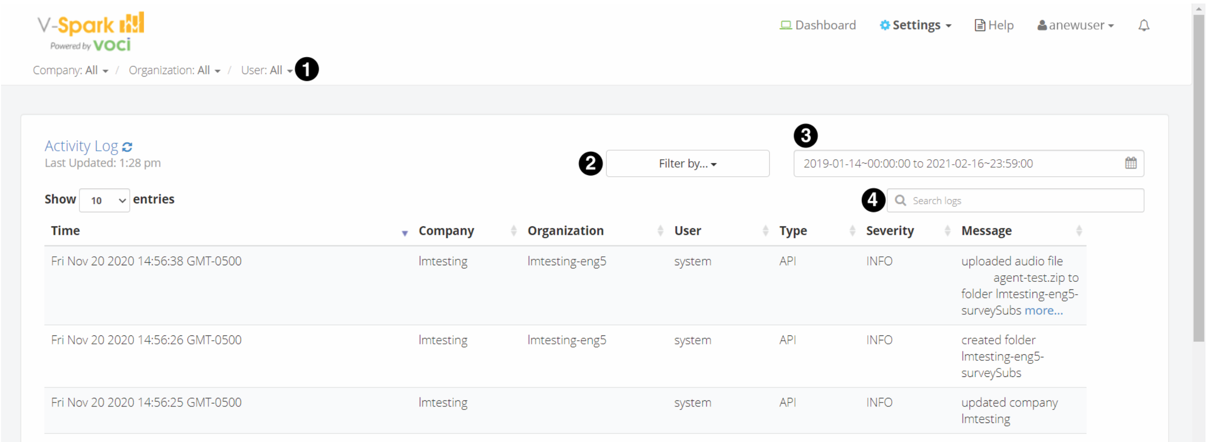
When a user logs in, all announcements created since that user's last login will be identified as **New**. Announcements are only identified as new the first time that a user logs in after the announcement was created. Afterward, announcements are displayed without the **New** identifier until they are deleted. Announcements can also be hidden by users during their login sessions.

To modify an existing announcement, edit the text for that announcement and click **Save**. Updated announcements are not displayed as **New** when users log in. To cause an existing announcement to be identified as new, delete the old announcement and create a new one with the updated text.

To delete an announcement, click **Delete**. The **Undo** icon will restore the deleted announcement until you click **Save**.

Activity Log

System administrators can use the **Activity Log** to view user activity and system events. Click **Settings** > **Activity Log**. The **Activity Log** screen displays:



Select any column heading to sort log entries according to the values in that column. Entries can be filtered by any or all of the following fields:

❶ Filter results by **Company**, **Organization**, and **User**. Select a filter option from the dropdown menu for each entity type. Only one filter per entity type may be active.

❷ Filter results by activity type or severity. Click the **Filter by...** button. The following **Types** and **Severity** levels display:

- **API** — Operations made using the API to create, delete, or update values for companies, organizations, folders, and applications.
- **Application** — Operations related to application summaries, processing, linking, and reprocessing.
- **Audio evaluator** — File uploads made using the audio evaluator to check for file format support.
- **Callback** — Warnings and errors that occurred during file callbacks.
- **Data management** — File deletion events, whether files were deleted manually or automatically due to an organization's retention policy. Also includes low space warnings.
- **Login** — User logins, logouts, and invalid login attempts. Only explicit user login and logout actions are captured, and not session timeouts that force a user logout.
- **Setting** — Operations made using the UI to create, delete, or modify companies, organizations, folders, and applications. Also includes warnings created when file processing is paused due to invalid company server configuration.
- **System** — Operations that start or check back-end and front-end services; check licensing status; or change the system to normal, read-only, and safe modes.
- **Update** [deprecated] — Operations related to updating Elasticsearch records without transcript IDs.

- **Upload** — File uploads made for initial transcription.
- **User management** — Operations that create, verify, delete, or change the company, organization, or permissions associated with a user account.
- **Tag** — Operations for adding or removing file tags.

Events of all types can be filtered by the following **Severity** levels:

- **Info** — Operations that constitute basic system activity, such as user logins and logouts, file uploads, or company and organization updates.
- **Warning** — Company processing limit notifications and issues that caused file processing to pause, such as invalid company configurations.
- **Error** — Events that caused processing to fail altogether.

❸ **date** — Filter results by the specified date and time range. Click the date range box, then use the calendars to find and click the beginning and end dates.

❹ **key word search** — Filter results by the specified key words. Enter the search terms; results will update automatically as terms are entered. Key words are checked against the **Company**, **Organization**, **User**, and **Message** fields associated with an event.

