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# TrueCommand

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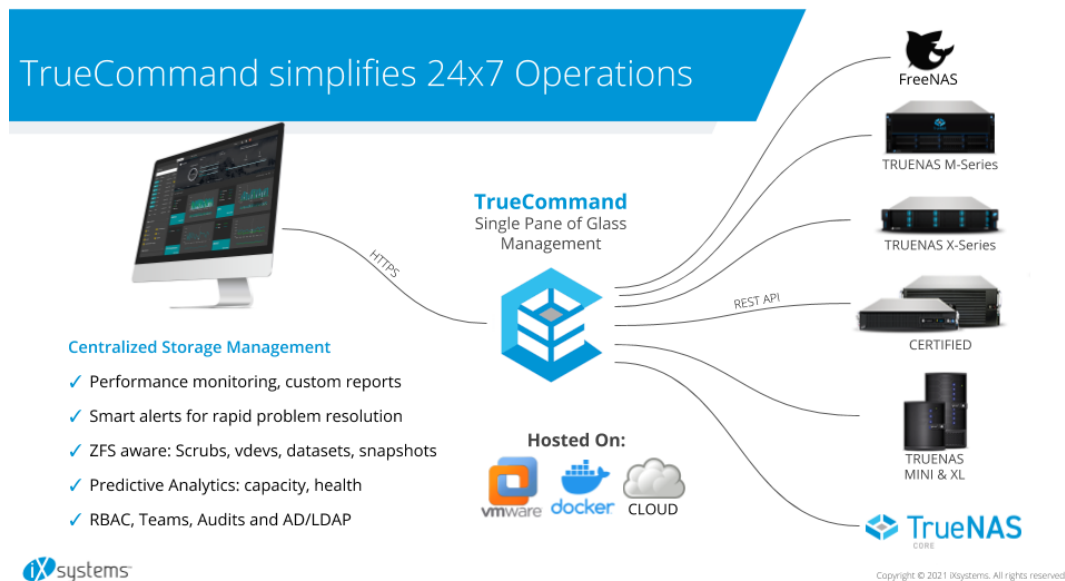


# TrueCommand®

TrueCommand 2.0 is now in Beta! To see a preview of this exciting new version, check out the [TrueCommand 2.0 Beta Documentation](#). To try the 2.0 Beta, see the [2.0-Beta release notes](#) for download instructions.

TrueCommand is a multi-system management “Single pane of Glass” system that helps control and monitor your TrueNAS fleet. TrueCommand assists in managing TrueNAS systems through REST APIs, WebSocket APIs, and a web user interface. The TrueCommand web interface provides single sign-on functionality and unified administration of users and TrueNAS systems.

TrueCommand can monitor an entire fleet of TrueNAS systems and thousands of online storage devices simultaneously. This includes displaying statistics on storage usage, network activity, active services, and more. TrueCommand also has the ability to create custom reports about individual systems or a combination of many systems.



## What Features does TrueCommand have?

### Multiple Deployment Options ⓘ

TrueCommand is a lightweight application that supports deployments in either a Virtual Machine or a Docker Container. TrueCommand Cloud is also available as a cloud-based subscription option that allows you to offload TrueCommand resources and deployment and only focus on fine-tuning your configuration.

### NAS Fleet Dashboard ⓘ

The TrueCommand dashboard provides visibility to an organization's entire TrueNAS fleet. TrueCommand includes an auto-discovery tool that expedites identifying and integrating systems into TrueCommand.

### Single Sign-on to all NAS Units ⓘ

Authorized administrators can quickly log into a TrueNAS system through TrueCommand. This allows for quicker and simpler signons instead of looking up IP addresses and login credentials. This is even more beneficial when using different secure passwords for each TrueNAS instance instead of a single password across multiple systems.

### Centralized system updates ⓘ

Easily update any connected TrueNAS system. Monitor update progress, reboot the system, or even roll it back if something goes wrong.

### Customized Alerts and Reports ⓘ

TrueCommand centralizes the management of alerts across a fleet of TrueNAS systems. In addition to the standard system alerts, administrators can define custom alerts.

Administrators can also create custom graphical reports. Reports are configurable and can span as many systems as desired and/or set of metrics. This brings the information that the administrators deem the most relevant immediately to visibility. Report

data can be exported in CSV or JSON for other uses.

Alerts for all managed systems are shown in TrueCommand's web-based dashboard. Notification groups can also be defined so that unique groups receive specific alerts via email. This enables TrueCommand to keep the right individuals informed of any current or potential problems.

### **Enterprise Security with Role-Based Access Control (RBAC)** ⓘ

TrueCommand administrators can define varied levels of system access. These access levels can be assigned to system groups. Individuals can be assigned to teams or departments. Doing so allows the administrator to control the level of access appropriate to each individual or group in a manageable and atomic fashion. TrueCommand's RBAC controls can leverage pre-existing LDAP and Active Directory identities and groups in your infrastructure, eliminating redundant management overhead.

### **Audit Logs** ⓘ

TrueCommand records all administration actions in secure audit logs. This allows for quick identification of what has been changed and who changed it.

## **What Does it Cost?**

TrueCommand is free to use for up to 50 drives. Licenses to expand TrueCommand capabilities are purchased from the [iXsystems account portal](#). Pricing is based on the number of drives and the desired level of support.

## **Where do I get it?**

TrueCommand is downloaded from the [TrueNAS website](#). TrueCommand Cloud subscriptions are available at the [iXsystems Account Services Portal](#).

## **What is TrueCommand Cloud?**

TrueCommand Cloud is a secure SaaS offering that includes a WireGuard VPN capability to connect TrueNAS systems through firewalls. TrueCommand Cloud is compatible with TrueNAS versions **12.0+ or SCALE** for the Wireguard VPN capability. Subscribe to and set up TrueCommand Cloud using [these instructions](#).



# 1 - Developer's Notes

- [System Requirements](#)
  - [Nightly Docker Images](#)
  - [Current Status](#)
    - [Summary of changes in upcoming version 2.0](#)
    - [Migration Notice](#)
    - [Minimum Supported TrueNAS Versions](#)
  - [Detailed look at new features](#)

## Recent Updates

04/09/2021 - iSCSI creation process completed. Cluster creation routines finished up and streamlined.

03/17/2021 - Large update to Cluster creation/management. Requires latest TrueNAS SCALE nightlies to work properly (API's just changed on their end).

02/25/2021 - Initial nightly image release for TrueCommand 2.0

## System Requirements

- Docker Environment (64-bit AMD or Intel system)
- 2GB of RAM (recommended minimum)
- 20GB of disk space (recommended minimum)

## Nightly Docker Images

Nightly images for TrueCommand are built every 24 hours. These images are automatically pushed to the "nightly" tag on DockerHub if they pass the automated QA testing procedure.

Download information:

- [DockerHub](#)
- [Example in Documentation](#), replace "latest" with "nightly" in the docker pull commands.

## Current Status

The nightly images are always considered a "work-in-progress" toward the next release of TrueCommand. They should be suitable for adventurous users and developers who are not afraid of diagnosing issues and opening up bug reports with the TrueCommand developers.

Ticket Tracker: [Jira](#)

**Current Nightly Version: 2.0-Master**

### Summary of changes in upcoming version 2.0

- Version 2.0 is a complete rewrite of the middleware and database used in TrueCommand, as well as a complete re-integration with the TrueNAS middleware for statistics and analysis. Early tests indicate a sharp improvement in the performance of the system (details below), and some of the new features that this enables in TrueCommand 2.0 are: NAS metrics and state updates in realtime - no more 30s delay!
- The "Storage Explorer" interface lets you inspect the datasets and files on your storage pools, while also giving you easy access to creating and managing snapshots, shares, zvols, and more.
- The "iSCSI Manager" is a new dashboard system that lets you view and create iSCSI volumes in bulk across your entire NAS fleet.
- "Cluster Volumes" is a new dashboard system that lets you view and create clustered datasets which span across multiple TrueNAS SCALE systems in your fleet.
- Marked performance improvements:
  - Docker image ~50% smaller
  - Network bandwidth usage ~40% less
  - CPU usage ~5% lower
  - Database growth rate ~99% lower

Table of features and current status (Timestamp references when the item status was last updated):

Feature	Status	Timestamp	Description
---------	--------	-----------	-------------

Feature	Status	Timestamp	Description
Users	OK	02/26/2021	Create and manage users and user permissions
Teams	OK	02/26/2021	Create and manage teams of users and permissions
Systems	OK	02/26/2021	Register NAS's and maintain connections/status info
Alert Rules	OK	02/26/2021	Create and manage custom alert rules
Alert Notices	OK	02/26/2021	Rolling feed of alerts that have been triggered with comment and resolution systems
Alert Services	Review	02/26/2021	Submission of new alert notices to external notification systems (email/pagerduty)
Reports	OK	02/26/2021	Historical charts of system information
Logs	OK	02/26/2021	Security logs of changes from users
System Administration	OK	02/26/2021	Configuration of TrueCommand system (SSL certificates, licensing, AD/LDAP, etc)
Dashboard	In Progress	02/26/2021	Top-level look at NAS state and information
NAS Explorer	Review	02/26/2021	Detailed inspection/management of storage on individual NAS's
Cluster Volumes	Review	04/09/2021	Create and manage clusters of TrueNAS SCALE systems (glusterfs)
ISCSI Manager	Review	04/09/2021	Create and manage ISCSI volumes in bulk

## Migration Notice

Due to the change in database between the 1.x and 2.x versions of TrueCommand, there is an automatic database migration routine that will run the first time you start up the v2.0 image of TrueCommand.

Information Migrated:

- User accounts
- Teams
- System Registrations
- System Groups
- TrueCommand System Configuration
- NAS configuration backups

Information **NOT** migrated due to drastic changes in how these are performed now.

- Historical metrics from NAS's
- Alerts (both rules and notices)
- User-defined reports
- Security Logs

When you are using an LDAP-enabled system for user logins, please have your non-LDAP admin user credentials handy before updating. The LDAP integration systems between 1.x and 2.x are different, and you need to login and verify that everything is still configured properly after the migration.

## Minimum Supported TrueNAS Versions

Due to the changes in integrating with the TrueNAS middleware, the minimum version for full-support of functionality has changed with TrueCommand 2.0:

- FreeNAS/TrueNAS 11.3 series - No longer supported. Does not provide realtime statistics or storage information, but you can still connect to them and use TrueCommand to initiate updates.
- TrueNAS 12 CORE/Enterprise - Supported after 12.0-U3. 12.0-U2.1 and older are missing some key metrics in the realtime stats (disk/network usage metrics in particular), but work otherwise.
- TrueNAS SCALE 21.03+ - Fully Supported (SCALE-20.12+ is supported excluding cluster functionality)

## Detailed look at new features

### Storage Explorer

Coming soon

### ISCSI Dashboard

Coming soon

### Cluster Dashboard

Coming soon

## 2 - Introduction

### 2.1 - Support

#### Free Support

The [TrueCommand Community Forum](#) is an active online resource for asking questions, troubleshooting issues, and sharing information with other TrueCommand users. [Registering](#) is required for posting. New users are encouraged to briefly [introduce](#) themselves and review the [forum rules](#) before posting.

#### Paid Support

iXsystems offers different Support packages for TrueCommand customers. To find more details about the different Warranty and Service Level Agreement (SLA) options available, see the [TrueCommand Support overview](#).

#### TrueCommand Cloud

If any issues are found when using TrueCommand Cloud or an iX Portal account, log in to the Portal Account and click *Manage > Request Support*. Fill out the *Request Support* form with specific details and screenshots of the issue and click *Send Request*. A copy of the support request is emailed to the registered email account.

## 3 - Installing or Updating

Articles describing how to obtain and deploy TrueCommand in various environments.

### 3.1 - Install

- - [Install Options](#)
  - [Adding Browser Security Exceptions](#)
  - [Creating the Administrator Account](#)

---

TrueCommand is incredibly versatile and offers several different install options. TrueCommand Cloud is the preferred method for using TrueCommand, as this option requires no local resources or specific hardware requirements to get started!

#### Install Options

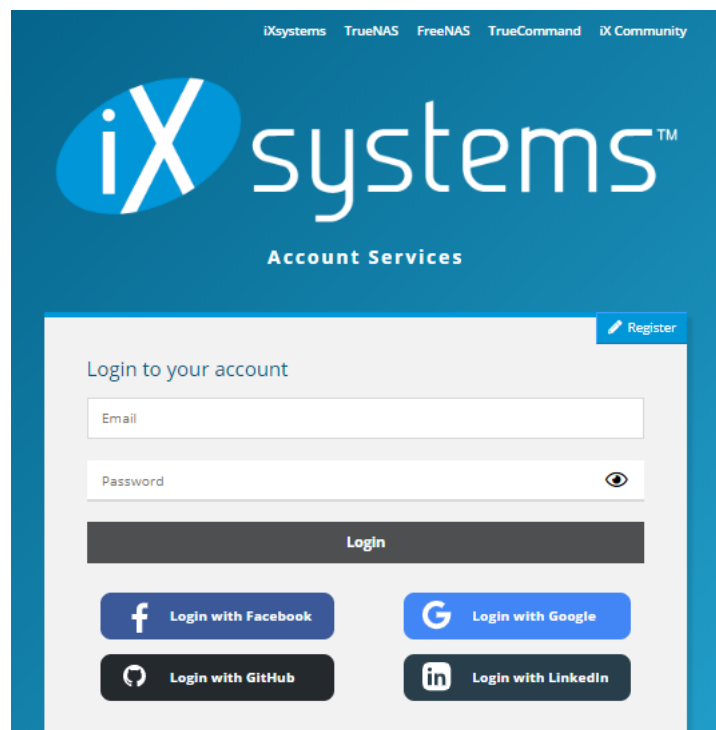
Click one of the tabs below to see instructions for your preferred deployment method.

##### Cloud Deployment

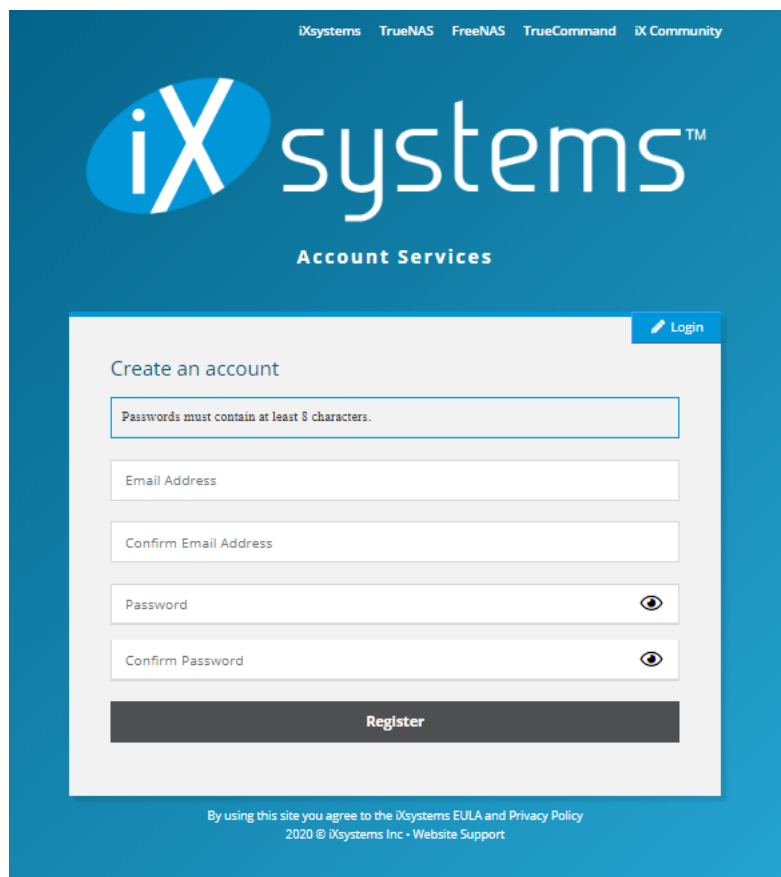
TrueCommand Cloud is a SaaS offering of TrueCommand with a WireGuard VPN capability to connect TrueNAS systems through firewalls. TrueCommand Cloud is compatible with TrueNAS version v12.0 and newer.

#### Register an iXsystems Account

Open <https://portal.ixsystems.com> and click **Register**.

The image shows the 'Account Services' page of the iXsystems portal. At the top, there is a navigation bar with links for 'iXsystems', 'TrueNAS', 'FreeNAS', 'TrueCommand', and 'iX Community'. The main header features the 'iXsystems' logo and the text 'Account Services'. Below this, there is a 'Login to your account' section. It includes a 'Register' link in the top right corner of the login area. The login form has two input fields: 'Email' and 'Password' (with a toggle for visibility). Below the fields is a 'Login' button. At the bottom, there are four social login buttons: 'Login with Facebook', 'Login with Google', 'Login with GitHub', and 'Login with LinkedIn'.

Fill out the form using the email address you want to use.



The image shows the iXsystems Account Services registration page. At the top, there is a navigation bar with links to iXsystems, TrueNAS, FreeNAS, TrueCommand, and iX Community. The iXsystems logo is prominently displayed. Below the logo, the text 'Account Services' is centered. The main content area is a light gray box with a 'Login' button in the top right corner. Inside this box, the heading 'Create an account' is followed by a password requirement message: 'Passwords must contain at least 8 characters.' Below this are four input fields: 'Email Address', 'Confirm Email Address', 'Password', and 'Confirm Password'. The Password and Confirm Password fields have eye icons for toggling visibility. At the bottom of the form is a dark gray 'Register' button. Below the form, a small disclaimer states: 'By using this site you agree to the iXsystems EULA and Privacy Policy 2020 © iXsystems Inc. • Website Support'.

This email account must be verified. Check the address spam folder if the email does not arrive within a few minutes. When the email is in the spam folder, mark it as *not spam* and add the account to the address book so future emails arrive at the inbox. After receiving the verification email, open the link provided to verify the account.

## Create a New Subscription

Log in to the verified account and click **New Subscription**.

ixsystems TrueNAS FreeNAS TrueCommand ix Community

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## Account Services

Welcome jt@obs-sec.com [Logout](#)

**Account Settings**

No active subscriptions!

**New Subscription**

### Trial License

- TrueCommand 60 Day Trial [Manage](#)

### TrueCommand Quick Links

- User Guides and Documentation
- Release Notes
- Docker Images
- Latest VM Image (VHDX)
- Latest VM Image (VMDK)

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## Account Services

Please select a subscription plan: [Back](#)

TrueCommand Cloud (Early Access)

Please select an option 

TrueCommand Site License (Self hosted)

Please select an option 

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Select the TrueCommand Cloud option and choose the subscription plan that best fits your current needs. This can be changed later.

The screenshot shows the iXsystems Account Services page. At the top, there is a navigation bar with links to iXsystems, TrueNAS, FreeNAS, TrueCommand, and iX Community. The main heading is "iXsystems™ Account Services". Below this, a white box contains the subscription selection interface. It starts with the text "Please select a subscription plan:" and a "Back" button. Underneath, it says "TrueCommand Cloud (Early Access)" with a cloud icon. A dropdown menu is open, showing a list of subscription plans with their respective drive counts and monthly prices. To the right of the dropdown is a server rack icon. At the bottom of the white box, there is a disclaimer: "By using this site you agree to the iXsystems EULA and Privacy Policy 2020 © iXsystems Inc • Website Support".

Please select an option	
30 Drives, \$5.99/month	
50 Drives, \$9.99/month	
100 Drives, \$19.99/month	
200 Drives, \$39.99/month	
300 Drives, \$59.99/month	
400 Drives, \$79.99/month	
500 Drives, \$99.99/month	
600 Drives, \$119.99/month	
700 Drives, \$139.99/month	
800 Drives, \$159.99/month	
900 Drives, \$179.99/month	
1000 Drives, \$199.99/month	

Click *Continue* to proceed.

This screenshot shows the same iXsystems Account Services page, but with the "1000 Drives, \$199.99/month" plan selected in the dropdown menu. A "Continue" button is now visible below the selected plan. Below the cloud subscription options, there is a section for "TrueCommand Site License (Self hosted)" with a server rack icon and a dropdown menu that says "Please select an option". The disclaimer at the bottom remains the same.

Next, fill the payment form.

**TrueCommand - 1000 Drive**

\$199.99 USD / 1 month

**Cloud Service**







**Contact Information**

FIRST NAME \*

LAST NAME \*

PHONE NUMBER

COMPANY / ORGANIZATION NAME



CARD NUMBER \*

EXPIRATION MONTH \*

09

EXPIRATION YEAR \*

22

CVV \*

COUNTRY \*

Canada

STREET ADDRESS \*

ADDRESS 2

CITY \*

STATE \*

ZIP/POSTAL \*

**Order Summary**

TrueCommand - 1000 Drive Cloud Service

\$199.99 USD

COUPON CODE

>

Subtotal

\$199.99 USD


Order Total

\$199.99 USD

TERMS AND PRIVACY

☐ I accept the [Privacy Policy](#).

Subscribe

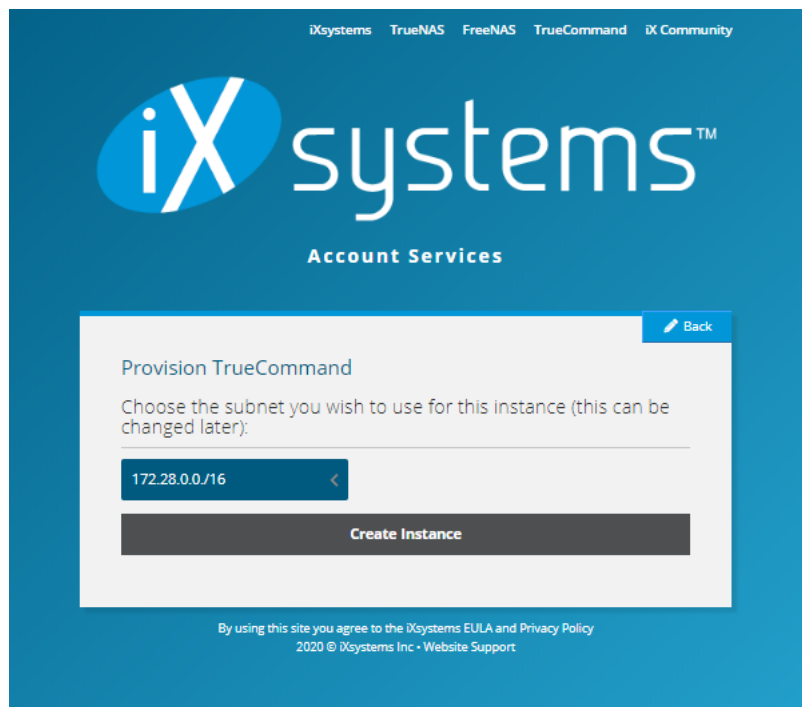
Powered by 

Submit and wait for the form to be accepted. When ready, click *Provision Now*.






Select a *Subnet* that is not currently used on the network.



## Managing a TrueCommand Cloud Account

From the account home page, click *Manage*. Add a client for desktop or laptop to obtain a TrueCommand WireGuard Config file.




[iXsystems](#) [TrueNAS](#) [FreeNAS](#) [TrueCommand](#) [iX Community](#)

 **systems™**

Account Services

[Back](#)

### Service Details

Address	172.28.0.1 
API Key 	 iX7YtaCjOa9G0b1p8
Instance Status	healthy
Plan	TrueCommand - 1000 Drive Cloud Service
Plan State	active
Plan Pricing	\$199.99 / Month

### Service Controls

Modify Subnet

Request Support

No clients found

### Create Access Client

Nickname

Add

### Service Administration

Your plan will automatically renew on 2020-10-25.


Edit Billing Information

Cancel Subscription

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When the client account is created, click  to download the configuration file.


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Account Services

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### Service Details

**Address** 172.28.0.1 

**API Key**   

**Instance Status** healthy

**Plan** TrueCommand - 1000 Drive Cloud Service

**Plan State** active

**Plan Pricing** \$199.99 / Month





### Service Controls

[Modify Subnet](#)

[Request Support](#)



### WireGuard Client Access

Show  entries Search:

	Nickname	Date Added	Approved	
<input type="checkbox"/>	 Ops-Workstation 	Sep-25-2020 15:24	Yes	 

Showing 1 to 1 of 1 entries Previous  Next

[Select All](#) [Clear Selection](#)

[Approve Selected](#)  [Delete Selected](#) 

### Create Access Client

[Add](#)

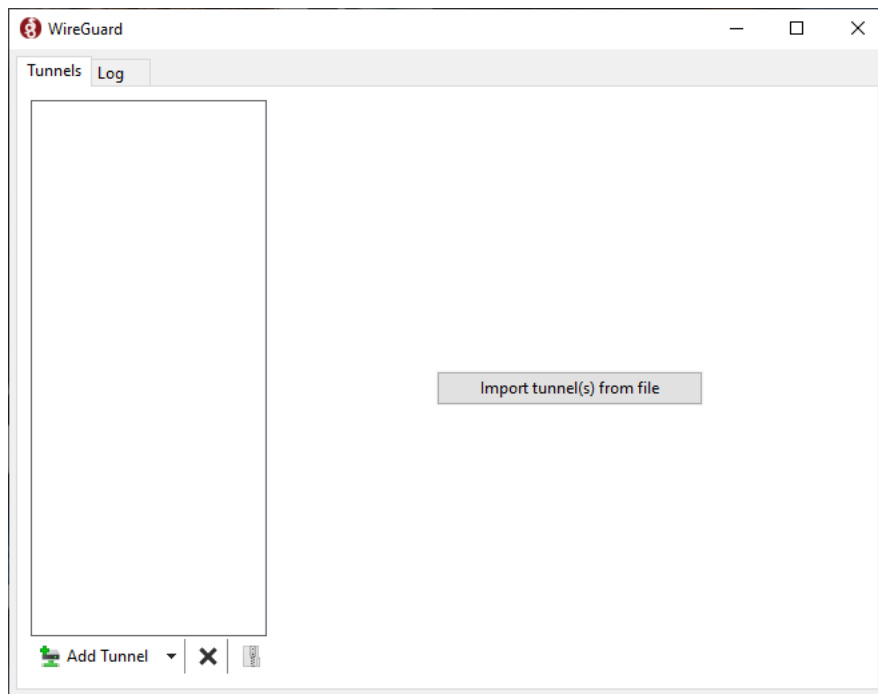
### Service Administration

Your plan will automatically renew on 2020-10-25.

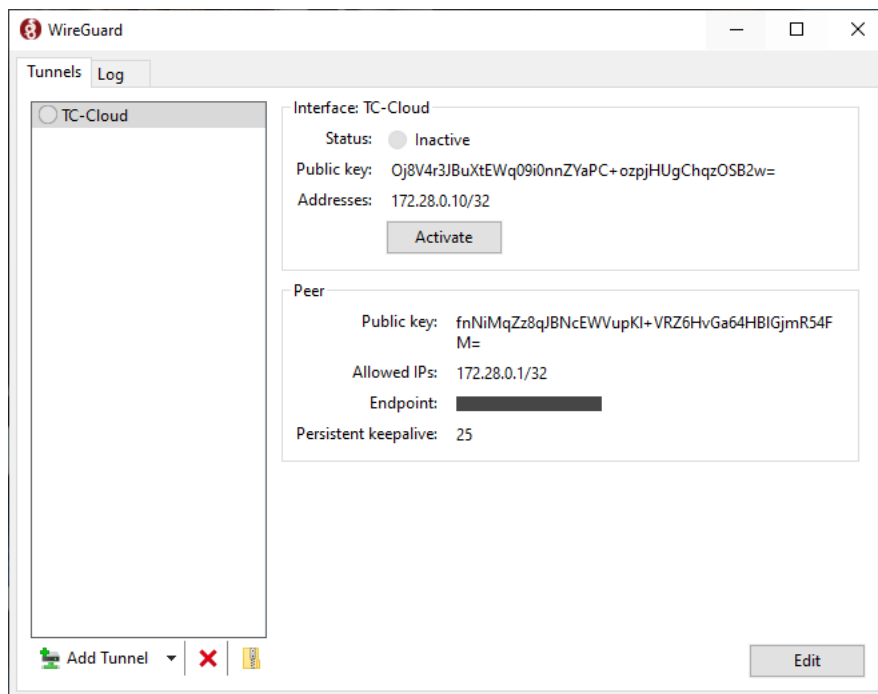
[Edit Billing Information](#) [Cancel Subscription](#)

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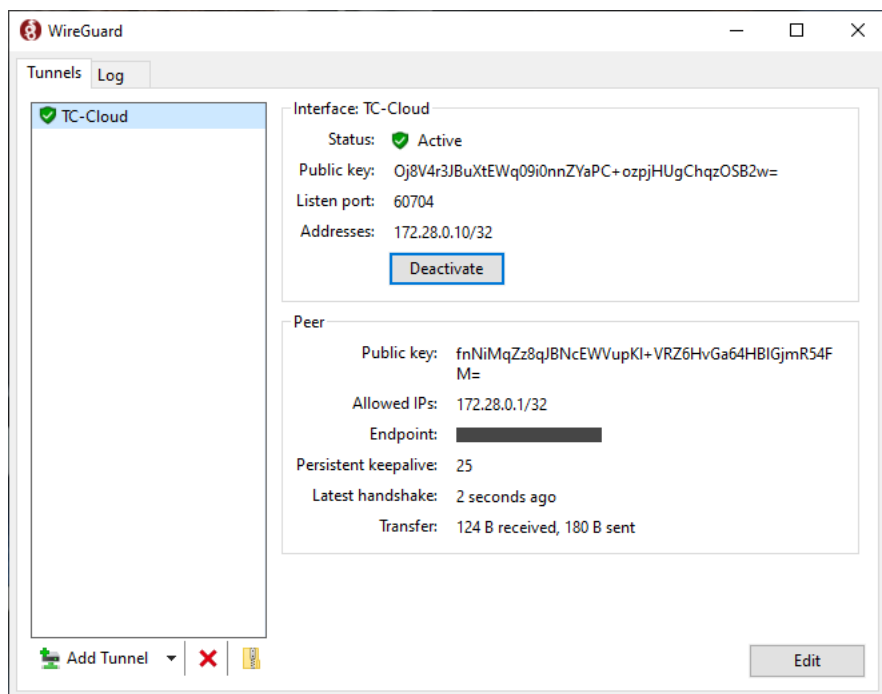
Open Wireguard on your machine and click *Add Tunnel*.



Select the TrueCommand WireGuard Configuration file that was downloaded from the portal. the configuration file into WireGuard on your machine and activate the tunnel.



Click *Activate* to initialize the Wireguard tunnel.




Further information on WireGuard and WireGuard clients is found on the [WireGuard home page](#). The TrueCommand Cloud IP address displays in the iXsystems Account Portal page.

After WireGuard is active, log in to the TrueCommand Cloud Interface by clicking the TrueCommand IP address listed on the portal, or manually entering the TrueCommand Cloud IP in a browser.

## Connecting Systems to a TrueCommand Cloud Instance

Log into the iXsystems cloud account and click *Manage*. Under **Service Details**, copy the *TrueCommand API Key*.

[iXsystems](#) [TrueNAS](#) [FreeNAS](#) [TrueCommand](#) [iX Community](#)




# iXsystems™

## Account Services

[Back](#)

### Service Details

**Address** 172.28.0.1

**API Key**  `XC7YwCjQa9C6r1p8`

**Instance Status** healthy

**Plan** TrueCommand - 1000 Drive Cloud Service

**Plan State** active

**Plan Pricing** \$199.99 / Month

### Service Controls




[Modify Subnet](#)

[Request Support](#)

### WireGuard Client Access

Show  entries

Search:

	Nickname	Date Added	Approved	
<input type="checkbox"/>	 Ops-Workstation	Sep-25-2020 15:24	Yes	 

Showing 1 to 1 of 1 entries

Previous  Next

[Select All](#) [Clear Selection](#)

[Approve Selected](#) [Delete Selected](#)

### Create Access Client

[Add](#)

### Service Administration

Your plan will automatically renew on 2020-10-25.

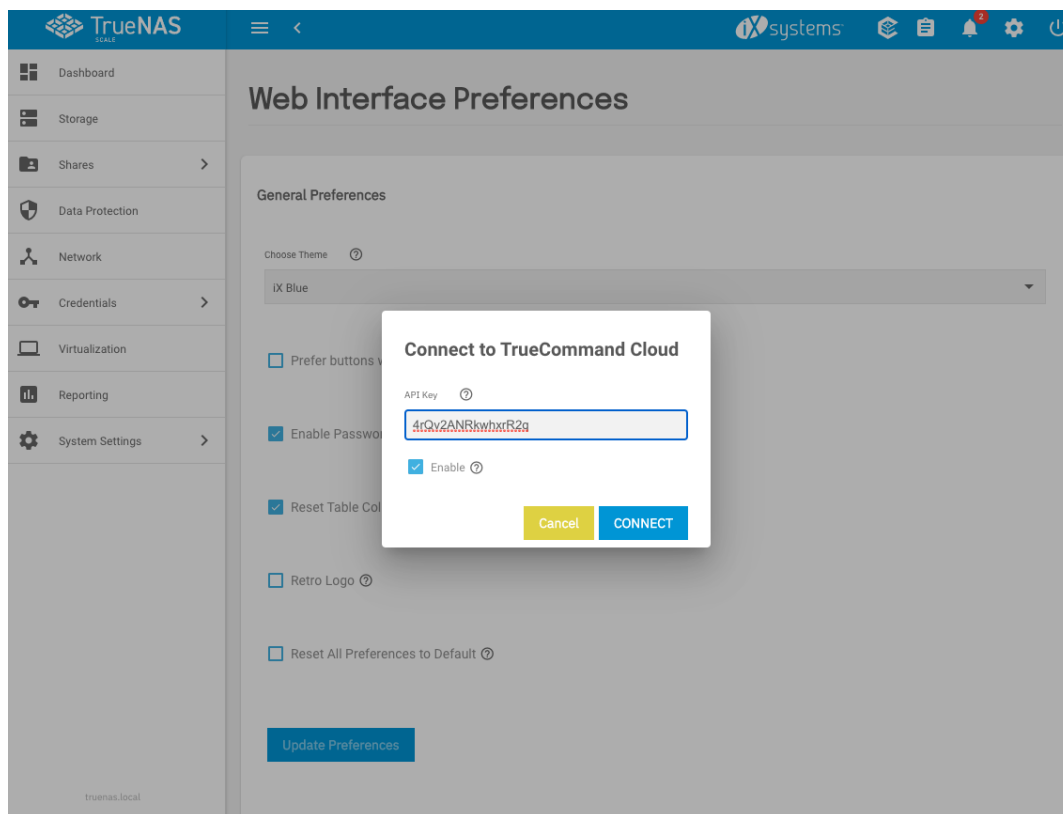
[Edit Billing Information](#) [Cancel Subscription](#)

By using this site you agree to the [iXsystems EULA](#) and [Privacy Policy](#)

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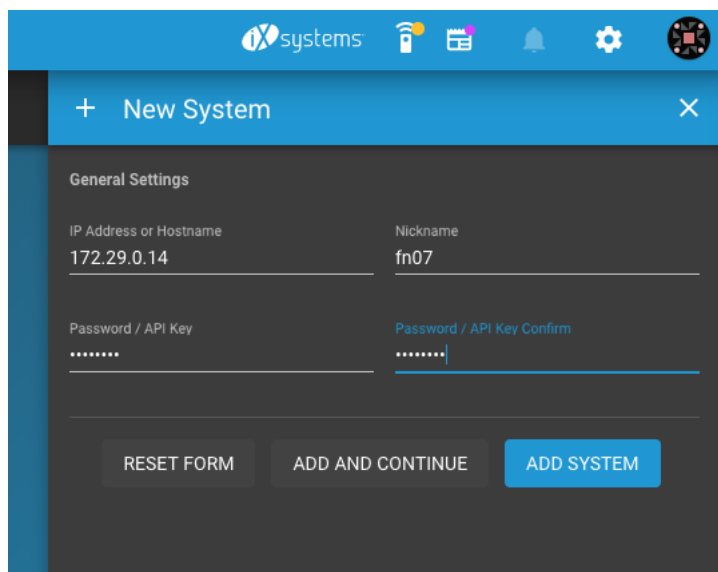
Log into a TrueNAS system and click the TrueCommand icon in the upper right.

Paste the TrueCommand API Key copied from the iXsystems Account Portal into the TrueNAS dialog window.



When the True Command logo starts moving, check the TrueCommand Cloud email address for a verification message. The email contains a link to the Portal to confirm the connection and activate the TrueNAS system.

Click on the **New System** alert, fill in the information from the TrueNAS system, and click *Add System*.



It can take 10 to 15 minutes for the TrueNAS instance to fully sync up with TrueCommand Cloud. When all systems are connected to TrueCommand Cloud, refer to the [TrueCommand Administration articles](#) for more instructions about setting up configuration backups, alerts, reports, and role-based access control.

## Docker (Linux)

### Installing the TrueCommand Container

Docker Desktop for Windows uses Hyper-V. This interferes with other virtualization applications. For example, Docker Desktop and VMware Workstation Player cannot simultaneously run.

Before fetching the TrueCommand docker image, create a local directory. Enter `mkdir {DIRECTORY}`, where `{DIRECTORY}` is the new name.

After creating the new directory, fetch and run the TrueCommand Docker image. Open a Command Line Interface (CLI) and enter `docker run --detach -v "{HOSTDIR}:/data" -p {PORT}:80 -p {SSL}:443 ixsystems/truecommand:latest. {HOSTDIR}` is a directory on the

host machine for Docker container data, `{PORT}` is the TrueCommand web interface port number, and `{SSL}` port number for secure web interface access.

To install the container with an earlier TrueCommand release, replace `latest` with the desired TrueCommand version tag:

```
docker run --detach -v "/DockerDir:/data" -p 9004:80 -p 9005:443 ixsystems/truecommand:1.3.2
```

Use [Windows compatible syntax](#) when specifying paths in the Windows file system. For example, if the created directory for the TrueCommand image was created in the Windows Documents folder, the `docker` command would be: `docker run --detach -v C:\Users\Example\Documents\DockerDir`. In this command `C` is the drive letter, `Example` is the current user name, and `DockerDir` is the TrueCommand image directory.

Although there are different ways to run a Docker container, `-v /*hostdirectory*/:/data` is required for TrueCommand to function.

Do not try to use the same `hostdirectory` for two different containers! This results in file conflicts and database corruption.

## Accessing the TrueCommand Web Interface

After fetching the TrueCommand Docker container, enter `docker ps` to see details about running containers.

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
q8d29ecbfde	ixsystems/truecommand	"/start.sh"	3 hours ago	Up 3 hours	0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp	

Use the port assigned to the container to access the web interface. The list from `docker ps` contains a `PORTS` column. Find the port associated with the `ixsystems/truecommand:latest` `IMAGE`. The `PORTS` entry is listed as `0.0.0.0:port->80/tcp, 0.0.0.0:sslport->443/tcp` where `port` and `sslport` are the ports specified earlier.

To access the web interface with no encryption, enter `hostsystemIPAddress:port` in a browser address bar, where `hostsystemIPAddress` is the IP address of the host system that is running the TrueCommand Docker container. To access the web interface with standard SSL encryption, enter `https://hostsystemIPAddress:sslport` in a browser address bar.

### The connection can't be established?

When a connection to the web interface cannot be established, add the container ports as an exception to the host system firewall.

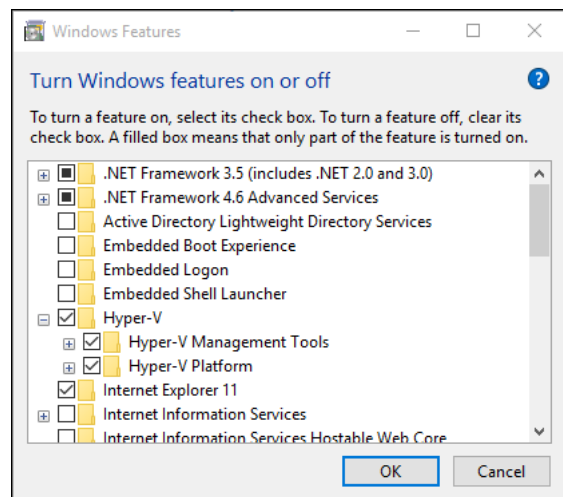
## Docker Desktop (Windows)

The requirements to run TrueCommand in Docker Desktop for Windows are:

- Windows 10 Enterprise, Pro, or Education editions.
- 64-bit Processor with Second Level Address Translation (SLAT).
- CPU support for VM Monitor Mode Extension (VT-c on Intel CPUs).
- Hyper-V is enabled in Windows 10.
- 4 GB memory at minimum.
- [Docker Desktop](#) needs to be installed in Windows.

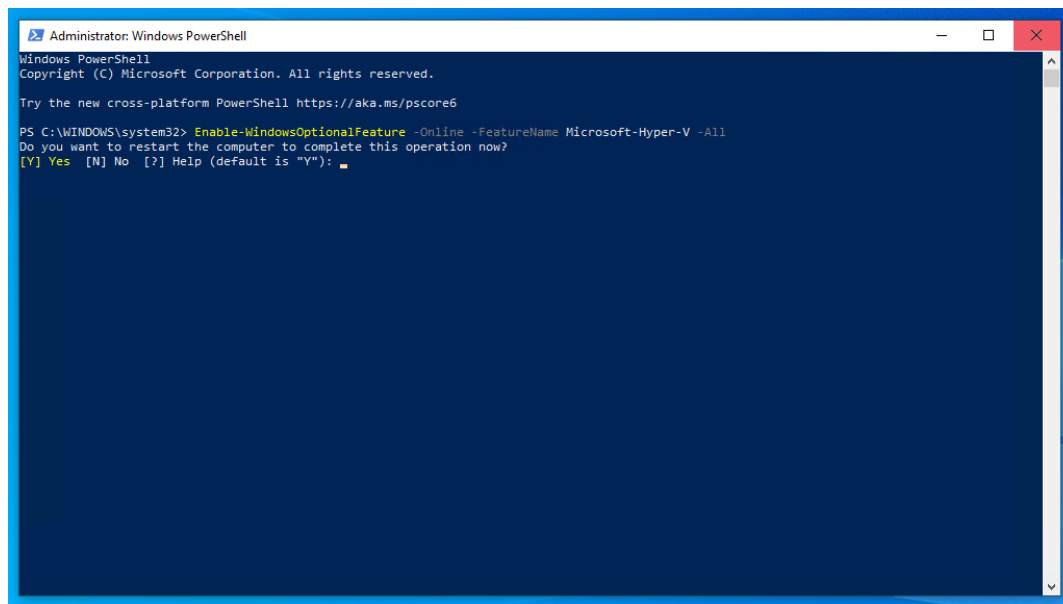
## Enable Hyper-V

To enable Hyper-V, click on Windows Start button and select or search for *Apps & Features*. Select *Programs and Features* under **Related settings** and *Turn Windows Features on or off* (Administrator action). Set the Hyper-V option and click *Ok*. You will need to restart your computer for the change to take effect.



Alternatively, Hyper-V can be enabled with the **Powershell**. To do this, run Powershell as a Windows Administrator and enter `Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All`. If an error is returned that says the command could not be found, verify that you are running PowerShell as the Administrator. After the command successfully runs, reboot the computer.






```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All
Do you want to restart the computer to complete this operation now?
[Y] Yes [N] No [?] Help (default is "Y"):
```

## Install Docker Desktop

Open Docker Hub and click [Get Docker](#).



### Docker Desktop for Windows

By [Docker](#)

The fastest and easiest way to get started with Docker on Windows


Edition Windows x86-64

#### Get Docker Desktop for Windows

Docker Desktop for Windows is available for free.

Requires Microsoft Windows 10 Professional or Enterprise 64-bit, or Windows 10 Home 64-bit with WSL 2.

By downloading this, you agree to the terms of the [Docker Software End User License Agreement](#) and the [Docker Data Processing Agreement \(DDPA\)](#).

 [Get Docker](#)

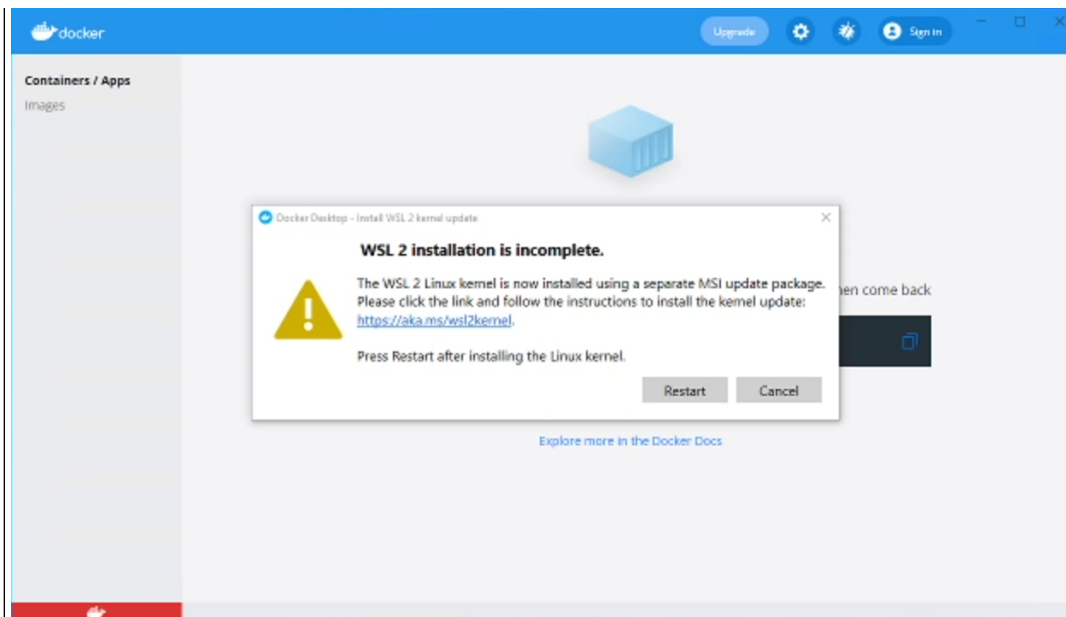
Run the installer after the download completes. When the installer is finished, reboot the system.

### Different Admin accounts? ⓘ

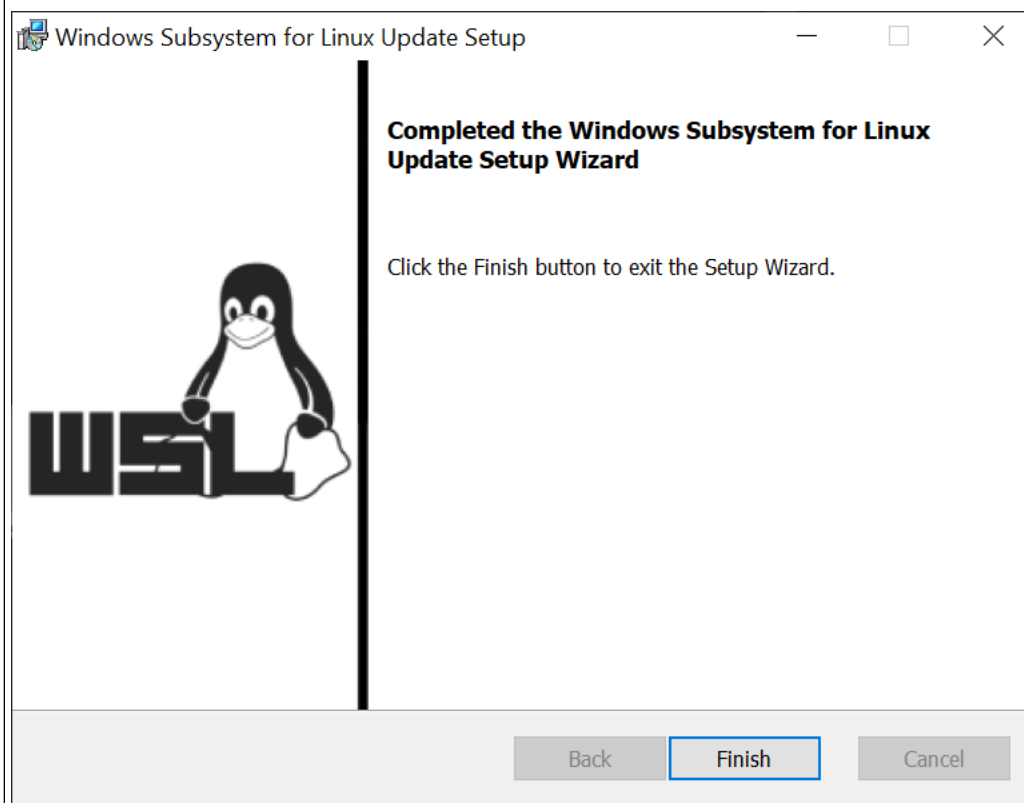
If the admin account is different from your Windows user account, the user must be added to the `docker-users` group. Run *Computer Management* as an administrator and go to **Local Users and Groups > Groups > docker-users** to add the user to the group. Changes take effect after logging out and back in.