Using Single Sign-On (SSO) with V-Spark

Single sign-on (SSO) authentication is a form of external authentication that allows users to forego the typical account creation process and log in to V-Spark using their SSO identity provider (IDP). A single V-Spark system can support multiple companies, and each company uses its own SSO configuration.

The following is a general workflow for configuring and using SSO with V-Spark:

1. **Configure the IDP to communicate with V-Spark.** This requires the creation of a client application for V-Spark on the IDP using the values specified in V-Spark's **hostname** and **pref_port** system configuration settings to create sign-in and sign-out redirect URIs. Refer to Configuring SSO for V-Spark for more details.
2. **Configure the V-Spark system to communicate with the IDP.** This requires some information from the IDP configuration. Refer to Configuring SSO for V-Spark for more details.
3. **Create a V-Spark company with the Enable SSO option enabled.** Refer to Create or Modify a Company and SSO-Enabled Companies for more details.
4. **Create, configure, and verify SSO-based user accounts.** User accounts created with SSO must be verified and have their read and write permissions set by an administrator before they can be used.

   SSO account creation, requesting, and verification follow most of the standard account maintenance procedures described in Creating a User Account and User-Requested Accounts. Refer to SSO-Enabled User Accounts for information about differences between standard and SSO-enabled user accounts.

Configuring SSO for V-Spark

Before companies or user accounts can use SSO, it must be enabled at the system level. Enabling SSO requires configuration in two places: V-Spark's system configuration settings, and configuration settings for the IDP that V-Spark communicates with for authentication.

Required Endpoints for IDP Configuration

Create a client application in the IDP to configure it for communication with V-Spark. As part of this process, the IDP displays the application's **Client ID**, **Client Secret**, and **Discovery Endpoint**. These are required to configure V-Spark companies for SSO authentication.

The IDP application requires sign-in and sign-out redirect URIs specific to the V-Spark system and company that will use SSO. At least one endpoint URL must be provided for each field in the IDP application.

In V-Spark, resource locations for sign-in and sign-out redirect URIs use the host's external IP address (`$HOST_IP`) and the company's short name (`$CO_SHORTNAME`) as shown in the following format:

Sign-in Redirect URI	**http://*{$HOST-IP}*/login/authenticate/sso/company/callback/*{$CO_SHORTNAME}***
Sign-out Redirect URI	**http://*{$HOST-IP}*/logout/callback**

> **NOTE**
> Some identity providers may require HTTPS for redirect URIs.

Note the following information about redirect URI components:

- The value for *{$HOST-IP}* is case-sensitive and must match the value specified in V-Spark's **hostname** system configuration setting, which must include the protocol (**http** or **https**).
- If an external port must be provided, that port number must match the number specified in the **pref_port** system configuration setting.
- The value for *{$CO_SHORTNAME}* must match the short name assigned to the V-Spark company that will use SSO.

SSO-Related System Configuration Settings

The following configuration settings must be specified in V-Spark's **/opt/voci/vspark/config/vspark.config.d/** configuration settings:

login_methods	Specifies all login methods available to the system. Multiple methods may be specified using a comma-separated list. As of version 4.1, the only supported method is OpenID Connect, which is specified with the value **oidc**. Example: **login_methods=oidc**
hostname	Specifies the V-Spark system URL for external access. The **hostname** setting is already configured for most V-Spark installations. Protocol must be included. The value for **hostname** must match the value configured in the IDP. Example: **hostname=https://3.123.123.123**
pref_port	Specifies the V-Spark port number to be used with the configured **hostname** described above. The **pref_port** setting is already configured for most V-Spark installations. The value for **pref_port** must match the value configured in the IDP. Example: **pref_port=3000**
login_with_sso_link_label	**Optional.** Specifies the label for the SSO login button on login pages. The default value is **Sign in with SSO**.
signup_with_sso_link_label	**Optional.** Specifies the label for the SSO signup button on the signup page. The default value is **Sign up with SSO**.

SSO-Enabled Companies

Before companies or user accounts can use single sign-on (SSO) authentication, it must be enabled at the system level. Refer to Configuring SSO for V-Spark for detailed steps on SSO system configuration. Once enabled for the system, SSO can be enabled for individual companies as described in Configuring SSO for a Company.

A company in an SSO-enabled system is not required to use SSO. Similarly, user accounts associated with an SSO-enabled company may still use username-password authentication, although the authentication method cannot be changed for an existing account. Additionally, some account functionality and profile fields are disabled when the account uses SSO. Refer to SSO-Enabled User Accounts for more information.