### WSL 2 Install Incomplete? ⓘ

If this error message appears after rebooting, install the Linux Kernel Update Package:

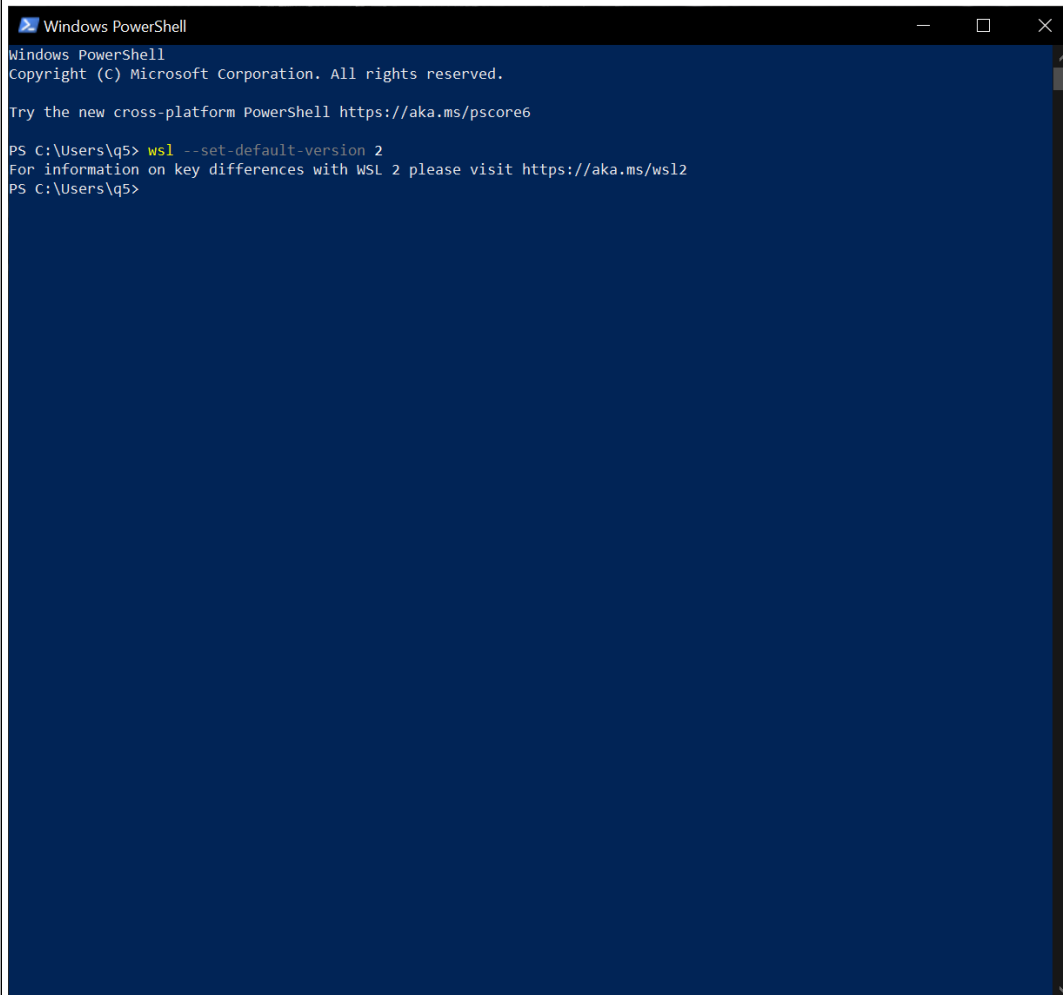


The update package is downloaded from a [Windows storage location](https://aka.ms/wsl2kernel).



Microsoft has additional documentation available for assistance with [downloading the Linux kernel update](https://aka.ms/wsl2kernel).

After installing the kernel update, set the WSL default version to version 2 by opening the Powershell and entering `wsl --set-default-version 2`.



```
Windows PowerShell
Copyright (c) Microsoft Corporation. All rights reserved.

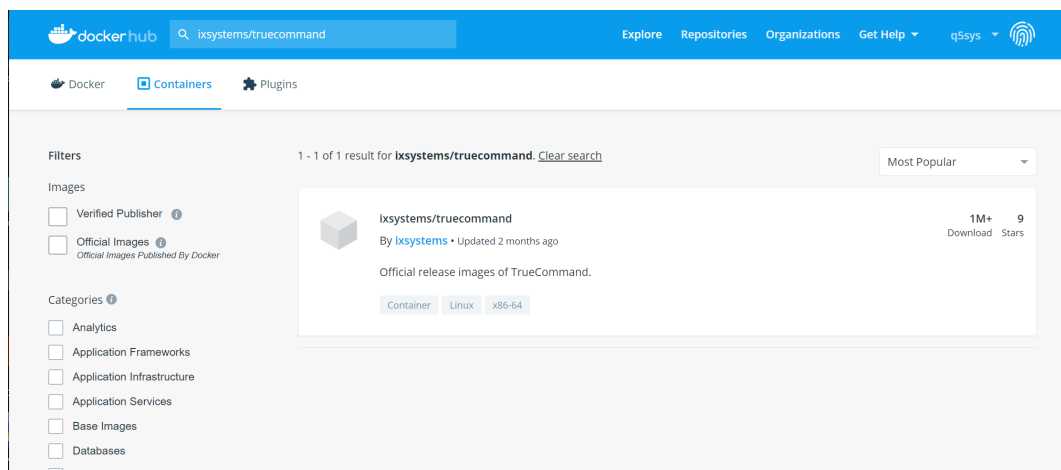
Try the new cross-platform PowerShell https://aka.ms/pscore6

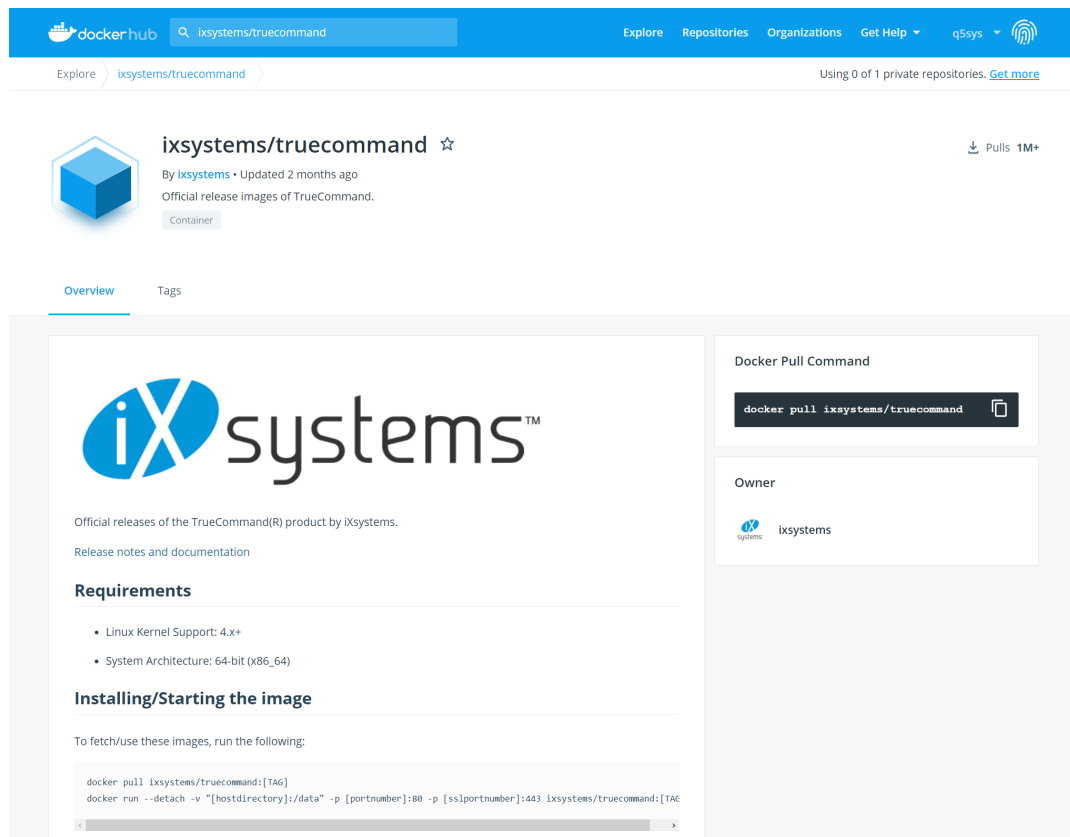
PS C:\Users\q5> wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
PS C:\Users\q5>
```

The system must be rebooted after changing the default version.

## Installing the TrueCommand Docker Container


Open the [Docker Hub](https://hub.docker.com/u/ixsystems/truecommand) in a browser and search for `ixsystems/truecommand`.





dockerhub


Explore [ixsystems/truecommand](#) Using 0 of 1 private repositories. [Get more](#)

 **ixsystems/truecommand** ☆

By [ixsystems](#) • Updated 2 months ago  
Official release images of TrueCommand.

Container

Overview Tags

 **ixsystems™**

Official releases of the TrueCommand(R) product by ixsystems.  
[Release notes and documentation](#)

**Requirements**

- Linux Kernel Support: 4.x+
- System Architecture: 64-bit (x86\_64)

**Installing/Starting the image**


To fetch/use these images, run the following:

```
docker pull ixsystems/truecommand:[TAG]
docker run --detach -v "[hostdirectory]:/data" -p [portnumber]:80 -p [sslportnumber]:443 ixsystems/truecommand:[TAG]
```

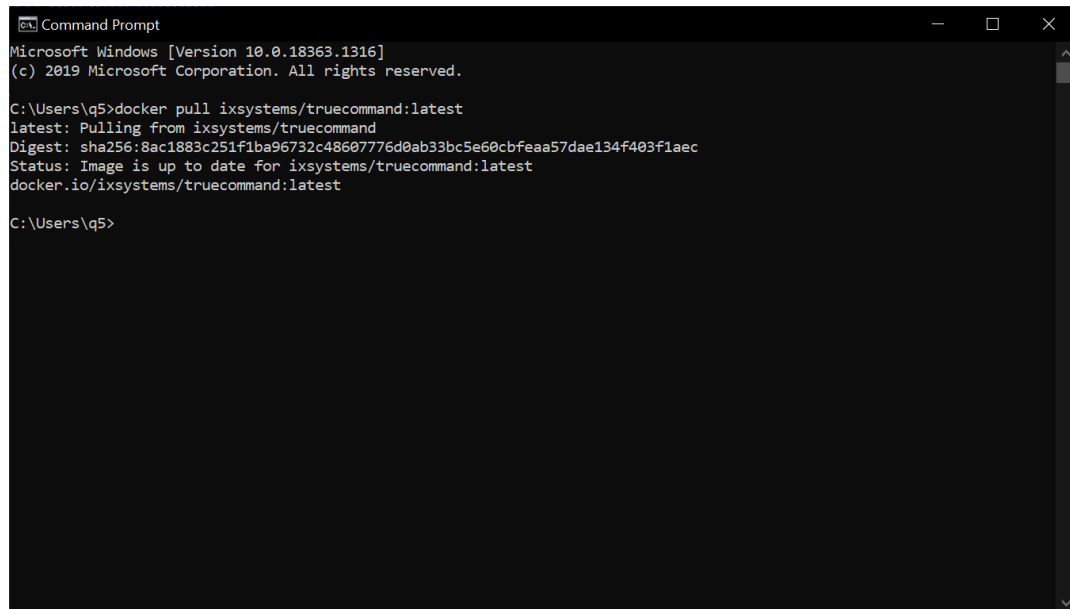
**Docker Pull Command**

```
docker pull ixsystems/truecommand
```

**Owner**

 **ixsystems**

Verify the pull command required and run it from a command line. Example: `docker pull ixsystems/truecommand:latest`.

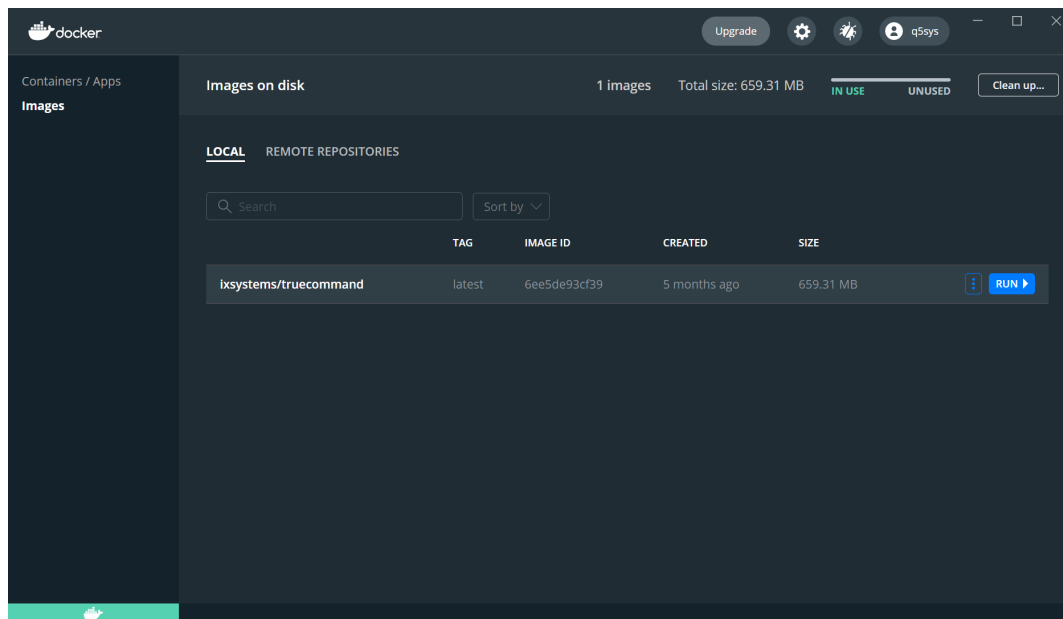


```
Command Prompt
Microsoft Windows [Version 10.0.18363.1316]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\q5>docker pull ixsystems/truecommand:latest
latest: Pulling from ixsystems/truecommand
Digest: sha256:8ac1883c251f1ba96732c48607776d0ab33bc5e60cbfeaa57dae134f403f1aec
Status: Image is up to date for ixsystems/truecommand:latest
docker.io/ixsystems/truecommand:latest

C:\Users\q5>
```

When the container is downloaded, open the Docker Desktop and select *Images*. Hover over the *ixsystems/truecommand* entry to show the **Run** button, then click it.

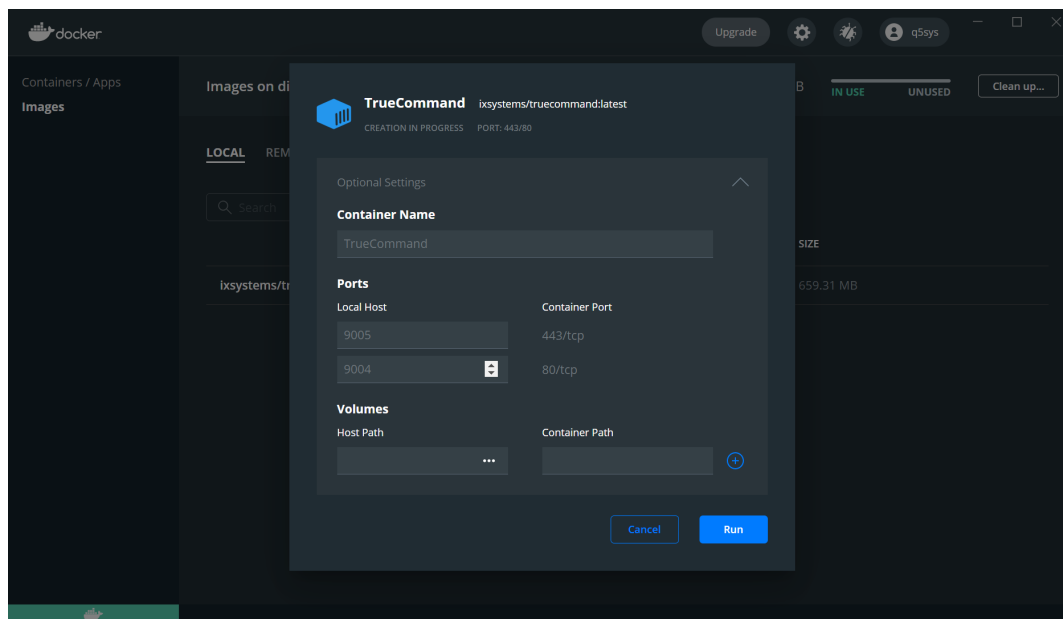


Open the *Optional Settings* drop down menu, name the container, and set the following port values. Investigate your network environment or check with your IT department to ensure that these ports will not conflict with any other running services.

- Local Host Port: 9005
- Container Port 443

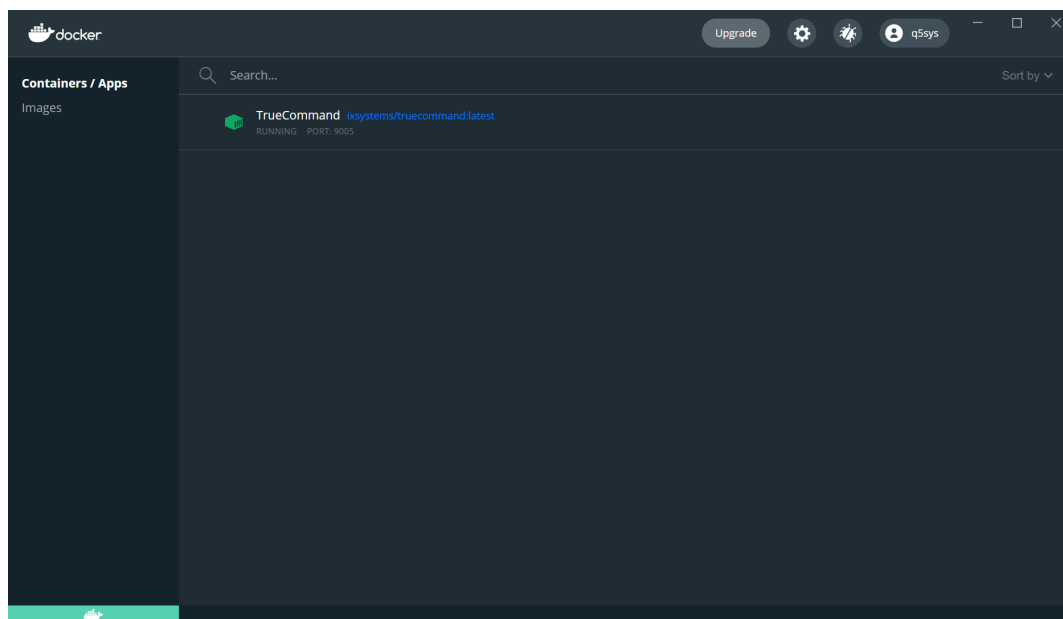
Click the + sign to add a second set of ports.

- Local Host Port 9004
- Container Port 80/tcp



Setting the **Volume** is not usually required for TrueCommand. Click *RUN* after configuring the settings.

When Docker Desktop shows the container status as **RUNNING**, open a new browser tab and go to <https://127.0.0.1:9005>.



### Virtual Machine

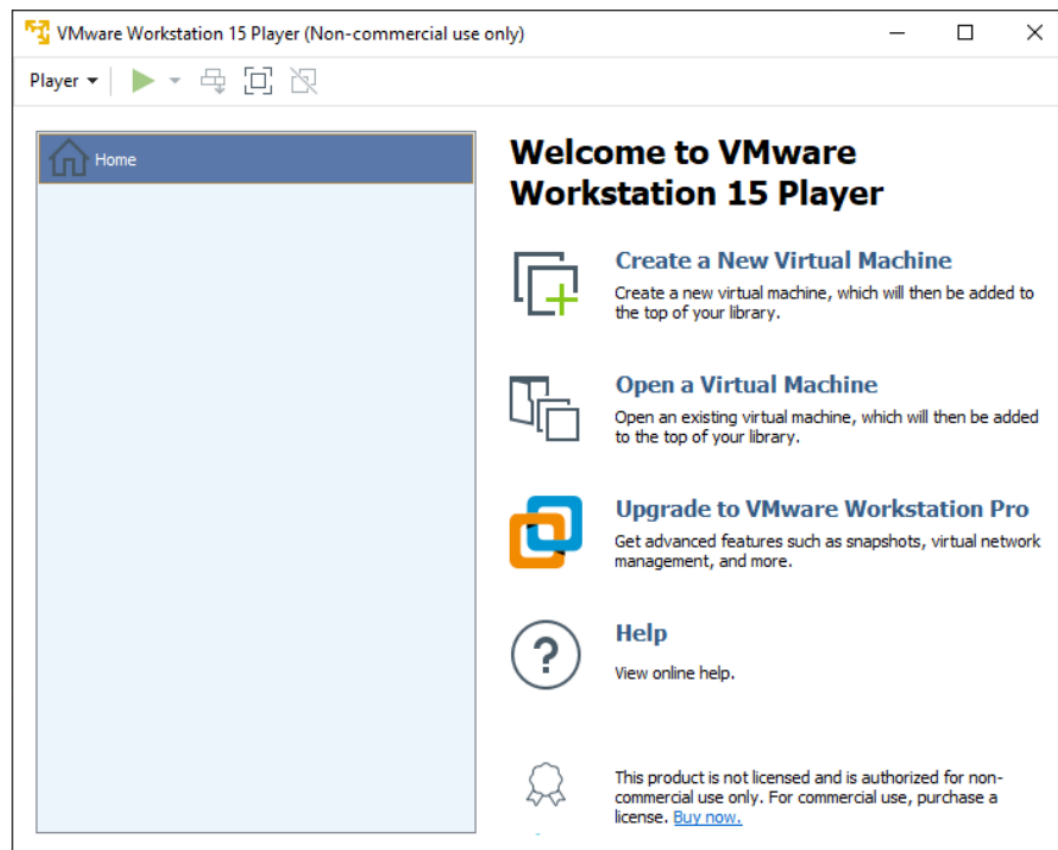
TrueCommand has both VMDK and VHDX files for virtual machine installs available from <https://pkg.truecommand.io/>. Most virtual machine applications, including VMware and VirtualBox, support TrueCommand VMDK files. Hyper-V users should use a TrueCommand VHDX file.

These are the minimum specifications for a TrueCommand virtual machine:

- RAM: at least 2GB
- Storage: at least 20GB
- CPU: at least 2 cores
- Network: Use NAT, Bridged, or Host-only depending on your host networking configuration.

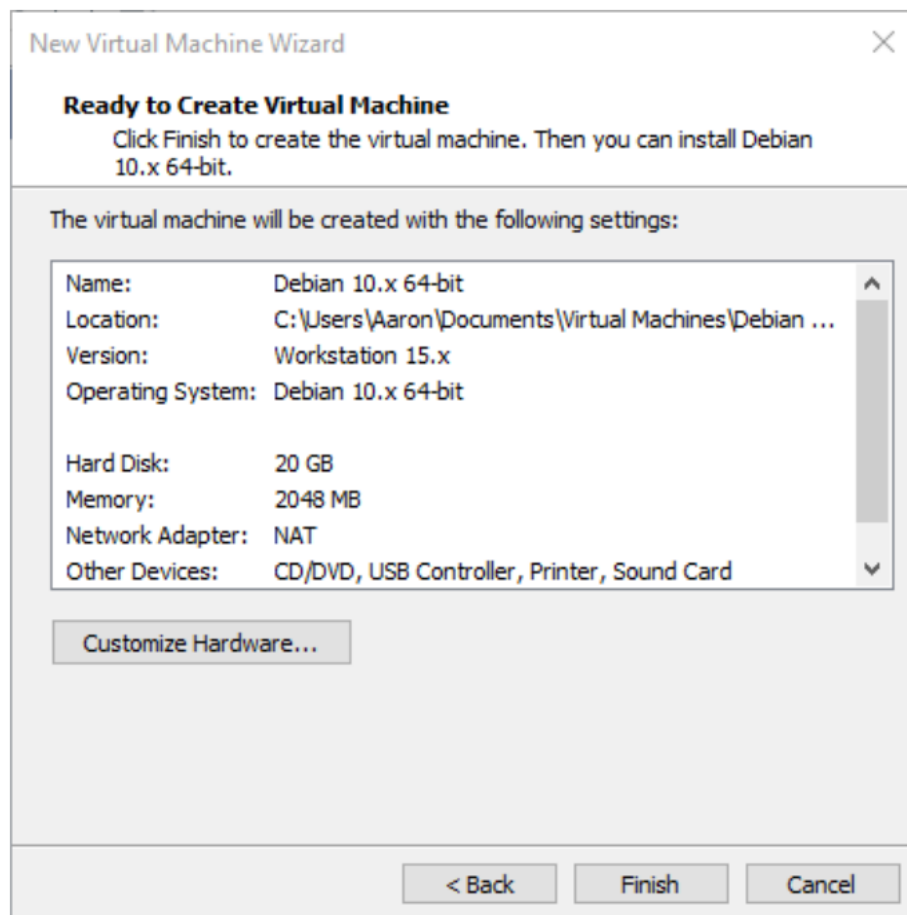
After downloading the appropriate TrueCommand file, extract the TrueCommand VMDK or VHDX file to a location on your system that is accessible by your virtual machine application. Launch your virtual machine application. In this example, VMware Workstation Player on Windows is being used.

When VMware Player is open, click **Create a New Virtual Machine**.

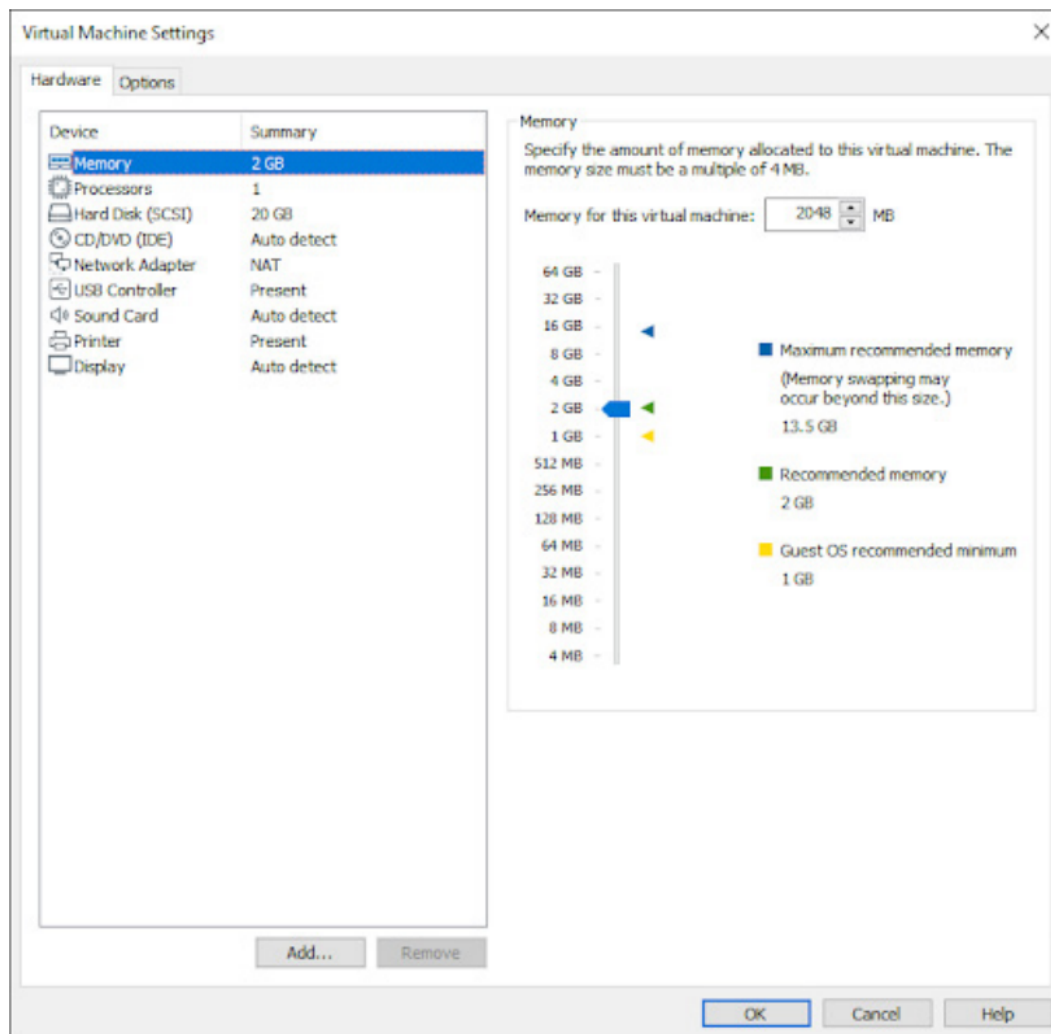


Select *I will install the operating system later* and click *Next*. Select *Linux* as the guest operating system and *Debian 10.x 64-bit* as the version. Click *Next*.

The virtual machine can be given a name and the location can be selected. To keep the default values, click *Next*. Enter the maximum size of the disk to be used for storage and set *Store virtual disk as a single file*. The recommended disk size is at least 20GB. Click *Next*. Review the settings for the virtual machine and click *Finish*.



Now that the virtual machine is created, we need to add our TrueCommand virtual image to the machine. Select the virtual machine from the list and click *Edit virtual machine settings*.



Next, click *Add...*. The TrueCommand file downloaded earlier is a virtual hard disk. Select *Hard Disk* from the list of options and click *Next*. Select *SCSI* and click *Next*. Ensure that *Use an existing virtual disk* is set and click *Next*.

It then prompts to select an existing virtual disk from the host system. Click *Browse...* and select the TrueCommand virtual disk (.vmdk file) that was downloaded earlier. Click *Finish*. If VMware player prompts to convert the virtual disk to a new format, click *Keep Existing Format*.

The final step is to remove the initial hard disk that was created when the virtual machine was created. Select the virtual machine from the list and click *Edit virtual machine settings*. Select the first hard disk and click *Remove*.

The TrueCommand virtual machine is now ready to be used. To boot the TrueCommand virtual machine, select it from the list of virtual machines and click *Play virtual machine*.

## Adding Browser Security Exceptions

TrueCommand uses a [self signed certificate](#) for a secure connection. Because of this, many Internet browsers consider the IP address or DNS hostname untrustworthy. In these cases, the IP address or DNS hostname must be added as an exception to the browser to access the web interface. The process of adding an exception is shown here for two different browsers, but the procedure is similar for most browsers.

### Chrome

Click *Advanced* to view information about the error code. Click *Proceed to {hostname} (unsafe)*.





### Your connection is not private

Attackers might be trying to steal your information from [redacted] (for example, passwords, messages, or credit cards). [Learn more](#)

NET:ERR\_CERT\_AUTHORITY\_INVALID

Hide advanced

Back to safety

This server could not prove that it is [redacted]; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

Proceed to [redacted] (unsafe)

## Firefox

Click *Advanced* to view information about the error code.



### Your connection is not secure

The owner of [redacted] has configured their website improperly. To protect your information from being stolen, Firefox has not connected to this website.

[Learn more...](#)

☐ Report errors like this to help Mozilla identify and block malicious sites

Go Back

Advanced

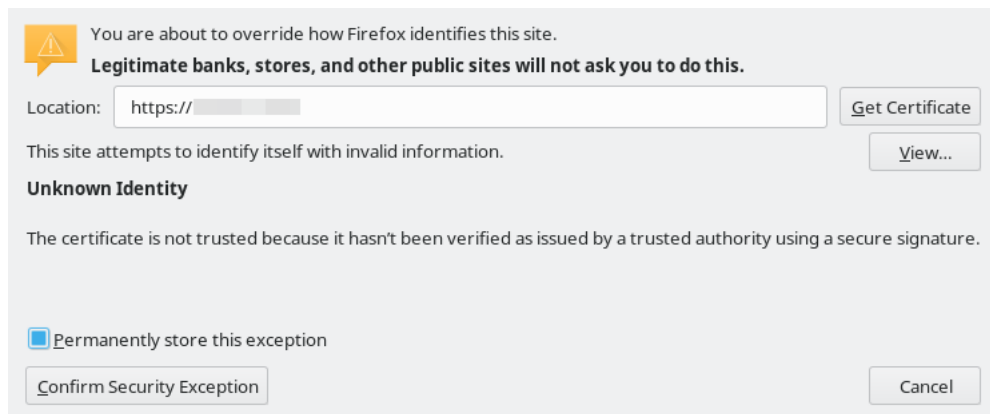
[redacted] uses an invalid security certificate.

The certificate is not trusted because it is self-signed.

Error code: [MOZILLA\\_PKIX\\_ERROR\\_SELF\\_SIGNED\\_CERT](#)

Add Exception...

Click *Add Exception*.... Set *Permanently store this exception* to keep the IP address or DNS hostname permanently stored in Firefox. Click *Confirm Security Exception*.

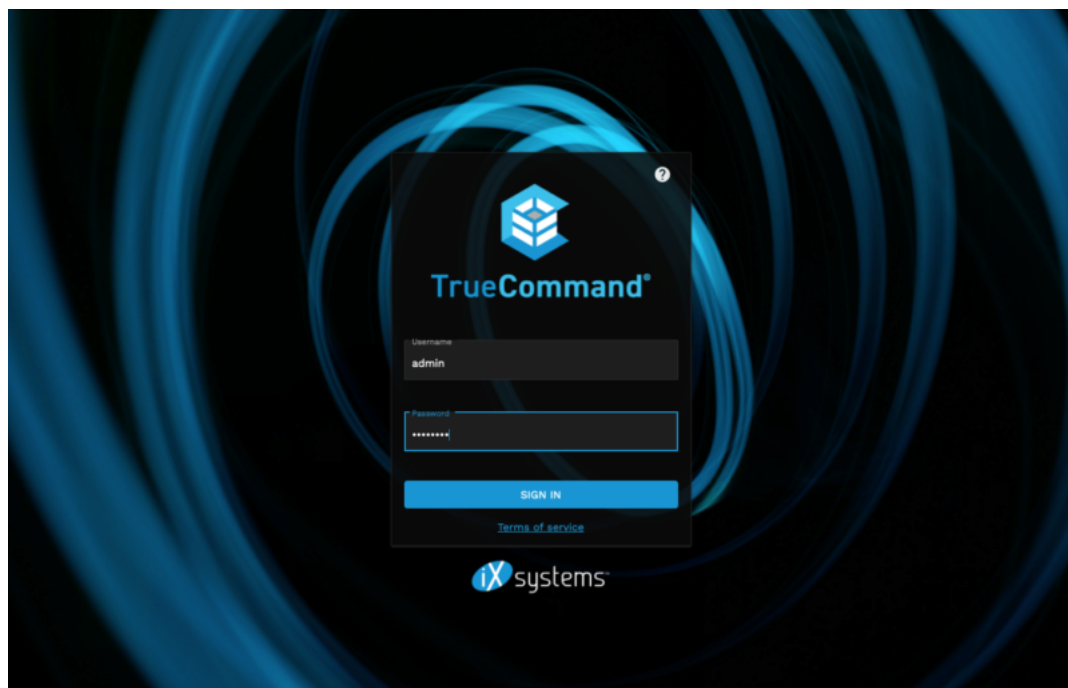


## Creating the Administrator Account

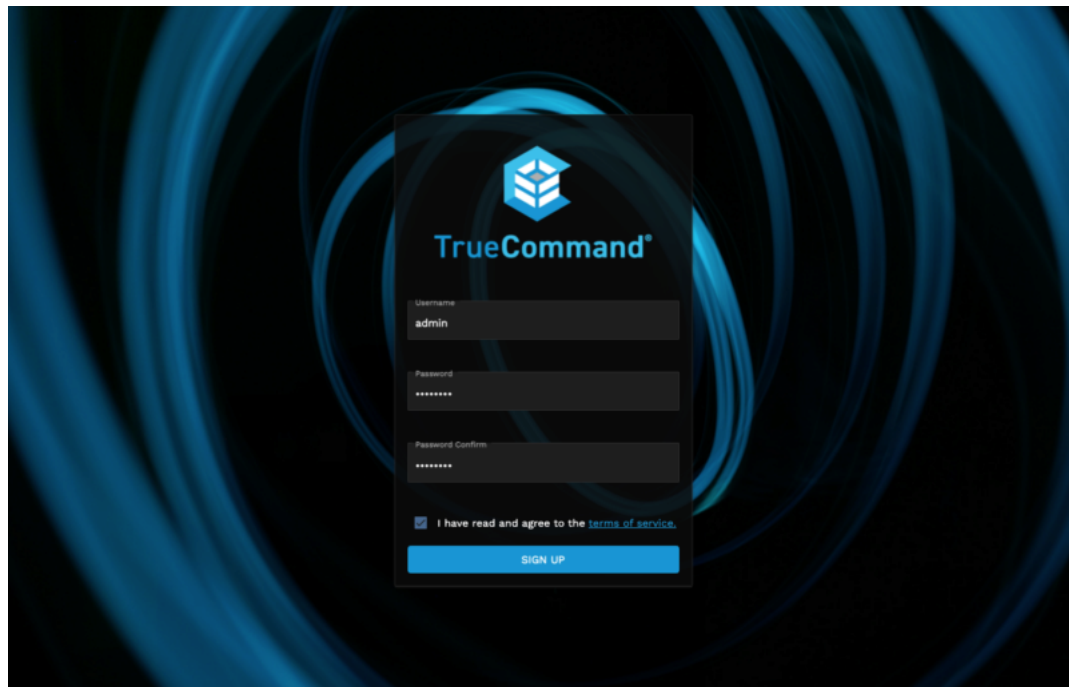
When accessing the interface for the first time, or when there aren't any users in the TrueCommand database, default credentials are available. However, an administrator account is required for subsequent logins.

Follow these steps to create a new admin user:

- Log in using the default username (*admin*) and password (*admin*).



- Enter a username and password. Read the Terms of Service, set *I have read and agree to the terms of service*, and click **SIGN UP**.



- The default login credentials are disabled and you can now log in to the TrueCommand web interface with the new administrator account credentials.

## 3.2 - Update Docker

Updating TrueCommand installed in a Docker container requires stopping the existing container, obtaining the latest software image from the `ixsystems/truecommand` hub, and starting an updated container using the preexisting TrueCommand storage volume.

This article shows how to do this using the command line, but different container management applications can be used to accomplish the same task. Log in to the Docker host system for the container update process.

On Linux systems, `docker` commands need to be run as the `root` account. You might need to add `sudo` in front of the example command to run the command as `root`: `sudo docker image pull ixsystems/truecommand`.

To view all active containers, enter `docker ps`:

```
joe@joe-minty:~$ sudo docker ps
[sudo] password for joe:
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
d595961d9024       ixsystems/truecommand:latest  "/start.sh"        15 minutes ago      Up 15 minutes      443/tcp, 0.0.0.0:8080-
```

For the rest of the examples in this article, we'll be referring to `TrueCmd_contained` for the container name. Be sure to replace this with your TrueCommand container name.

You will also need to note the path to the volume that the container uses for your TrueCommand configuration. You'll need to use this volume when starting the updated Docker container to continue using your existing TrueCommand configuration.

### Docker Container Commands

There are a few general Docker commands to remember when interacting with a TrueCommand container:

To start or stop the TrueCommand container, enter `docker start <container name>` or `docker stop <container name>` on the Docker host system.

To have the container automatically start when the Docker host system boots, ensure that the Docker daemon is configured to run at system boot and add the `--restart` flag to the initial `docker run` command:

```
docker run --name=<the name to call the container> -v"<local directory>:/data" -p <host port>:80 sslport <host port>:443 --detach --restart ix
```

For a full history of every container that the host has run, use `docker ps -a`:

```
joe@joe-minty:~$ sudo docker ps -a
[sudo] password for joe:
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
d595961d9024       ixsystems/truecommand:latest  "/start.sh"        15 minutes ago      Up 15 minutes      443/tcp, 0.0.0.0:8080-
214a0275a216       phpmyadmin/phpmyadmin  "/docker-entrypoint..."  7 weeks ago        Exited (0) 11 days ago
0a68db912cce       phpwork             "docker-php-entrypoi..."  4 months ago        Exited (0) 11 days ago
d0ae8d0a839f       mysql:5.7           "docker-entrypoint.s..."  4 months ago        Exited (0) 11 days ago
```

### Update Process

To update, download the latest TrueCommand image and remove the existing TrueCommand container. Then restart the container using the latest TrueCommand image and preexisting TrueCommand storage volume.

To remove the existing container, enter `docker rm TrueCmd_contained`. Now run `docker image pull ixsystems/truecommand`. By default, the latest image of TrueCommand is pulled to the Docker host. Start a new container that uses the new image, but make sure to use the preexisting volume that was being used for the original TrueCommand container:

```
docker run --name <the name to call the container> -v "<local host directory>:/data" -p <host port>:80 sslport <host port>:443 --detach ixsystem
```

Example without https:

```
sudo docker run --name TrueCmd_contained -v "/home/joe/Documents/TrueCommandContainer:/data" -p 8080:80 -d ixsystems/truecommand:latest
```

When the container is created, Docker will use the image previously downloaded with `docker pull`. A page refresh might be required to view the changes, but previous settings and systems remain available due to the volume reference.

### 3.3 - Migrate Legacy to 1.2+

Starting with TrueCommand 1.2, TrueCommand is built and offered as a Docker container to drastically reduce system overhead and simplify TrueCommand updates. Migrating data can be done before or after installing the Docker container version of TrueCommand. The procedure is similar in both situations, with just a couple extra steps when the Docker container version of TrueCommand is already installed.

#### Process Summary

- Preparing an existing container
  - Turn off the container
  - Wipe the container database
- Migrating a previous TrueCommand Configuration
  - Find/Create local system directory to store TrueCommand Docker container data
  - Copy existing TrueCommand configuration files to new directory
  - Transform ixdb database into ixdb.sql and move .sql into container database directory

#### Preparing an Existing Container for Migration

Migrating the configuration from a previous version of TrueCommand will overwrite any existing configuration! Migrating the configuration before installing the Docker container is recommended, or as soon as possible after installing to prevent making and then losing any new configuration settings.

Migrating a previous configuration into an existing TrueCommand Docker container installation requires wiping the existing database from the container and replacing with the ixdb.sql database from the previous version of TrueCommand. Make sure the container is turned off. Open the directory you specified to use for managing the container and find the ixdb directory. Remove all existing files from this directory. The container is ready for data migration from the previous version of TrueCommand.

Follow the steps in the next section to transfer the certificate, license, and database files into the existing container configuration directory.

#### Migrating a Previous TrueCommand Configuration

To move an existing TrueCommand 1.1 or earlier configuration to a Docker container version, follow these migration steps:

1. Create a local system directory for Docker container data. This step is only needed when the Docker container version of TrueCommand is **not** already installed. This directory will contain all the TrueCommand docker container data, including configuration files. For the rest of these instructions, this directory will be referred to as localhostdirectory/. When the Docker container is already installed, find the existing localhostdirectory/ you specified during container installation.
2. Find and copy any existing TrueCommand 1.1 or earlier configuration files to the new localhostdirectory/. Using a command like ssh or rsync is recommended. The Docker container will read these files and apply the existing configuration to the container when it is installed. The table lists the default location and required destination for all the different configuration files TrueCommand 1.1 or earlier can create. Only files that already exist need to be copied to the new TrueCommand localhostdirectory/.

Files from TrueCommand 1.1 and earlier	Copy destination in local host directory	Description
`usr/local/etc/truecommand/server.[crt	key].custom`	localhostdirectory/truecommand/
/var/nas-db-backup	localhostdirectory/	Directory tree of NAS configuration backups.
/var/db/.tv_license.sha512	localhostdirectory/	License and signature for the license.

3. For the TrueCommand 1.1 /var/db/ixdb/ database, use pg\_dump ixdb > ixdb.sql to transform the database into a single .sql file. Then move ixdb.sql to the localhostdirectory/ for the TrueCommand Docker container.

You're now ready to install or start the TrueCommand Docker container. Be sure to specify the localhostdirectory/ during container installation for TrueCommand to load the migrated data.

## 4 - Administration

Initial configuration and general administration articles.

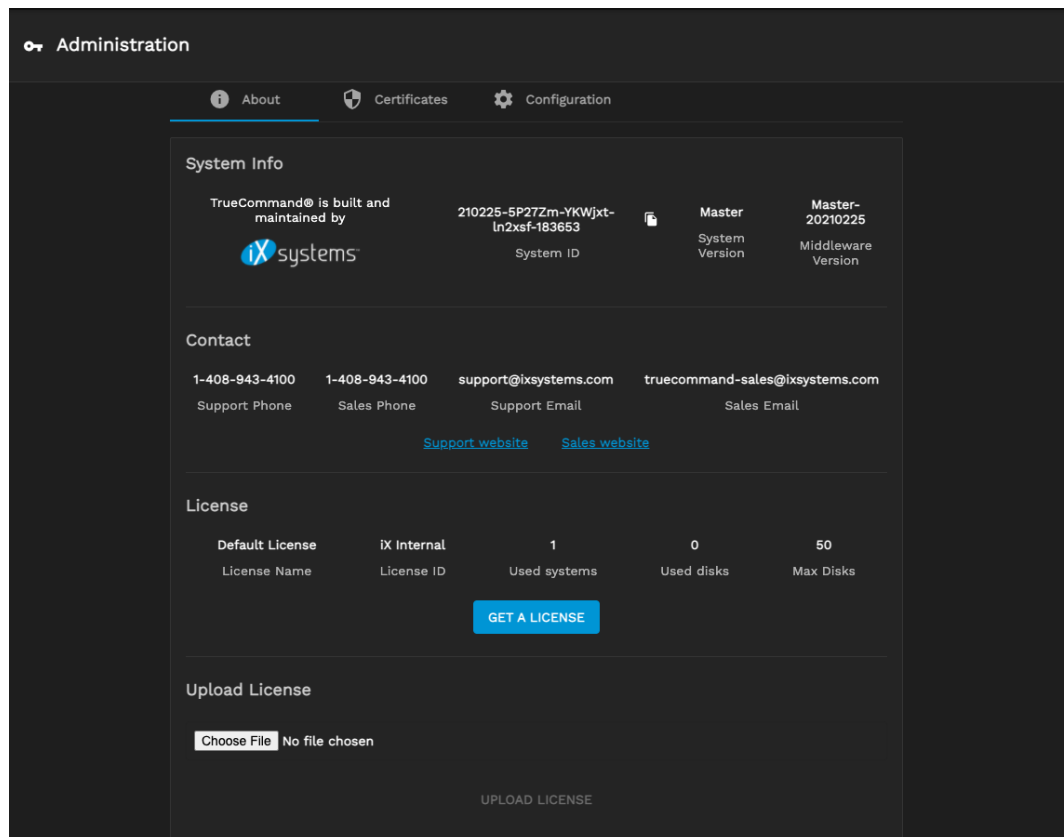
Some of these tutorials may require a TrueCommand administrator account.

### 4.1 - TrueCommand Administration

The **Administration** page shows additional system details and offers a variety of TrueCommand configuration options. This page is available to users with administrator permissions by opening the **Configure** ⚙️ menu and clicking *Administration*. The page is organized into **About**, **Certificates**, and **Configuration** tabs.

#### About

The **About** tab contains the current TrueCommand system ID and version, license details, and contact information for iXsystems.



#### Updating the License

You can expand TrueCommand to monitor more disks by upgrading or purchasing a license from iXsystems. Clicking *GET A LICENSE* opens a new browser tab to purchase a TrueCommand license. You can also contact iXsystems to upgrade the current license.

After you purchase or upgrade the license, you must upload the new license to TrueCommand. Click *Browse...* to open a file browser on your local system. Select the new license file to upload and click *UPLOAD LICENSE* to apply the new license to TrueCommand.

#### Certificates

The **Certificates** tab shows the certificates and Certificate Authorities (CAs) TrueCommand uses and has options to upload or import a certificate or CA.

The screenshot shows the 'Administration' section of the TrueNAS web interface, specifically the 'Certificates' tab. The interface has a dark theme. At the top, there are three tabs: 'About', 'Certificates' (selected), and 'Configuration'. Below the tabs, the 'Custom certificate' section is active. It contains a message: 'Your installation is using the default certificate.' Below this, there are two sections: 'Certificate file' and 'Private key'. Each section has a 'Choose File' button and a 'No file chosen' status. To the right of each section is a checkbox labeled 'Plain text'. Below these sections is an 'UPLOAD' button. Further down is the 'CA Import' section, which has a 'CA name' input field, a 'CA Contents' input field with a 'Choose File' button and 'No file chosen' status, and a 'Plain text' checkbox. Below this is an 'IMPORT' button. At the bottom, there is a section for 'Imported Certificate Authorities'.

Clicking *Browse...* opens a dialog to upload a file from the local system. Selecting *Plain text* allows you to copy and paste the file raw text instead of uploading a file.

## Configuration

The Configuration tab contains options to configure various features of TrueCommand.

The screenshot shows the 'Administration' section of the TrueNAS web interface, specifically the 'Configuration' tab. The interface has a dark theme. At the top, there are three tabs: 'About', 'Certificates', and 'Configuration' (selected). Below the tabs, the 'General Options' section is active. It contains several settings: 'System statistics polling interval' set to 20 (with a note 'Seconds (minimum 10)'), 'System statistics retention policy' set to 24 (with a note 'Months'), and 'Number of NAS database backups to store automatically. Set to 0 to disabled automatic backups.' set to 7 (with a note 'Backups'). Below these is the 'Alert Options' section, which has a checkbox 'Ignore alerts from a connected NAS' and a dropdown menu 'Alert Categories' set to 'Information'. At the bottom of the configuration panel are 'CANCEL' and 'SAVE' buttons.

Changing any options requires clicking *SAVE* to save the new system configuration. To reset fields back to their previous values, click *CANCEL*.

General options include how frequently TrueCommand measures systems statistics, how long to store system statistics, and the number of database backups from an iXsystems NAS to store.

## SSL options

This section has options to configure secure connections. By default, TrueCommand attempts an SSL connection, then a non-SSL connection if the first attempt fails. You can disable non-SSL connection attempts by setting *Require SSL for all connections*. This is useful when a monitored system does not allow SSL-secured access or when the monitored system is using a custom port.

There are additional options to configure how TrueCommand handles certificates. By default, TrueCommand accepts self-signed certificates and certificate hostname mismatches. This allows the first-time login to TrueCommand and accepting certificates from systems that use a hostname, but are registered in TrueCommand with an IP address (or vice-versa).

## Alert Options

You can adjust the alert levels that TrueCommand shows from a connected NAS to tune the system messages shown according to your use case. Choose an alert category to ignore. Multiple categories can be selected.