Configuring SSO for a Company

Before configuring a V-Spark company to use SSO authentication, ensure that the appropriate system and IDP configuration settings are in place. Additionally, configuring SSO for a company requires using the **Client ID**, **Client Secret**, and **Discovery Endpoint** obtained while configuring the IDP application. Some IDPs use unique parameters for each of multiple applications on the same SSO implementation, and this may affect the parameters required for company configuration. Refer to Configuring SSO for V-Spark for more information on configuring SSO at the system level.

To enable or configure SSO authentication for a company, enable the **Enable SSO via OpenID** option shown in the **Create New** or **Update Company** dialogs as described in Create or Modify a Company. When the SSO option is enabled in the **Create** or **Update** dialogs, the third page displays the following fields:

SSO Protocol	This field is not configurable because V-Spark supports only the OpenID Connect (OIDC) SSO protocol. The field is displayed for clarity and to show any other protocols included with future versions.
Client ID	The V-Spark client identifier to be used for OpenID communication with the identity provider (IDP). The value for **Client ID** is provided by the IDP.
Client Secret	The secret associated with the **Client ID** used to prove the client's identity to the IDP. The value for **Client Secret** is provided by the IDP.
Use Discovery Endpoint	A discovery endpoint returns a JSON object containing advanced configuration endpoints required for communication with the IDP. **Use Discovery Endpoint** is enabled by default. Disabling the **Use Discovery Endpoint** option displays several specific endpoint fields that must be entered manually for successful communication with the IDP. Using the discovery endpoint is strongly recommended to minimize configuration issues. Every IDP uses its own requirements and syntax for base URLs and endpoints. Refer to your IDP's documentation for the location and construction of its discovery endpoint.
Discovery Endpoint	Returns a JSON object containing advanced configuration endpoints required for communication with the IDP. The value for **Discovery Endpoint** is provided by the IDP.

If not using a discovery endpoint, the endpoints in the following list must be specified manually:

NOTE
These fields are provided by the IDP, though some IDPs only provide them in the JSON object returned from the discovery endpoint.

IDP Issuer	Root URL for the IDP.
Introspection Endpoint	URL for IDP endpoint that returns information about the security token.
JWKS URI	URL for IDP endpoint that returns the JSON Web Key Set object used to verify security signatures in OIDC.
Authorization Endpoint	URL for IDP endpoint that is used to interact with the resource owner and to obtain an authorization grant.
Token Endpoint	URL for IDP endpoint that returns access and ID tokens when presented with authorization grants or refresh tokens.
UserInfo Endpoint	URL for IDP endpoint that returns user profile information when presented with an access token.
End Session Endpoint	URL for IDP endpoint that ends the IDP session associated with the ID token.

SSO-Enabled User Accounts

Before user accounts can use single sign-on (SSO) authentication, SSO must be enabled at the system level and for at least one company. Refer to Configuring SSO for V-Spark and Configuring SSO for a Company for more information.

Once SSO is enabled, SSO-enabled user accounts can be created and requested in the same ways as non-SSO accounts. Standard procedures for these methods are described in Creating a User Account and User-Requested Accounts; however, note the following before specifying profile fields when creating SSO accounts:

- When administrators create or end-users request a user account, the email address specified in the **Email** field must be identical to the email address associated with the user's SSO IDP account.
- If the **Full Name** and **Username** fields are neither specified when the account is created nor populated by the IDP, they will be assigned the same value as the **Email** field. Whichever value is supplied first will be assigned to the user profile. When an account is created by an administrator, all fields must be supplied by the administrator. When an account is requested using the **Sign Up with SSO** button or created by an SSO login attempt, V-Spark will populate any field not provided by the IDP with the value of the **Email** field.
- The company specified in the **Company** dropdown during user account creation must have SSO enabled for that account to use SSO. User accounts associated with a company that does not have SSO enabled cannot use SSO regardless of overall system configuration.
- User accounts created with an SSO-enabled company may still use the standard username-password authentication method, but it is recommended that administrators use SSO whenever possible to improve security and reduce account maintenance.

When a user account is created with an SSO-enabled company specified, the company and authentication method for that user account may not be changed. A user may be associated with additional companies, but only the initial company's configuration affects whether SSO may be used.

IMPORTANT
Username-password authenticated accounts cannot be converted to SSO accounts. To use SSO, the user account must be deleted and recreated.

The functionality of SSO-enabled user accounts varies from standard accounts. The name and email user profile fields are disabled because these fields are populated with information from the SSO identity provider (IDP). SSO users may not change their passwords on the profile page or reset their passwords with the **Forgot Password?** link on the sign-in page.

Use the **Login with SSO** button on the homepage to log in using SSO. This button will not appear unless the system has been configured to use SSO; note also that the label for the button may be customized. Users are prompted for the short name of their company, then redirected to the IDP. If not already logged in, users enter their IDP credentials. After being authenticated by the IDP, users are redirected back to V-Spark.