## LDAP

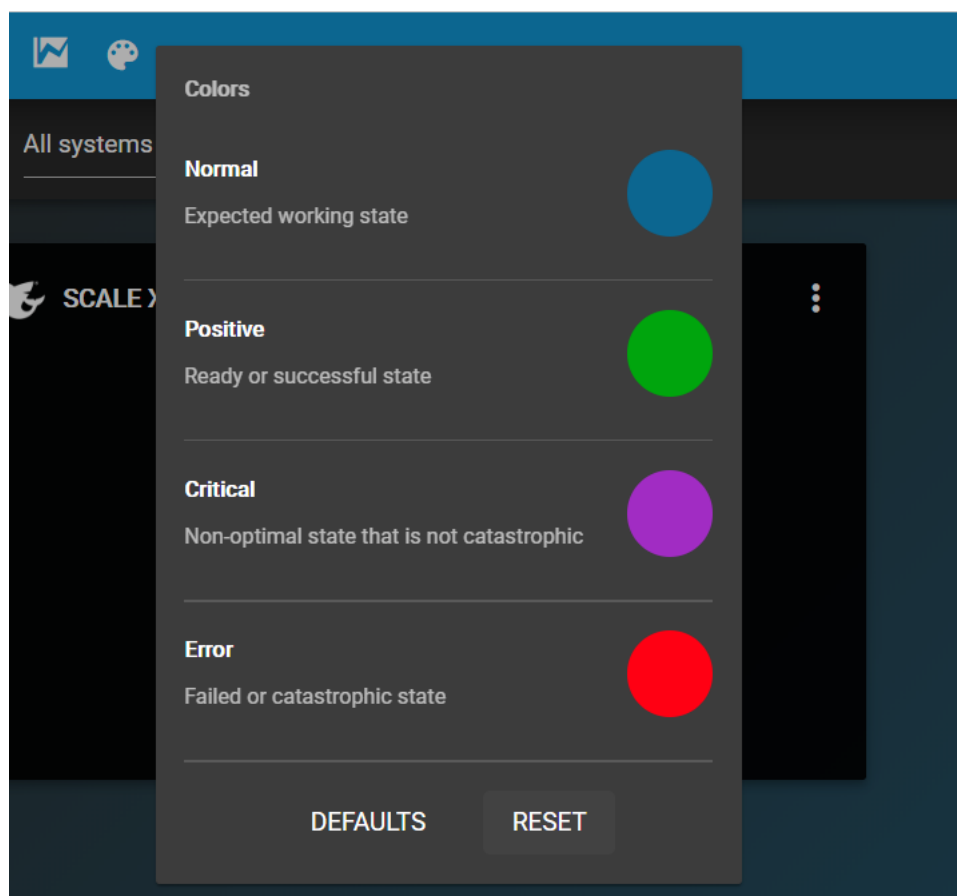
TrueCommand supports using [LDAP](#) to better integrate within an established network environment. To configure LDAP, add an LDAP server IP address or DNS hostname, fill in the *Domain*, then click *ADD SERVER*. You can add Multiple LDAP servers and Domains.

Enabling *Allow LDAP user creation* means TrueCommand creates user accounts when someone logs in to the User Interface with their LDAP credentials. *JOIN TEAM* automatically adds LDAP users to specific TrueCommand teams.

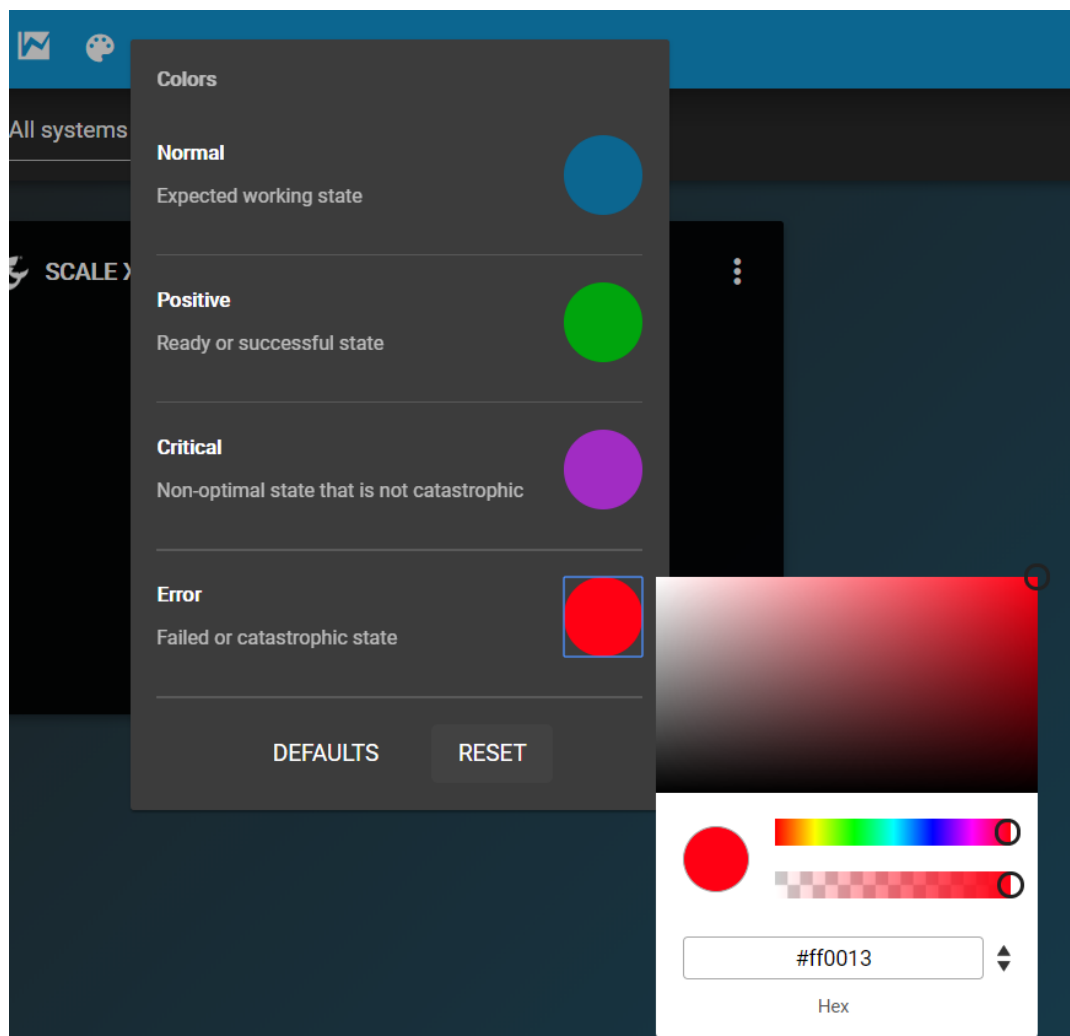


## 4.2 - Theming

TrueCommand 1.3.1 introduced the ability to customize the alert colors to user preferences. The Theme pallet is located in the top banner on the right. To open the theme configuration menu, click the icon.



To change a color, click on the color to open a selection menu. Select the desired color or enter its HEX color value.



To remove changes and revert to the currently saved settings, click *Reset*. To reset all colors to the application defaults, click *Defaults*.

## 4.3 - Users

- [Adding Local User Accounts](#)
  - [Using LDAP to Add User Accounts](#)
  - [Configuring User Accounts](#)
    - [User Details](#)
    - [Joined Teams](#)
    - [System Permissions](#)
  - [Organizing User Teams](#)
    - [Configuring Teams](#)
  - [Resetting a User Password from the Command Line](#)

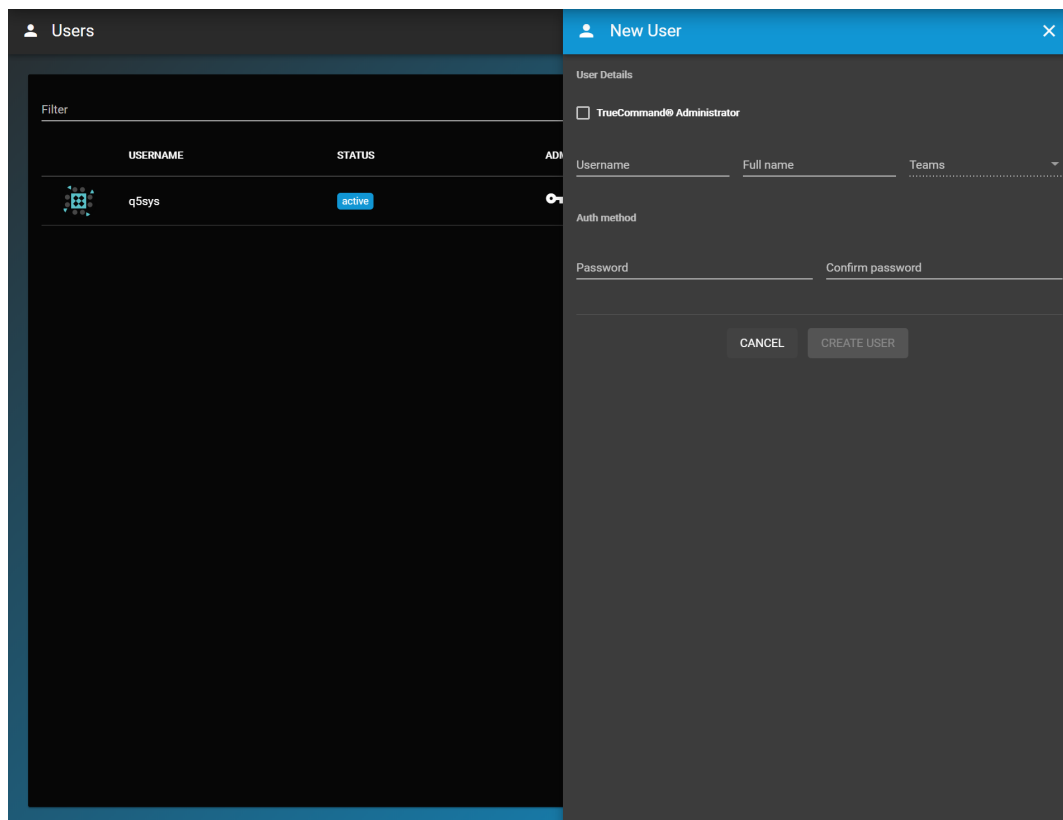
TrueCommand has a robust user management system designed to allow TrueCommand administrators to personalize the TrueCommand experience for each user account. You can create user accounts in the TrueCommand interface. Alternatively, LDAP can automatically create new user accounts when someone logs into TrueCommand with their LDAP credentials.

User accounts also organize into “Teams” for simultaneous management of large numbers or related user accounts.

### Adding Local User Accounts

To create a new user account, open the **Configure** ⚙️ menu and click *Users > + NEW USER*. Enter a descriptive user name and an authentication method for the user.

TrueCommand uses the *DEFAULT* authentication method to create unique credentials for logging in to the web interface. The administrator has to provide these credentials to the intended user.



You can assign users to existing *Teams* by selecting a team from the drop-down to add the user to that team. You can assign users to multiple teams.

Deleting a user account permanently removes the user and cannot be undone.

### Using LDAP to Add User Accounts

LDAP is also available for user accounts. See the [TrueCommand Administration](#) guide for details on LDAP configuration.

LDAP/AD allows using single sign-on credentials from the [Lightweight Directory Access Protocol \(LDAP\)](#) or [Active Directory \(AD\)](#). This means a user can log in with an LDAP or AD account without creating a separate TrueCommand login.

The LDAP server IP address or DNS hostname and Domain are required to use LDAP/AD. The LDAP or AD Username (optional) is required when the TrueCommand user name does not match the LDAP or AD credentials.

## Configuring User Accounts

To configure account details and permissions, open the *Configure* ⚙️ menu and click *Users > Edit user* ✎️.

The screenshot shows the 'Edit user' interface for a user named 'q5sys'. The interface is divided into two main sections: 'User Details' on the left and 'System Access' on the right.

**User Details:**

- Avatar:** A placeholder image with a grid pattern and a pencil icon for editing.
- User Details Form:**
  - Username:** q5sys
  - Full Name:** (empty)
  - Title:** (empty)
  - Email:** (empty)
  - Phone:** (empty)
  - Auth method:** (empty)
  - Password:** (empty)
  - Confirm password:** (empty)
- Buttons:** 'RESET FORM' and 'SAVE CHANGES'.

**System Access:**

- Joined Teams:** A message states 'There are no teams.' with a 'CREATE A NEW TEAM' button.
- System Access:** A message states 'No systems selected.' with an 'ADD SYSTEM' button.
- System Groups:** A message states 'There are no groups.'

There are several different elements that you can configure for a user, including the user's avatar, personal details, Team membership, and system permissions.

### User Details

You can add personal details about the user in this form. You may also designate the account as TrueCommand administrator or change the account password. Saving changes to a user's password requires entering the current password for that user. To go back to the original contents of the fields, click **RESET FORM**.

### Joined Teams

The **CREATE A NEW TEAM** button appears if no TrueCommand teams exist. When teams are present, the **JOIN TEAM** button appears. Click **JOIN TEAM** to add the user to a team. You can add users to multiple teams. TrueCommand applies team permissions to any user added to a team, but setting a specific permission for the user can override a related team permission.

### System Permissions

To limit the access that non-administrative accounts have to the connected systems, configure the **System Access** and/or **System Groups** sections. This requires [system connections](#) and/or [system groups](#) have already been configured in TrueCommand.

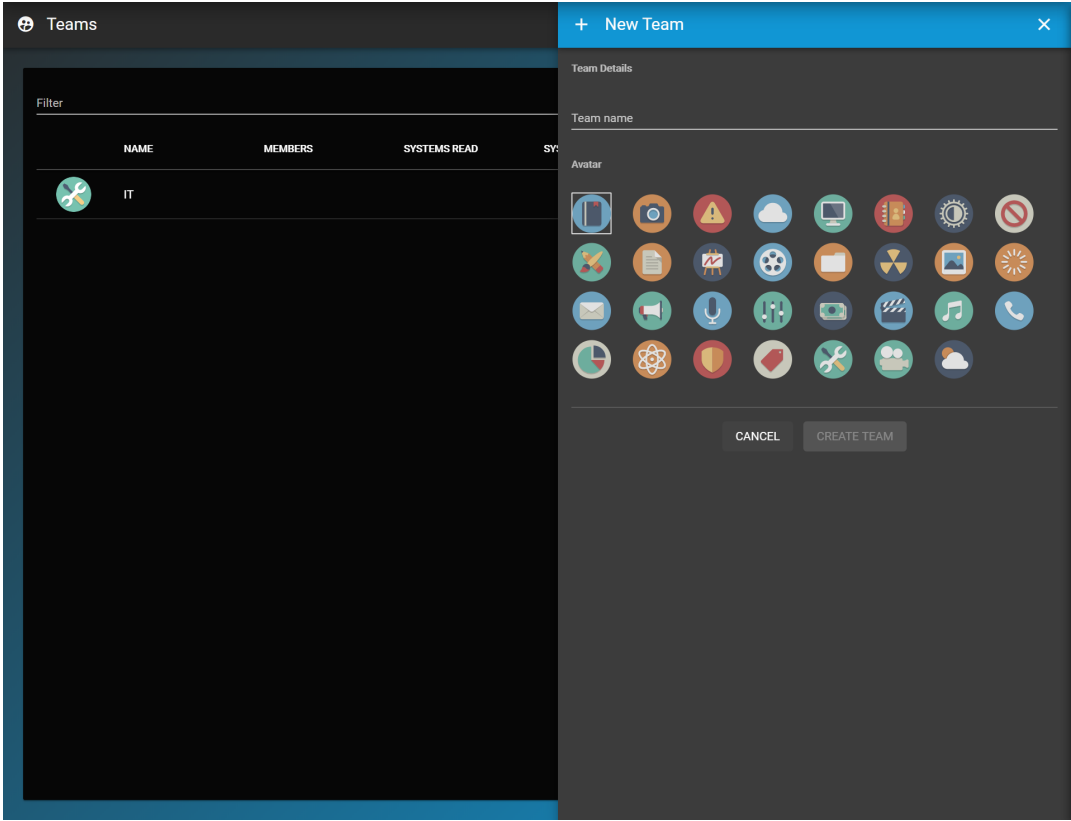
Click **ADD SYSTEM** and select a system from the drop-down to give the user access to that system. To restrict the user to only viewing details about the system, set the *read* permission. To remove a user's access to a particular system, click minus on the desired system.

When system groups are available, an **ADD GROUP** button appears. Click **ADD GROUP** and select a group from the drop-down to give the user access to all the systems in that group. To assign user's type of access to the group, choose *read* or *read/write* permissions. To remove a user's access to a particular system group, click - (*minus*) on the desired group.

## Organizing User Teams

Teams are collections of users with permissions that apply to all the joined user accounts. Teams provide a more efficient way of managing large numbers of or related user accounts. For example, changing the permissions of a *Metrics* team that has 20 joined user accounts is much faster than changing the permissions for each account.

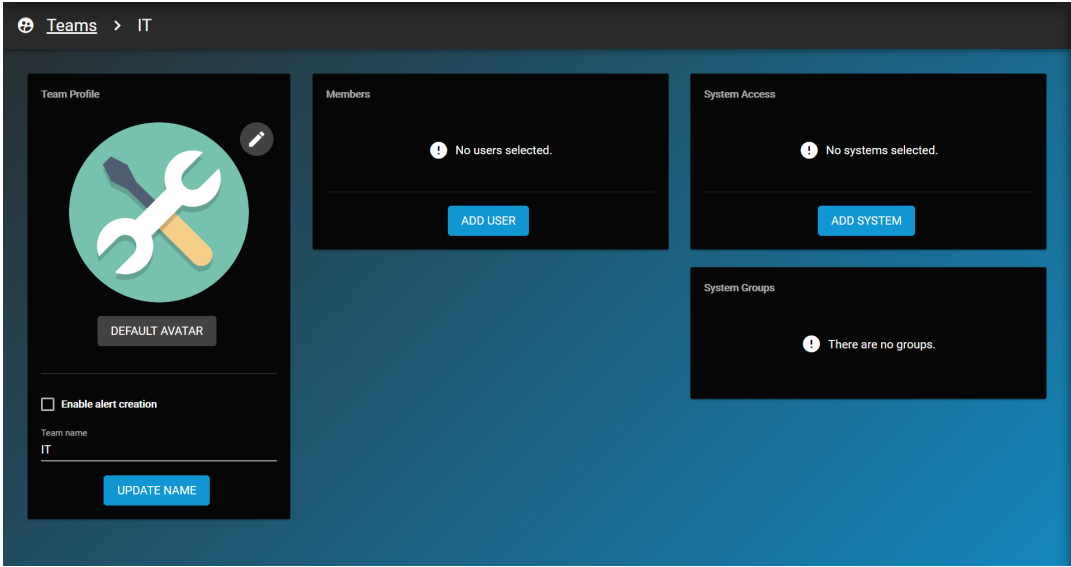
To create a team, open the **Configure** ⚙️ menu and click **TEAMS > + NEW TEAM**.



Enter a name and select an avatar for the new team. You can edit the permissions for a team after creating it.

Configuring Teams

To adjust the team members or permissions, open the **Configure** ⚙️ menu and click *Teams > Edit team* □.



You can adjust the team profile with a new avatar, change the team name, or grant team members permission to create new TrueCommand Alert Rules.

The **Members** section shows which user accounts are included in the team. To add users to the team, click *ADD USER* and choose them from the drop-down. To remove users from the team, click - (*minus*) on the desired user.

System permissions are configured exactly the same way as described above for individual user accounts. Note that individual user account permissions can override team permissions.

Resetting a User Password from the Command Line

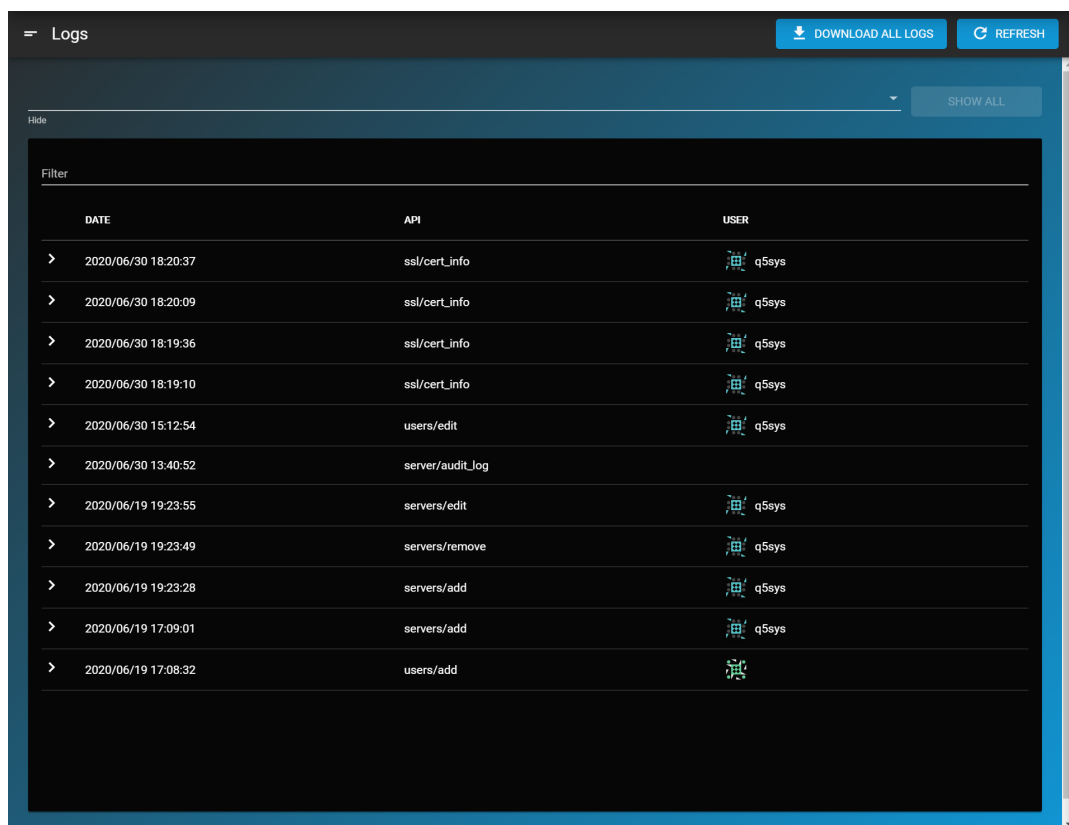
The Docker version of TrueCommand allows you to reset user passwords from the command line. Open the shell on the system running the TrueCommand Container and use the following command, replacing the values in brackets with their appropriate values.

```
docker exec -it [docker instance ID] resetpw [username]
```

## 4.4 - Logs

TrueCommand records all user account activity in a system log. For example, if a user deletes a system from TrueCommand, the log records which user deleted it along with other information associated with the deleted system.

To view the system log, open the **Configure** ⚙️ menu and click *Logs*.



DATE	API	USER
2020/06/30 18:20:37	ssl/cert_info	q5sys
2020/06/30 18:20:09	ssl/cert_info	q5sys
2020/06/30 18:19:36	ssl/cert_info	q5sys
2020/06/30 18:19:10	ssl/cert_info	q5sys
2020/06/30 15:12:54	users/edit	q5sys
2020/06/30 13:40:52	server/audit_log	
2020/06/19 19:23:55	servers/edit	q5sys
2020/06/19 19:23:49	servers/remove	q5sys
2020/06/19 19:23:28	servers/add	q5sys
2020/06/19 17:09:01	servers/add	q5sys
2020/06/19 17:08:32	users/add	


TrueCommand shows all system log entries by default. To hide specific categories of log entry, make selections in the *Hide* drop down. You can display all system logs again by clicking *SHOW ALL*. You can also filter logs can also by entering strings in the *Filter* field.

Click an entry in the log to show detailed information about the event. Clicking *DOWNLOAD ALL LOGS* downloads a .json file that contains all system log entries.

## 4.5 - Systems

- [Connecting Systems to TrueCommand](#)
    - [Adding a System Manually](#)
    - [Adjusting Systems](#)
  - [Organizing Systems into Groups](#)

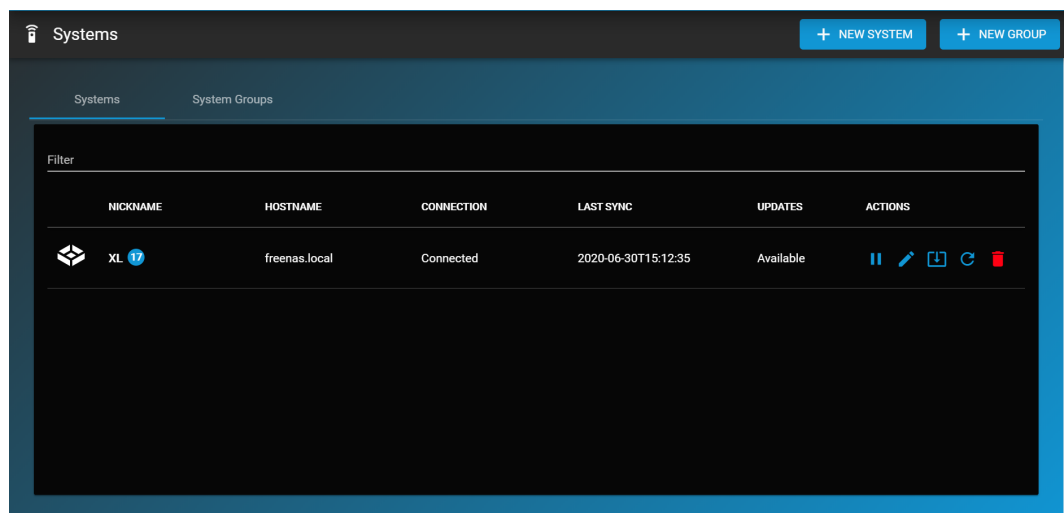
### Connecting Systems to TrueCommand

To connect a system to TrueCommand, open the **Configure**  menu and click **Systems**. This menu is organized into two tabs: **Systems** and **System Groups**. The **Systems** and **System Groups** tabs contain all the options to connect and organize systems in TrueCommand. All added systems are listed in the **Systems** tab with the current connection status.

#### Adding a System Manually

To connect a new system, click + **NEW SYSTEM**.

Enter the system IP address or DNS hostname, the nickname, and the password. If you make a mistake, you can reset the form by clicking **RESET FORM**.



#### Adjusting Systems


Systems that are misconfigured (e.g. if you entered an incorrect password) appear offline in both the TrueCommand **Dashboard** and **Systems** list.

You can edit a system from the **Systems** list and enter new connection details. To go back to the original contents of the fields, click **RESET FORM**.

To remove a system from TrueCommand monitoring, click **Delete**.

### Organizing Systems into Groups

Groups are collections of systems that are organized by TrueCommand administrators. Grouping systems allows you to efficiently manage system permissions and reporting.

Open the **System Groups** tab to view the list of created groups and the systems they contain. Create a Group by clicking **Configure**  > **Systems** > + **NEW GROUP**. Enter a name for the new group and click **ADD SYSTEM** to add a system to the group. When you've added all the desired systems to the group, click **CREATE GROUP**.



The screenshot displays the 'New Group' dialog in TrueNAS TrueCommand. The interface is split into two main panes. The left pane, titled 'Systems', contains a tabbed interface with 'Systems' and 'System Groups'. Under the 'Systems' tab, there is a 'Filter' input and a table of system members.

NICKNAME	HOSTNAME	CONNECTION	LAST SYNC
XL	freenas.local	Connected	2020-06-30T...

The right pane, titled '+ New Group', contains 'General Settings'. It has a 'Group name' text input field. Below this is a 'Systems' section showing 'No systems selected.' with a warning icon. At the bottom of this section is a blue 'ADD SYSTEM' button. Further down is a greyed-out 'SAVE GROUP' button.

Editing a group allows you to update the group name or change which systems are members of that group.

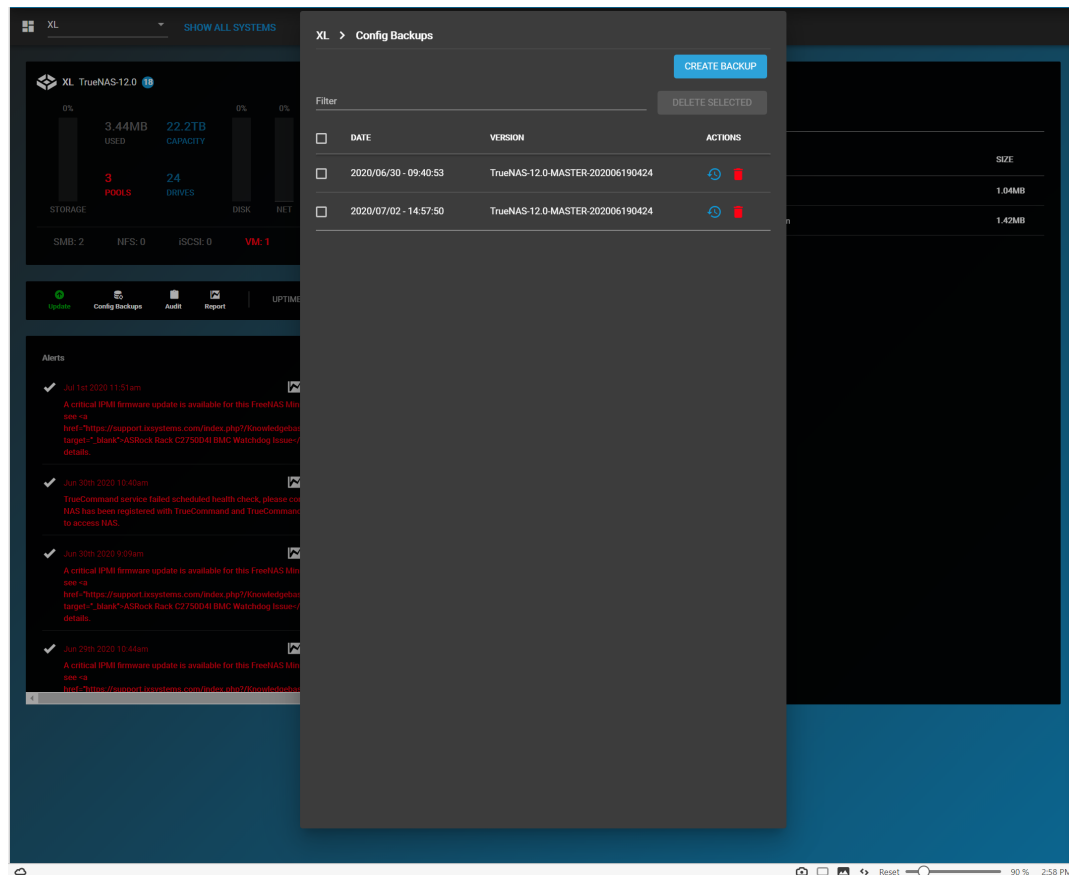
To delete a system group, click *Delete* . Confirm the deletion by clicking *YES*.

## 4.6 - TrueNAS Configuration File Management

TrueCommand automatically backs up the TrueNAS configuration any time there is a database change or a TrueCommand Audit Log entry. Manual backups can be created as needed.

### Viewing Backups

To view the current TrueNAS configuration backups, open the **Dashboard** and click *Config Backups* to display the **Configuration Backup Window**.



The **Configuration Backup Window** shows a list of backups along with the time and date of their creation. To create a new backup, click *Create Backup*.

To reset a TrueNAS system to a previous configuration, click the 🔄 icon. Choose the configuration file to use. You must reset the TrueNAS system to apply the configuration changes.

## 4.7 - Alerts

- [Viewing All Alerts](#)
    - [Viewing Alerts by System](#)
  - [Managing Alert Rules](#)
  - [Configuring Alert Services](#)

TrueCommand alerts provide visual warnings for monitored systems that require attention. Alerts are either generated by the monitored system or an alert rule created in TrueCommand.

### Viewing All Alerts

To see all alerts that TrueCommand has discovered, open the **Configure** ⚙️ menu and click **All Alerts**. Administrator accounts can see all generated alerts. A non-administrator account can only view alerts according to their team and user account permissions.

The screenshot displays the 'Alert Notices' section of the TrueCommand interface. It features a dark-themed header with a 'Filter by system' and 'Filter by severity' dropdown menu. Below the header, there are tabs for 'Active Alerts' and 'Resolved Alerts'. A table of alerts is shown with the following columns: SYSTEM, PRIORITY, ALERT NOTICE, LAST TRIGGER, TRIGGER COUNT, COMMENTS, and ACTIONS. Three alerts are listed, all with a priority of 'critical'. Each alert has a checkbox, a red exclamation mark icon, and a checkmark icon in the actions column.

SYSTEM	PRIORITY	ALERT NOTICE	LAST TRIGGER	TRIGGER COUNT	COMMENTS	ACTIONS
XL	critical	TrueCommand service failed scheduled health check, please confirm NAS has been registered with TrueCommand and TrueCommand is able to access NAS.	6/30/2020, 10:40:11 AM	1		<input type="checkbox"/>
XL	critical	A critical IPMI firmware update is available for this FreeNAS Mini. Please see <a href="https://support.ixsystems.com/index.php?/Knowledgebase/Article/View/287" target="_blank">ASRock Rack C2750D4I BMC Watchdog Issue</a> for details.	6/30/2020, 9:09:57 AM			<input type="checkbox"/>
XL	critical	Pool baydrives state is ONLINE: One or more devices has experienced an unrecoverable error. An attempt was	6/29/2020, 10:44:13 AM	1		<input type="checkbox"/>

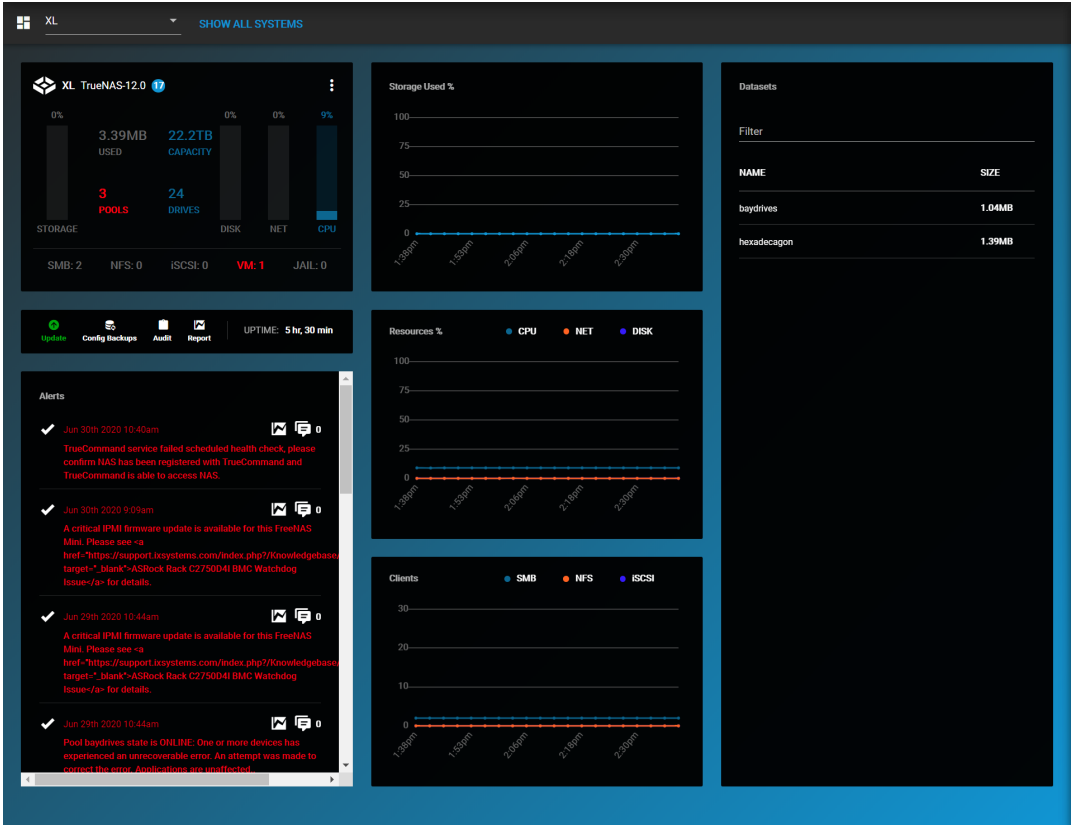
The **Active Alerts** tab shows all unresolved alerts. Alerts are moved to the **Resolved Alerts** tab by clicking *Resolve* ✓. To resolve multiple alerts, select each alert and click *Resolve* ✓.

Click *View alert notice details* (i) to view any user comments about an alert.

Administrator accounts can delete an alert by clicking *Delete* 🗑️. Deleting an alert cannot be undone. To delete multiple alerts, select each alert and click *Delete* 🗑️.

### Viewing Alerts by System

When a monitored system generates alerts, you can find them in both the administrative **Systems** screen and the **Dashboard** as a number above the system icon. To view all alerts for a single system, go to the **Dashboard** and select a single system.



Each active and resolved alert for that system is visible in this tab. Clicking *View alert notice details* (*i*) shows details for that alert, including the option to leave comments about the alert.

Managing Alert Rules

TrueCommand uses alert rules to generate alerts. Several default rules are built into TrueCommand. TrueCommand administrators and [team members](#) with the appropriate permissions can create new alert rules.

To view all TrueCommand alert rules, open the **Configure** menu and click **Alert Rules**.

Alert Rules

+ NEW ALERT RULE

Filter

PRIORITY	OWNER	NAME	SYSTEM	SOURCE	ALERTTYPE	VALUE	ACTIONS
		internal-3	All	cpu total idle	less than	1	
		internal-6	All	storage total_size_used_percent	greater than	90	
		internal-7	All	system_info uptime_seconds	less than	180	
		internal-8	All	cpu_temp average	greater than	70	
		internal-9	All	cpu_temp average	greater than	80	
		internal-storage-future	All	storage pools * days_until_80full_estimate storage pools * days_until_80full_estimate	greater than less than	0 180	
		internal-storage-info	All	storage total_size_used_percent storage total_size_used_percent	greater than not less than	50 70	
		internal-storage-warning	All	storage total_size_used_percent storage total_size_used_percent	greater than not less than	70 90	

This page displays all the details about each TrueCommand alert rule, including which user account created the rule. You can activate, suspend, edit, or delete alert rules using either an administrator account, or the account that created the rule.

You can create new TrueCommand alert rules to monitor a wide variety of system information and generate a TrueCommand alert if specific conditions occur. To create a new alert rule, click **+ NEW ALERT RULE** and follow the creation wizard:

- Select a System: The rule will apply to these systems. Appropriate system permissions are required for non-administrative user accounts.
- Select a Data Source: Choose a data source for the rule. This is the type of information that can trigger an alert. For example, choosing *cpu\_temp* means the alert rule monitors the temperature of the chosen system.
- Type and Threshold: Create the rule conditions:
  - Data type: This is the specific data TrueCommand will monitor. The options change depending on the **Data Source**.
  - Priority level: Choose *Information*, *Warning*, or *Critical*. This determines the category of alerts generated by this rule.
  - Comparison type: A conditional statement that applies to the **Data type** and the **Comparison value**.
  - Comparison value: Enter a value appropriate to the options scenario and options selected. This can act as a threshold or limitation on when an alert is generated by the rule.
- Finished: To create the new alert rule, click **CREATE ALERT**. To start over, click **RESET**.

## Configuring Alert Services

TrueCommand uses different services to expand how alerts are communicated to individual users or administrators. Individual user accounts can use these services to manage how that account is notified of an alert. To configure an alert service plugin, open the **Configure** ⚙️ menu and click **Alert Services**.

NAME	RELEASED	DESCRIPTION	VERSION	ACTIONS
pagerduty	2019-10-30	Forward alerts to a PagerDuty account ...	1.0	
smtp-email	2019-09-16	Send email alerts via SMTP	1.0	

As an example, open the **Configure Plugin** ⚙️ for PagerDuty. In the *Auth token* section, enter your **Service Integration Key from PagerDuty**. If you have an active subscription with PagerDuty, this key should be available to you. Enter a *Title for incident reports* if desired. Click *TEST*.

Auth token

3ef2f2f3de7649fda222bc3cbe1898yude

Service Integration Key from PagerDuty

Title

Testing

Title for incident reports

CANCEL

TEST

SAVE

Login to your PagerDuty account and check for open incidents. You should see the triggered test alert from TrueCommand. If PagerDuty didn't receive a test alert, check the **Service Integration Key from PagerDuty** for accuracy in the plugin configuration section of the alert service.

0 acknowledged

0 acknowledged

! Acknowledge

🔄 Reassign

✓ Resolve

⌚ Snooze

Merge Incidents

Go to incident #...

Open

Triggered

Acknowledged

Resolved

Any Status

Assigned to me

All

<input checked="" type="checkbox"/> Status	Urgency	Title	Created	Service	Assigned To
<input checked="" type="checkbox"/> Triggered	High	This is a test of the TrueCommand pagerduty notification system <small>(SHOW DETAILS (1 triggered alert))</small>	at 1:35 PM <small>#114.5</small>	Consul-FreeNAS	Kris Moore

Per Page:

25

<

1-1

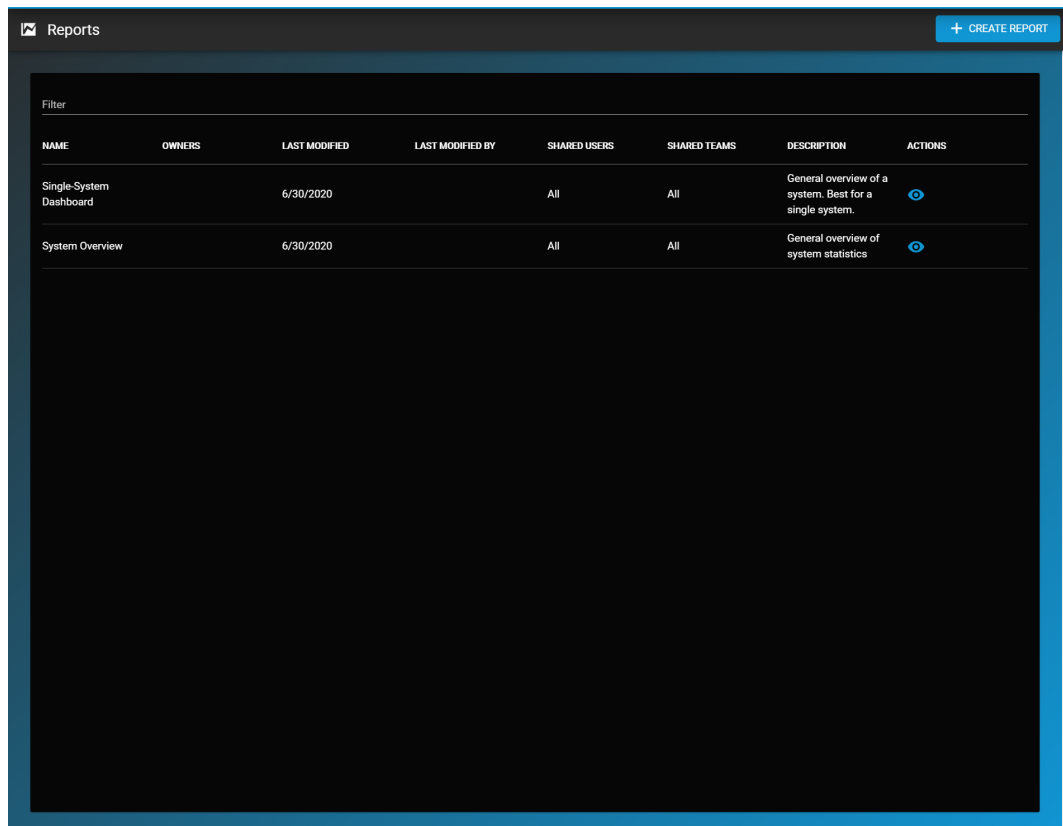
>

Each service has different configuration options, but each can be tested to ensure your settings are working correctly.

## 4.8 - Reports

- - [Creating a Report](#)
    - [Custom Charts](#)
  - [Share Report](#)
  - [Viewing a System Report](#)

The **Reports** page customizes system metrics charts for data analysis.

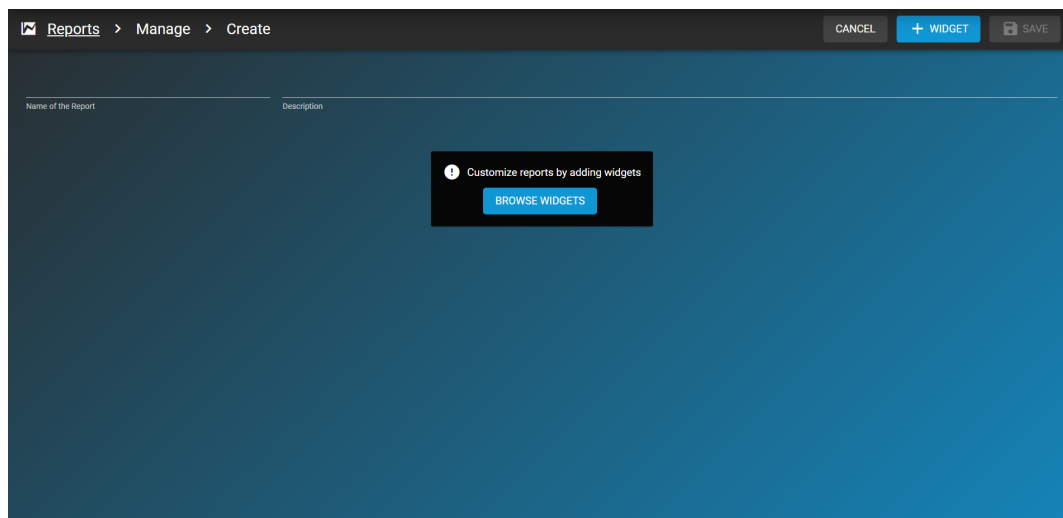


TrueCommand users can create reports and share them with other TrueCommand users. We designed default reports that generate a basic system overview chart. Default reports show details like network traffic, storage, and the chosen system's memory utilization.

Users must have access to the analyzed systems to view their reports.

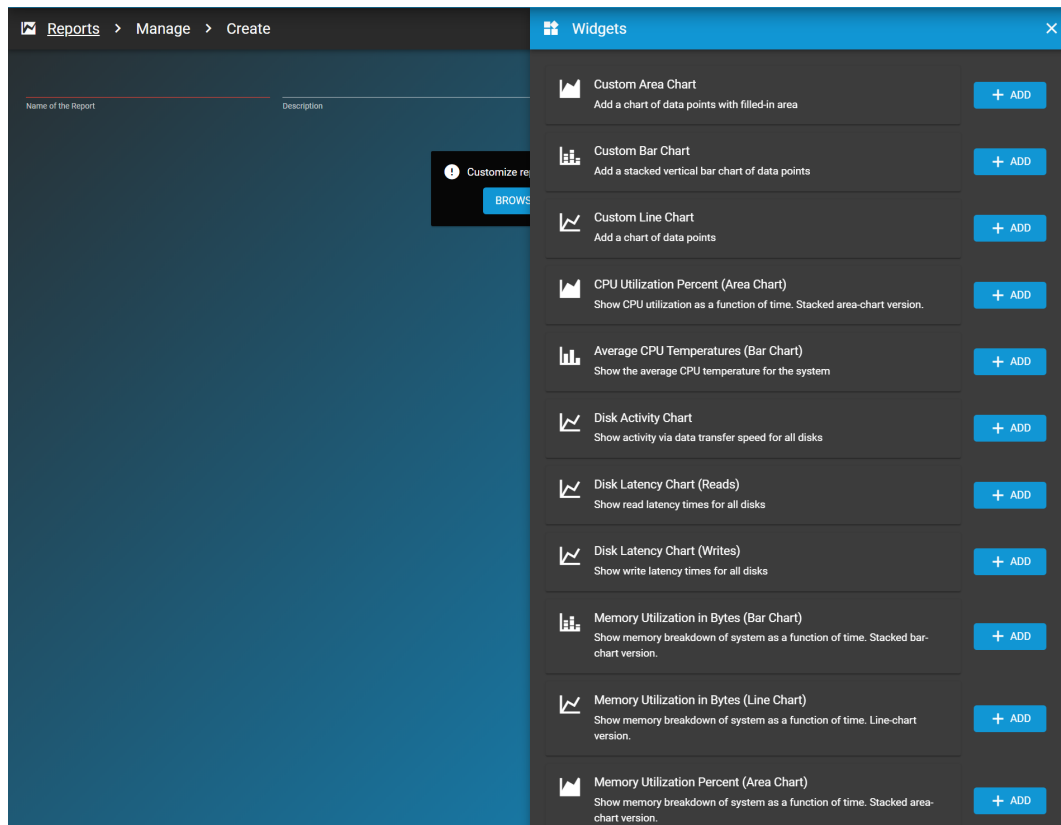
### Creating a Report

Click + *CREATE REPORT* to create a customizable report. Enter a report name and an optional description for the report.





Click **BROWSE WIDGETS** or **WIDGET** to add charts to the report.



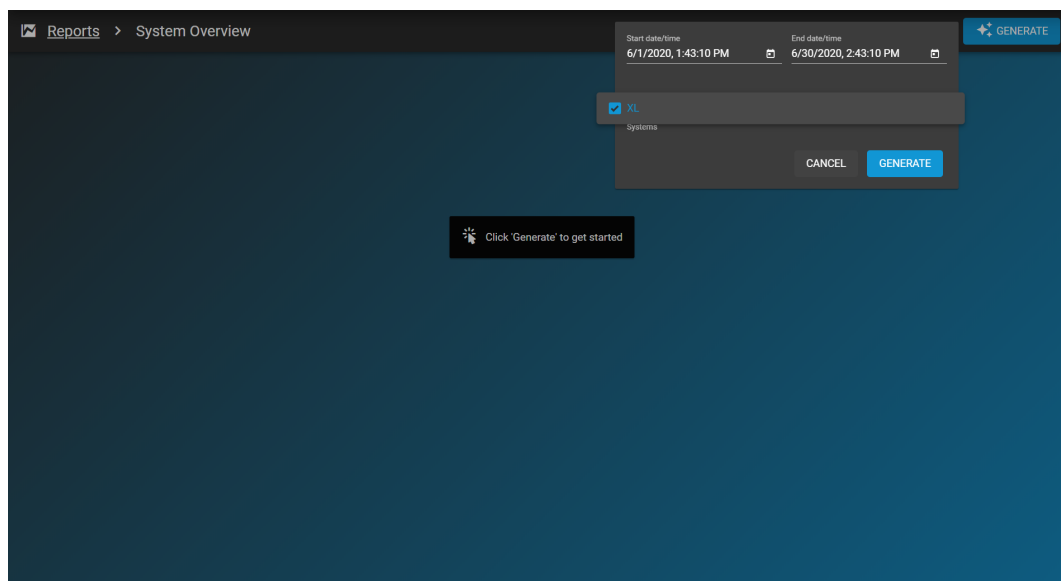
## Custom Charts

Most charts are already configured to report certain settings. To create a custom chart with custom settings, add a *Custom Area Chart*, *Custom Bar Chart*, or *Custom Line Chart*. Fill in these options when adding a custom chart:

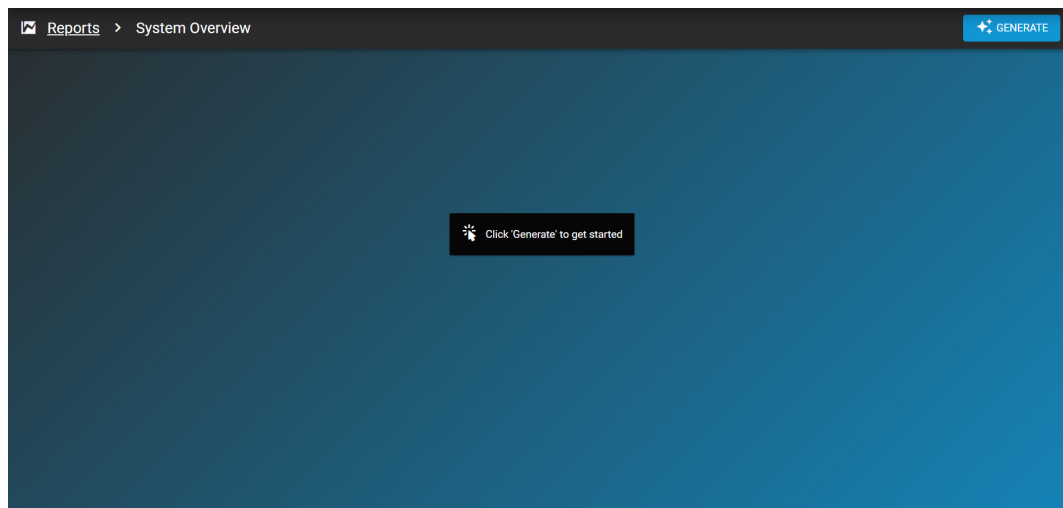
- General settings: Enter a Title, Subtitle (optional), Axis label (optional), Point size, Line size, Y min (optional), and Y max (optional) for the chart. *Stack* the values can be set to bring data points on the chart closer together. This setting is useful for charts that have many different data points at the max Y value.
- Data sources: Add data sources to the chart by expanding a category and selecting appropriate sources. Multiple data sources can be added to one chart.
- Summary: This step shows the all of the chosen values. Click **SAVE** to add the custom chart to the report or **BACK** to go back and change a setting or data source.

After adding charts to the report, click **SAVE** to make this report available for use.

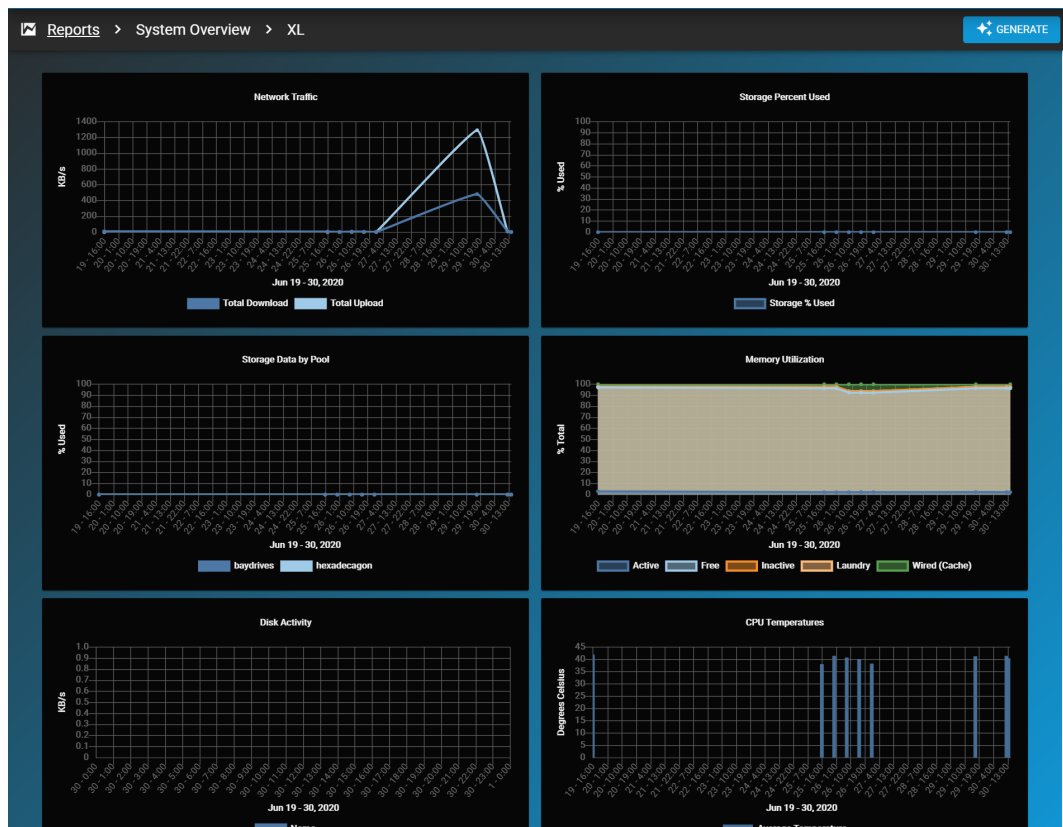
After creating a report, click **GENERATE** to generate the report.



Next, add in the range and systems to be included in the report and click **GENERATE**.

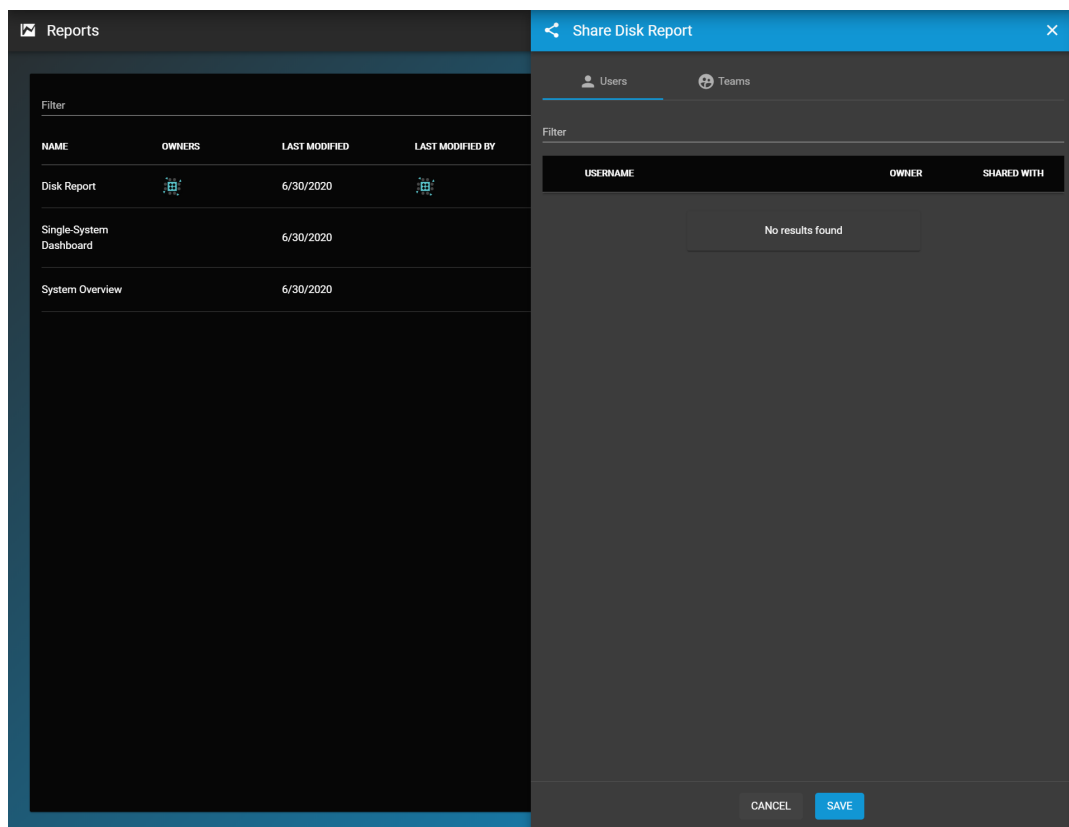


TrueCommand will now generate and display the report.



## Share Report

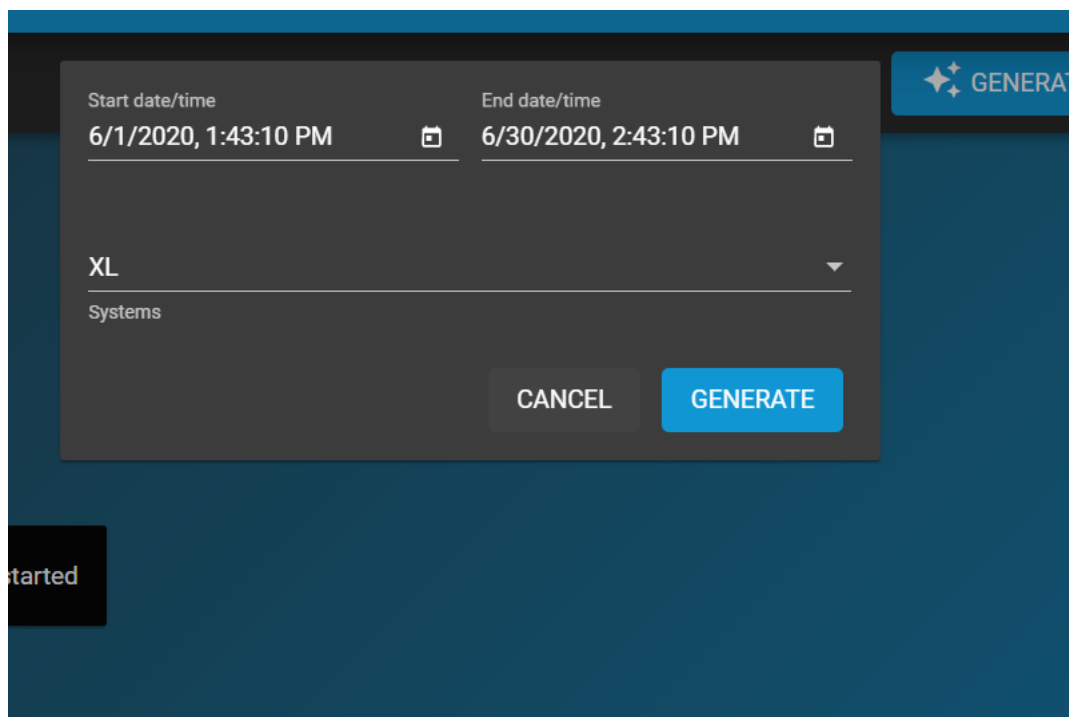
By default, the reports created by a user are available only to that user. To share a report with other users or teams, open the **Configure** ⚙️ menu > **Reports** screen and click *Share*. You can also share reports after generating them.



You can share reports with individual users or entire teams. Set either *OWNER* or *SHARED WITH* for the desired user. Users with the **SHARED WITH** status can view the report, while the **OWNER** status allows that user to edit the report. Clicking the **OWNER** or **SHARED WITH** text toggles every name in the list.

## Viewing a System Report

Open the **Configure** ⚙ menu > **Reports** page and click *Generate report* 👁 on the appropriate report. Click *GENERATE* to select the systems and time frame for the report.



Start date/time: 6/1/2020, 1:43:10 PM

End date/time: 6/30/2020, 2:43:10 PM

JUN 2020

Su Mo Tu We Th Fr Sa

JUN

1 2 3 4 5 6

7 8 9 10 11 12 13

14 15 16 17 18 19 20

21 22 23 24 25 26 27

28 29 30

01 : 43 PM

GENERATE

A non-administrative user must have the appropriate permissions to view data from specific systems.

Clicking *Confirm* shows the saved charts from the report, populated with system data according to the selected amount of time.




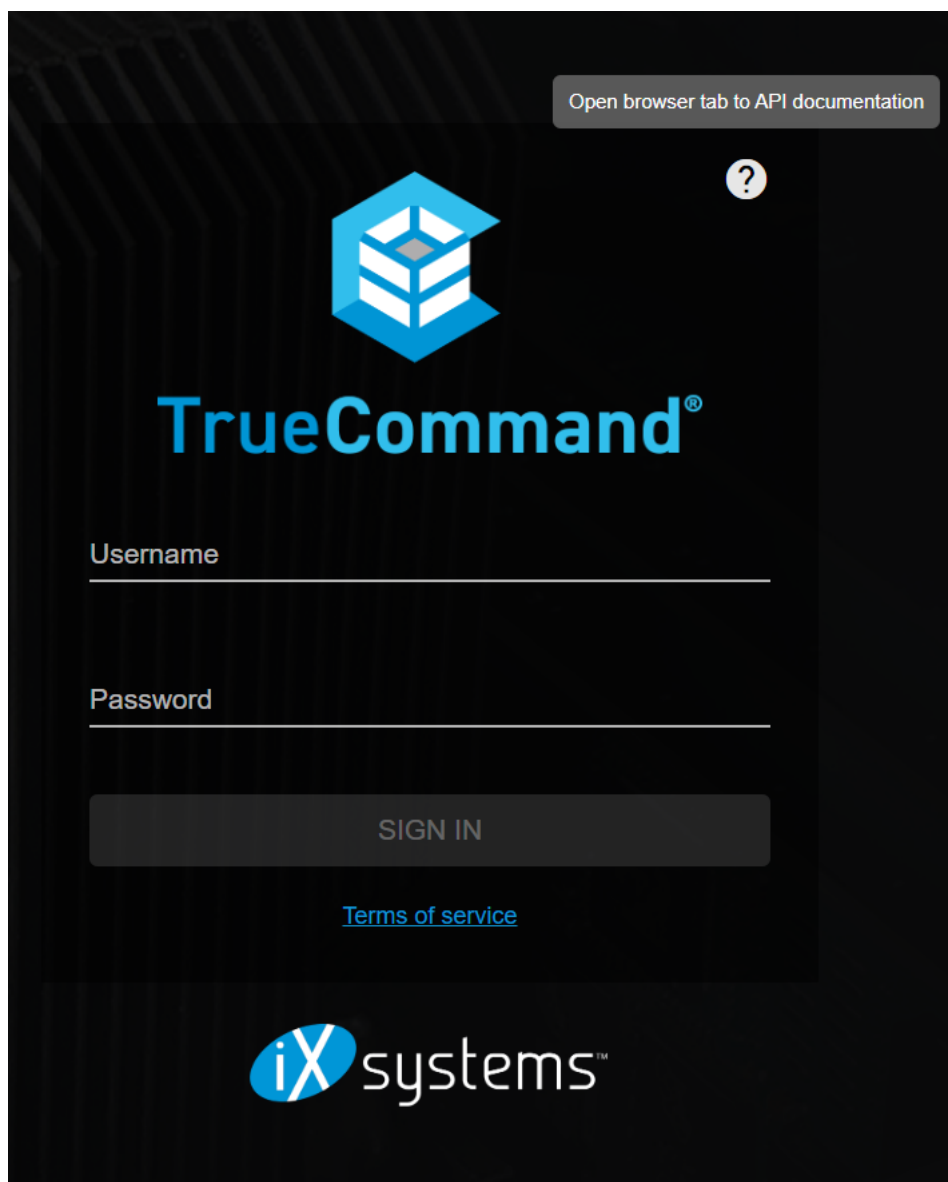
## 5 - API Calls

### Connection Summary

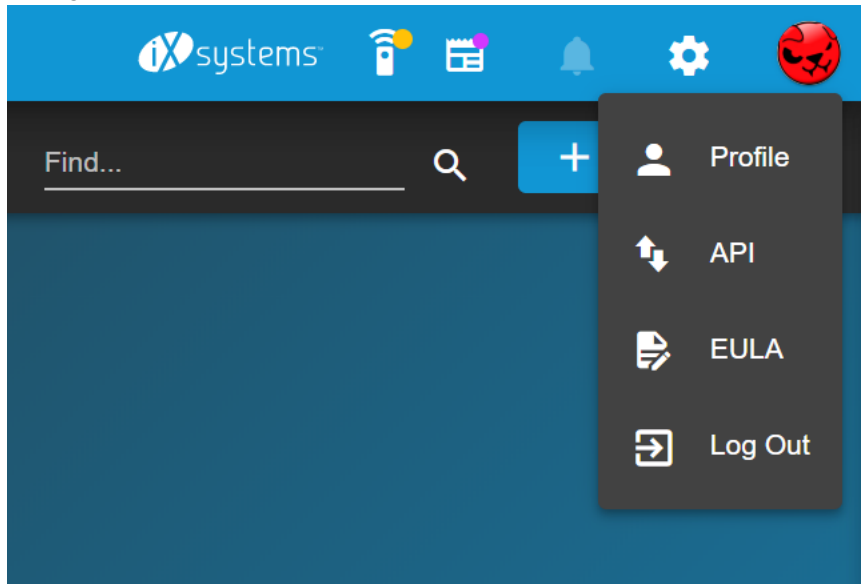
	Websocket	HTTP
Port number	5182 (ws) 5184 (wss)	5183 (http) 5185 (https)
URL redirect	/websocket	/api
Format	JSON only	HTTP+JSON
Event Support	Yes	No

The TrueCommand API Documentation is available with every installation. Access to the API call documentation can be access through two locations.

- At the login dialog by clicking the  icon.



- In the User Menu



## 5.1 - Alert management

### API Class: alerts

Administrators can create custom rules for generating alerts about systems based on the statistics from the monitored systems.

### Reference Guide

- [alerts/add](#)
- [alerts/edit](#)
- [alerts/list](#)
- [alerts/remove](#)

### 5.1.1 - alerts/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alerts	add	no	no	yes	1

#### Description

Create a new alert rule. The user making the request must either be an administrator, or be granted alert-creation permission via the user or team settings. The creator of an alert rule is also automatically tagged as the owner of the rule. This grants permission to edit/delete the rule even if the user is not an administrator.

#### Input Arguments

- Required Inputs:
  - "name" : (string) User-visible text/nickname for this rule. Useful for easily identifying rules later.
  - "source" : (string or JSONArray of strings) Data field to scan for alert trigger (example: "memory"). Sources may also be called "fields" by other classes of API calls (the data/\* class in particular). Source values are delimited by the "%" symbol to indicate the separation between parent/child data objects.
  - "value" : (string or JSONArray of strings) Specific number (example: "1024")
  - "alerttype" : (string or JSONArray of strings) One of the following options: "equals", "not\_equals", "less\_than", "not\_less\_than", "greater\_than", "not\_greater\_than", "contains", "not\_contains"
  - "priority" : (string) One of the following options: "critical", "warning", "information"
- Optional Inputs:
  - "tvid" : (string) Only apply this rule to the specified system (default is "", which means to apply to all systems)
  - "isactive" : (boolean) This alert rule should be active/used (default: true)
  - "tags" : (JSONArray of strings) List of search tags
  - "text" : (string) Custom text to display as the visual description of the alert when it is triggered.
  - "needall" : (boolean) If multiple conditions are listed, all of them must be matched before the alert itself is triggered.
    - Default value: true - all conditions must be met for the alert rule to trigger.

NOTE: If the "source", "value", or "alerttype" fields are provided as a JSONArray, then all three lists must be the same length. This allows for multiple conditions to be required before the alert is triggered.

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "source" : "memory%free_percent",
  "alerttype" : "less_than",
  "value" : "10",
  "priority" : "warning",
  "name" : "Custom Rule 1"
}
```

#### Reply Example

```
{
  "result" : "success",
  "caid" : "new_alert_rule_id"
}
```

#### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "alerts/add",
  "id" : "",
  "args" : {
```



```
"caid" : "new_alert_rule_id"  
}  
}
```

## Log Summary

This API call does not generate a detailed log summary item

## See Also

- [alerts/edit](#)
- [alerts/list](#)
- [alerts/remove](#)

## 5.1.2 - alerts/edit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alerts	edit	no	no	no	1

### Description

Modify a custom alert rule. The user making the request must either be an administrator, or be listed as the “owner” of the designated alert rule, otherwise the middleware will return a FORBIDDEN error code.

### Input Arguments

- Required Inputs:
  - “caid” : (string) ID of the custom alert
  - At least one of the optional inputs listed below
- Optional Inputs:
  - “tvid” : (string) Only apply this rule to the specified system (default is “”, which means to apply to all systems)
  - “name” : (string) User-visible text/nickname for this rule. Useful for easily identifying rules.
  - “source” : (string or JsonArray of strings) Data field to scan for alert trigger (example: “memory”). Sources may also be called “fields” by other classes of API calls (the data/\* class in particular).
  - “value” : (string or JsonArray of strings) Specific number or percentage of total (example: “10%”, or “1024”)
  - “alerttype” : (string or JsonArray of strings) One of the following options: “equals”, “not\_equals”, “less\_than”, “not\_less\_than”, “greater\_than”, “not\_greater\_than”, “contains”, “not\_contains”
  - “priority” : (string) One of the following options: “critical”, “warning”, “information”
  - “isactive” : (boolean) This alert rule should be active/used
  - “tags” : (JsonArray of strings) List of search tags
  - “text” : (string) Custom text to display as the visual description of the alert when it is triggered.
  - “needall” : (boolean) If multiple conditions are listed, all of them must be matched before the alert itself is triggered.
    - Default value: true - all conditions must be met for the alert rule to trigger.
  - “owner” : (string) User ID for a non-administrator account that also has ownership permissions for this alert rule.
    - NOTE: Only an administrator account can change the “owner” property of an alert rule.
    - This property was added in version 1.1

NOTE: If the “source”, “value”, or “alerttype” fields are provided as a JsonArray, then all three lists must be the same length. This allows for multiple conditions to be required before the alert is triggered.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "caid" : "alert_rule_1",
  "value" : "20"
}
```

### Reply Example

```
{
  "alert_rule_1" : {
    "caid" : "alert_rule_1",
    "tvid" : "",
    "name" : "Custom Rule 1",
    "source" : "memory%free_percent",
    "alerttype" : "less_than",
    "value" : "20",
    "priority" : "warning",
    "isactive" : true,
    "owner" : "user_id_2"
  }
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "alerts/edit",
  "id" : "",
  "args" : {
    "caid" : "alert_rule_1"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

**See Also**

- [alerts/add](#)
- [alerts/list](#)
- [alerts/remove](#)

## 5.1.3 - alerts/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alerts	list	no	no	no	1

### Description

List all the alert rules that are currently defined.

### Input Arguments

- Required Inputs: none ({})
- Optional Inputs:
  - "tvid" : (string or array of strings) Only show the alert rules that impact the designated system(s)
  - "active\_only" : (boolean - "false" by default) Only return alerts which are active. **Note:** If an alert rule does not have a listed "tvid", then it will be used for all registered systems.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : ["server_id_1", "server_id_2"]
}
```

### Reply Example

```
{
  "alert_rule_1" : {
    "caid" : "alert_rule_1",
    "tvid" : "",
    "name" : "Custom Rule 1",
    "source" : "memory%free_percent",
    "alerttype" : "less_than",
    "value" : "10",
    "priority" : "warning",
    "isactive" : true,
    "owner" : "user_id_1"
  },
  "alert_rule_2" : {
    "caid" : "alert_rule_2",
    "tvid" : "server_id_1",
    "name" : "Custom Rule 2",
    "source" : "memory%free_percent",
    "alerttype" : "less_than",
    "value" : "5",
    "priority" : "critical",
    "isactive" : false,
    "owner" : "user_id_4"
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alerts/add](#)
- [alerts/edit](#)
- [alerts/remove](#)

## 5.1.4 - alerts/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alerts	remove	no	no	yes	1

### Description

Delete an existing alert rule. The user making the request must either be an administrator, or be listed as the “owner” of the designated alert rule, otherwise the middleware will return a FORBIDDEN error code.

### Input Arguments

- Required:
  - “caid” : (string) ID of the custom alert to remove
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "caid" : "alert_rule_1"
}
```

### Reply Example

```
{
  "result" : "success"
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "alerts/remove",
  "id" : "",
  "args" : {
    "caid" : "alert_rule_1"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alerts/add](#)
- [alerts/edit](#)
- [alerts/list](#)

## 5.2 - Alert Notification Plugins

### API Class: alertplugins

When an alert rule is triggered, it is possible for TrueCommand to be able to forward that alert notification to external notification service providers via a plugin-based provider system. These plugins are independently created and maintained and may be installed, removed, or updated within TrueCommand as desired.

### Official Plugin Repository

By default, TrueCommand only points to the official ix-alertme plugin repository which is located on GitHub. It is possible to submit bug tickets or even brand-new notification plugins via the open-source project.

[Click here to browse the repository.](#)

### Reference Guide

- [alertplugins/add](#)
- [alertplugins/change\\_settings](#)
- [alertplugins/check\\_updates](#)
- [alertplugins/current\\_settings](#)
- [alertplugins/list](#)
- [alertplugins/remove](#)
- [alertplugins/search](#)
- [alertplugins/test](#)
- [alertplugins/update](#)

## 5.2.1 - alertplugins/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	add	yes	no	yes	1.1

### Description

Create a new alert rule

### Input Arguments

- Required Inputs:
  - "plugins": (string or JsonArray of strings) Name of the plugin(s) to install.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "plugins" : "smtp-email"  
}
```

### Reply Example

```
{  
  "smtp-email" : "Text of installation process"  
}
```

### Events

Events from this change will be sent to all administrators.

Example:

```
{  
  "namespace" : "event",  
  "name" : "alertplugins/list",  
  "id" : "",  
  "args" : {}  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/list](#)
- [alertplugins/remove](#)

## 5.2.2 - alertplugins/change\_settings

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	change_settings	no	no	no	1.1

### Description

Modify the settings for alert plugins. Note that each plugin's settings are managed independently of each other, but must be updated in bulk (all of the settings for a single plugin must be submitted at the same time, even if some of those settings are unchanged from previous).

To disable a plugin just submit a null value for the plugin object.

### Input Arguments

- Required:
  - "[plugin-name]" (Json Object) : Settings object for the listed plugin.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

This will configure the "smtp-email" plugin while also disabling the "Plugin\_A" plugin. Any current settings for other plugins will be untouched.

```
{
  "smtp-email" : {
    "mailserver" : "smtp.gmail.com",
    "mailserver_port" : 587,
    "auth_type" : "plain",
    "auth_user" : "example@example.net",
    "auth_pass" : "MySamplePassword01",
    "from" : "no-reply@truecommand.io",
    "to" : ["example@example.net"],
    "subject" : "TrueCommand Alert Notice",
    "cc" : null,
    "bcc" : null
  },
  "Plugin_A" : null
}
```

### Reply Example

```
{
  "result" : "success"
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/list](#)
- [alertplugins/current\\_settings](#)



## 5.2.3 - alertplugins/check\_updates

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	check_updates	no	no	no	1.1

### Description

Scan all the installed notification plugins and see if any updates are available. This returns an object of plugins where the remote version is newer than the locally-installed version.

### Input Arguments

- Required Inputs: none ({})
- Optional Inputs: none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

The information returned here is only the plugin information from the remote repository where the remote plugin has a newer release date than the currently-installed plugin.

```
{
  "smtp-email": {
    "name": "smtp-email",
    "summary": "Email alerts",
    "description": "Send email alerts via SMTP.",
    "icon_url": "",
    "version": "1.0",
    "date_released": "2019-07-19",
    "repository": "ix-alertme",
    "tags": ["email", "smtp", "sendmail", "plaintext"]
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/remove](#)
- [alertplugins/update](#)

## 5.2.4 - alertplugins/current\_settings

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	current_settings	no	no	no	1.1

### Description

Return all the current settings for alert plugins for the current user. Any plugin settings with sensitive information (such as passwords or authentication tokens) will return “—” as the value for that sensitive information when the option is currently defined in the settings.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - “plugins” : (string or Json Array of strings) Only return the settings for these plugins.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "plugins" : "smtp-email"  
}
```

### Reply Example

```
{  
  "smtp-email" : {  
    "mailserver" : "smtp.gmail.com",  
    "mailserver_port" : 587,  
    "auth_type" : "plain",  
    "auth_user" : "example@example.net",  
    "auth_pass" : "----",  
    "from" : "no-reply@truecommand.io",  
    "to" : ["example@example.net"],  
    "subject" : "TrueCommand Alert Notice",  
    "cc" : null,  
    "bcc" : null  
  }  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/list](#)
- [alertplugins/change\\_settings](#)

## 5.2.5 - alertplugins/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	list	no	no	no	1.1

### Description

List all the alert provider plugins that are currently installed.

### Input Arguments

- Required Inputs: none ({})
- Optional Inputs: none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "smtp-email": {
    "name": "smtp-email",
    "summary": "Email alerts",
    "description": "Send email alerts via SMTP.",
    "icon_url": "",
    "version": "1.0",
    "date_released": "2019-07-19",
    "tags": ["email", "smtp", "sendmail", "plaintext"],
    "maintainer": [
      { "name": "Ken Moore", "email": "ken@ixsystems.com", "site_url": "" },
      { "name": "ixsystems", "email": "support@ixsystems.com", "site_url": "https://ixsystems.com" }
    ],
    "repository": "ix-alertme",
    "depends": [
      {
        "filename": "smtp-email",
        "url": "https://raw.githubusercontent.com/ixsystems/ix-alertme/master/provider-plugins/smtp-email/smtp-email",
        "extract": false,
        "decompress": false,
        "sha256_checksum": "d2e17708e8f2e6a15b771395dbff8c5254cacff68749455ef0394c2d02fe9fa"
      }
    ],
    "exec": "smtp-email",
    "api": [
      {
        "fieldname": "mailserver",
        "summary": "Address for the SMTP server",
        "default": null,
        "type": "string",
        "is_required": true,
        "is_array": false
      }, {
        "fieldname": "mailserver_port",
        "summary": "Port number for the SMTP server",
        "default": null,
        "type": ["int", 1, 65535],
        "is_required": true,
        "is_array": false
      }, {
        "fieldname": "auth_type",
        "summary": "Type of authentication to SMTP server",
        "default": null,
        "type": ["list", ["plain", "Username/password authentication"], ["none", "No authentication"] ],
        "is_required": true,
        "is_array": false
      }, {
        "fieldname": "auth_user",
        "summary": "Username for plain authentication",
        "default": null,
        "type": "",
        "is_required": false,
        "is_array": false
      }, {
        "fieldname": "auth_pass",
        "summary": "Password for plain authentication",
        "default": null,
        "type": "",
        "is_required": false,
        "is_array": false
      }, {
        "fieldname": "from",
        "summary": "Email address to send from",
        "default": null,
        "type": ["regex", "[^@]+@[.]+"],

```

```

    "is_required":true,
    "is_array":false
  },{
    "fieldname":"to",
    "summary":"Email addresses to send to",
    "default":null,
    "type":["regex", "[^@]+@[.]+"],
    "is_required":true,
    "is_array":true
  },{
    "fieldname":"cc",
    "summary":"Email addresses to carbon-copy to",
    "default":null,
    "type":["regex", "[^@]+@[.]+"],
    "is_required":false,
    "is_array":true
  },{
    "fieldname":"bcc",
    "summary":"Email addresses to blind-carbon-copy to",
    "default":null,
    "type":["regex", "[^@]+@[.]+"],
    "is_required":false,
    "is_array":true
  },{
    "fieldname":"subject",
    "summary":"Subject line for the email",
    "default":null,
    "type":"",
    "is_required":true,
    "is_array":false
  }
]
}
}

```

## Events

This API call does not emit any middleware events.

## Log Summary

This API call does not generate a detailed log summary item

## See Also

- [alertplugins/add](#)
- [alertplugins/remove](#)

## 5.2.6 - alertplugins/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	remove	yes	no	yes	1.1

### Description

Delete an existing alert rule

### Input Arguments

- Required:
  - "plugins" : (string or Json Array of strings) Name of the plugin(s) to remove.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "plugins" : "smtp-email"  
}
```

### Reply Example

```
{  
  "smtp-email" : "Text output of removal"  
}
```

### Events

Events from this change will be sent to all administrators.

Example:

```
{  
  "namespace" : "event",  
  "name" : "alertplugins/list",  
  "id" : "",  
  "args" : {}  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/list](#)

## 5.2.7 - alertplugins/search

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	search	no	no	no	1.1

### Description

Search for plugins that are available to install

### Input Arguments

- Required Inputs: none ({})
- Optional Inputs: none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "smtp-email": {
    "name": "smtp-email",
    "summary": "Email alerts",
    "description": "Send email alerts via SMTP.",
    "icon_url": "",
    "version": "1.0",
    "date_released": "2019-07-19",
    "repository": "ix-alertme",
    "tags": ["email", "ssmtp", "sendmail", "plaintext"]
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/remove](#)

## 5.2.8 - alertplugins/test

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	test	no	no	no	1.1

### Description

This will send a test alert to the current user. An individual plugin can be specified or the test can be sent through all configured plugins for the current user.

### Input Arguments

- Required Inputs:
  - None ({})
- Optional Inputs:
  - "plugin" (string) : Name of a single plugin to test. Will use all configured plugins if not specified.
  - "settings" (JSON Object) : Custom settings object to use for the test instead of using the currently-saved configuration for the user.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "plugin" : "smtp-email"  
}
```

### Reply Example

```
{  
  "result" : "Text sent"  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/remove](#)

## 5.2.9 - alertplugins/update

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
alertplugins	update	yes	no	yes	1.1

### Description

Update an existing alert notification plugin.

### Input Arguments

- Required:
  - "plugins" : (string or Json Array of strings) Name of the plugin(s) to remove.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "plugins" : "smtp-email"
}
```

### Reply Example

```
{
  "smtp-email" : "Text output of update procedure"
}
```

### Events

Events from this change will be sent to all administrators.

Example:

```
{
  "namespace" : "event",
  "name" : "alertplugins/list",
  "id" : "",
  "args" : {}
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [alertplugins/add](#)
- [alertplugins/list](#)
- [alertplugins/check\\_updates](#)



## 5.3 - Audit Logs

### API Class: logs

API call to access the audit logs maintained by the middleware

### Reference Guide

- [logs/search](#)

### 5.3.1 - logs/search

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
logs	search	no	no	no	1

#### Description

Search through the logs and return results

#### Input Arguments

- Required Arguments: none ({})
- Optional Arguments:
  - "time\_end" (string - if not supplied it defaults to the current time)
  - "time\_start" (string - if not supplied it defaults to one month prior to the end time)
  - "user\_id" (string - only return log entries associated with this user)
  - "api\_header" (string - only return log entries associated with a particular API call: such as "users/add" or "servers/edit")

For information about the time formats, please look at the [Input Time Codes section](#) for details.

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "user_id" : "user_uuid",
  "time_end" : "5d",
  "time_start" : "30d",
  "api_header" : "users/add"
}
```

#### Reply Example

**NOTE:** The actual reply structure will be much more expansive than shown here (more sub-fields and datasets within the sub-fields per field).

```
{
  "logs_start" : "2017-03-01T10:10:03Z",
  "logs_end" : "2017-03-31T10:10:03Z",
  "logs" : [
    {
      "logtime" : <ISO 8601 date format (yyyy-MM-ddThh:mm:ssZ)>,
      "logtime_t" : "time_t_number",
      "user_id" : "user_uuid",
      "api_header" : "users/add",
      "input_args" : { <json arguments> },
      "output_args" : { <json arguments> },
      "summary" : {<optional summary of changes> }
    },
    {
      "logtime" : <ISO 8601 date format (yyyy-MM-ddThh:mm:ssZ)>,
      "logtime_t" : "time_t_number",
      "user_id" : "user_uuid",
      "api_header" : "users/add",
      "input_args" : { <json arguments> },
      "output_args" : { <json arguments> },
      "summary" : {<optional summary of changes> }
    }
  ]
}
```

**NOTE:** The "summary" object for logs is optional. It will only exist for those API calls that include it within their associated API documentation. Please reference the associated API calls for the format/existence of the summary object.

#### Events

This API call does not emit any middleware events.

## Log Summary

This API call does not generate a detailed log summary item

## 5.4 - Basic Formatting

Standard connection information and syntax

There are 4 basic pieces of an API request:

- Namespace: Top-level subsystem to access
- Name: Lower-level subsystem to access
- ID: (Websocket only) Used for correlating a request with a reply (Websocket connections are asynchronous - replies may come back in a different order than they were requested)
- Arguments: JSON Object containing additional information for the request/reply

### HTTP Connections

- Default port number: 5183 (http) or 5185 (https)
- Simple access URL: [system\_IP]/api (will automatically use the proper port)
- Supported Verbs: "PUT", "POST", "GET", "HEAD", and "OPTIONS"

Standard Syntax Example:

```
GET [namespace]/[name] [HTTP Version]
Authorization: basic [base-64 encoded "[user]:[pass]"]
{
[Additional JSON Arguments]
}
```

Example of using curl to sent a TCP/REST request:

```
curl -l -g --data '{}' -u "username:password" -X GET https://[IP_ADDRESS]/api/[NAMESPACE]/[NAME]
```

### WebSocket Connections

- Default port number: 5182 (ws) or 5184 (wss)
- Simple access URL: [system\_IP]/websocket (will automatically use the proper port)

Standard Syntax Example:

```
{
"namespace" : "[namespace]",
"name" : "[name]",
"id" : "[some_unique_id]",
"args" : [Additional JSON Arguments]
}
```

### Error Detection:

The "name" field in the reply will typically be set to "response" if the API call was successful, or "error" if the API call was rejected for some reason.

- Example Error Reply:

```
{
"namespace": "error",
"name": "error",
"id": "same_id_as_request",
"args": {
"code": "404",
"message": "Not Found"
}
}
```

## 5.5 - Cluster management

### API Class: cluster

#### Cluster management interactions.

This namespace is for API interactions that cross the boundaries of individual NAS systems. Some examples would be to issue a change request to an entire group of systems instead of performing the change individually, or to have one system send data over to another system with TrueCommand setting up the entire operation.

#### Reference Guide

- [Db Backup](#)
- [cluster/db\\_delete](#)
- [cluster/db\\_list](#)
- [cluster/db\\_restore](#)

## 5.5.1 -

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
cluster	db_backup	No	Yes	No	1.1

### Description

This API call will return a list of all the NAS database backups that are stored on TrueCommand.

### **WARNING:**

- This can only be performed for systems that the user has write access to. All other systems will be ignored.
- NAS backup functionality requires a valid, non-expired license from iXsystems. This API will return a FORBIDDEN error otherwise.

### Input Arguments

- Required:
  - "tvid" (string or JSON array of strings) : Fetch the current configuration of these systems and save them for later.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "1da1363e-98ac-481c-a47d-54b87bfecbcd"
}
```

### Reply Example Arguments

```
{
  "started_backup" : ["1da1363e-98ac-481c-a47d-54b87bfecbcd"]
}
```

### Log Summary

```
{
  "started_backup" : ["1da1363e-98ac-481c-a47d-54b87bfecbcd"]
}
```

### Events

This API call does not emit any middleware events.

### See Also

- [cluster/db\\_list](#)
- [cluster/db\\_delete](#)
- [cluster/db\\_restore](#)

## 5.5.2 - cluster/db\_delete

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
cluster	db_delete	No	Yes	No	1.1

### Description

This API call will return a list of all the NAS database backups that are stored on TrueCommand.

### **WARNING:**

- This can only be performed for systems that the user has write access to. All other systems will be ignored.

### Input Arguments

- Required:
  - "db\_id" (string or JSON array of strings) : ID of the database backup(s) that should be deleted.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "db_id" : "1da1363e-98ac-481c-a47d-54b87bfecbcd/2019_10_09-FreeNAS-11.2-U6.db"
}
```

### Reply Example Arguments

```
{
  "result" : "success",
  "removed" : ["1da1363e-98ac-481c-a47d-54b87bfecbcd/2019_10_09-FreeNAS-11.2-U6.db"]
}
```

### Log Summary

```
{
  "removed" : ["1da1363e-98ac-481c-a47d-54b87bfecbcd/2019_10_09-FreeNAS-11.2-U6.db"]
}
```

### Events

This API call does not emit any middleware events.

### See Also

- [cluster/db\\_backup](#)
- [cluster/db\\_list](#)
- [cluster/db\\_restore](#)

## 5.5.3 - cluster/db\_list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
cluster	db_list	No	No	No	1.1

### Description

This API call will return a list of all the NAS database backups that are stored on TrueCommand.

### **WARNING:**

- This can only be performed for systems that the user has write access to. All other systems will be ignored.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - "tvid" (string or JSON array of strings) : Only return backups of these system(s).

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "1da1363e-98ac-481c-a47d-54b87bfecbcd"
}
```

### Reply Example Arguments

```
{
  "db_list" : [
    {
      "date": "2019-10-09",
      "id": "1da1363e-98ac-481c-a47d-54b87bfecbcd/2019_10_09-FreeNAS-11.2-U6.db",
      "tvid": "1da1363e-98ac-481c-a47d-54b87bfecbcd",
      "version": "FreeNAS-11.2-U6"
    },
    {
      "date": "2019-10-10",
      "id": "1da1363e-98ac-481c-a47d-54b87bfecbcd/2019_10_10-FreeNAS-11.2-U6.db",
      "tvid": "1da1363e-98ac-481c-a47d-54b87bfecbcd",
      "version": "FreeNAS-11.2-U6"
    }
  ]
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [cluster/db\\_backup](#)
- [cluster/db\\_delete](#)
- [cluster/db\\_restore](#)

## 5.5.4 - cluster/db\_restore

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
cluster	db_restore	No	Yes	No	1.1

### Description

Restore a saved configuration database to a specific system or group of systems.

### WARNING:

- This can only be performed for systems that the user has write access to. All other systems will be ignored.

### Input Arguments

- Required:
  - "db\_id" (string) : ID of the configuration backup that you wish to restore.
  - "tvid" (string or JSON array of strings) : Apply the backup configuration database to these systems
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "db_id" : "1da1363e-98ac-481c-a47d-54b87bfebcd/2019_10_09-FreeNAS-11.2-U6.db",
  "tvid" : "1da1363e-98ac-481c-a47d-54b87bfebcd"
}
```

### Reply Example Arguments

```
{
  "restoring_to" : "1da1363e-98ac-481c-a47d-54b87bfebcd/2019_10_09-FreeNAS-11.2-U6.db",
  "ids_restoring" : ["1da1363e-98ac-481c-a47d-54b87bfebcd"],
  "nicknames_restoring" : ["System 1"],
  "ids_failed" : [],
  "nicknames_failed" : []
}
```

### Log Summary

```
{
  "restoring_to" : "1da1363e-98ac-481c-a47d-54b87bfebcd/2019_10_09-FreeNAS-11.2-U6.db",
  "ids_restoring" : ["1da1363e-98ac-481c-a47d-54b87bfebcd"],
  "nicknames_restoring" : ["System 1"],
  "ids_failed" : [],
  "nicknames_failed" : []
}
```

### Events

This API call does not emit any middleware events.

### See Also

- [cluster/db\\_backup](#)
- [cluster/db\\_delete](#)
- [cluster/db\\_list](#)



## 5.6 - Connection Management

### NAS Connections

TrueCommand automatically connects to any registered NAS using a secure websocket connection (wss). If wss is unavailable, it will attempt a non-secure websocket connection (ws). TrueCommand can be configured to require secure connections to each registered NAS. Refer to the [SSL error list](#) when configuring TrueCommand to require secure connections.

The state of a NAS connection and any errors that prevent connection are seen as a tooltip on the system badge of the TrueCommand dashboard. Hover the mouse cursor over the badge to see the error. Alternatively, the connection status is viewed by running the [servers/list](#) API call directly.

TrueCommand SSL configuration options are viewed with the [sys/list\\_config](#) API call and changed with the [sys/set\\_config](#) API call. Please see the API reference documentation for more details.

### Important Terminology

- Certificate Authority (CA): issues and signs SSL certificates.
- Self-Signed Certificate: created with no involvement by a certificate authority. Also referred to as an “x509” certificate. “x509” is the command-line flag used by `openssl` when creating a self-signed certificate.

### Common SSL Errors and solutions

#### “Connection refused”

This error occurs when the NAS does not allow SSL-secured access or if the NAS is using a custom port.

Solutions:

1. Launch the NAS web interface and verify NAS HTTPS support is enabled. This can require creating or importing an SSL certificate on that system.
2. Launch the NAS web interface and check if the system is using a custom port number. Note the custom port number and go to the TrueCommand system registration page. Edit the NAS registration and change the `IP` field to include the port number. This field uses the form *ip or host:portnumber*.
  - Example: `mynas-1.com:1234`

#### “The issuer certificate of a locally looked up certificate could not be found”

TrueCommand is unable to verify the authenticity of the CA that signed the SSL certificate in use by the NAS being registered.

Solutions:

1. Import the “full-chain” version of the certificate into the NAS instead of just the top-level certificate. The full-chain version of the certificate includes any certificate authority (CA) references which are required for certificate chain verification. This allows TrueCommand to properly verify the CA.
2. Disable SSL certificate verification in the TrueCommand system configuration settings:
  - Use the [sys/list\\_config](#) API call to view the configuration
  - Use the [sys/set\\_config](#) API call to change the configuration
  - **WARNING** This is inherently insecure and can allow attackers to misidentify themselves as a NAS on the network to gain access to genuine login credentials.

#### “The root certificate of the certificate chain is self-signed, and untrusted”

The NAS is using a certificate created by a CA that is self-authorized.

Solutions:

1. Generate a new certificate for the NAS that is created and signed by an outside certificate authority.
2. Configure TrueCommand to accept self-signed certificates.
  - Use the [sys/list\\_config](#) API call to view the configuration
  - Use the [sys/set\\_config](#) API call to change the configuration
  - **WARNING** This is inherently insecure and can allow attackers to misidentify themselves as a NAS on the network to gain access to genuine login credentials.

#### “The certificate is self-signed, and untrusted”

The NAS is using a self-signed SSL certificate.

Solutions:

1. Generate a new certificate for the NAS that is created and signed by an outside certificate authority.
2. Configure TrueCommand to accept self-signed certificates.
  - Use the [sys/list\\_config](#) API call to view the configuration
  - Use the [sys/set\\_config](#) API call to change the configuration
  - **WARNING** This is inherently insecure and can allow attackers to misidentify themselves as a NAS on the network to gain access to genuine login credentials.

### “The host name did not match any of the valid hosts for this certificate”

The certificate was created for system “X” but TrueCommand is connecting to system “Y”. This generally happens when the certificate has the system hostname, but was registered in TrueCommand with an IP address, or vice-versa. This can also occur with multi-node hardware where a certificate was created for the master node and is also used for additional active/passive nodes.

Solutions:

1. Update the NAS SSL certificate to include all variations of the system name where the certificate will be used.
2. Configure TrueCommand to ignore hostname mismatch errors in the SSL certificate.
  - Use the [sys/list\\_config](#) API call to view the configuration
  - Use the [sys/set\\_config](#) API call to change the configuration
  - **WARNING** This is inherently insecure and can allow attackers to misidentify themselves as a NAS on the network to gain access to genuine login credentials.

## 5.7 - Data Retrieval

### API Class: data

API classes used to probe/retrieve data from individual servers.

NOTE: Users may only access server information that they have read access for, otherwise they will get a 400/BadRequest error

### Reference Guide

- [current\\_stats](#)
- [data/curve\\_fit](#)
- [data/list\\_fields](#)
- [data/retrieve](#)

### 5.7.1 - current\_stats

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
data	current_stats	no	no	yes	1

#### Description

This will return the latest data for the designated systems (or all systems user has read permission for if particular systems are not specified). The data object for each system is identical to the format used by the [data/retrieve](#) API call, but only contains the most recent data point. The default behavior only returns a pruned-down list of the stats from the system. To retrieve the entire stats object, you will need to enable the optional "full\_stats" flag.

#### Input Arguments

- Required:
  - none ({})
- Optional:
  - "tvid" (string or JSON array of strings) : ID(s) of the system to fetch stats
  - "raw\_stats" (bool) : Return the raw information from the NAS instead of the compressed version. (false by default)
  - "full\_stats" (bool) : Return the full information object from the NAS. (false by default).
  - "summaries" (bool) : Return a summary object of all the NAS's. (false by default)
    - Added in version 1.3

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "system_id_1"
}
```

#### Reply Example (abbreviated greatly)

```
"args" : {
  "system_id_1" : {
    "cpu" : {},
    "cpu_temp" : {},
    "disks" : {},
    "jails" : {},
    "memory" : {},
    "network" : {},
    "services" : {},
    "storage" : {},
    "system_info" : {},
    "time_t" : 1544629127,
    "vms" : {}
  }
}
```

#### Log Summary

This API call does not generate a detailed log summary item

#### Events

Name	Who Receives
data/current_stats	All with read access

Example:

```
{
  "namespace" : "event",
  "name" : "data/current_stats",
  "id" : "event",
  "args" : {
    "system_id_1" : {
      "cpu" : {},
      "cpu_temp" : {},
      "disks" : {},
      "jails" : {},
      "memory" : {},
      "network" : {},
      "services" : {},
      "storage" : {},
      "system_info" : {},
      "time_t" : 1544629127,
      "vms" : {}
    }
  }
}
```

#### See Also

- [data/retrieve](#)
- [data/list\\_fields](#)

## 5.7.2 - data/curve\_fit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
data	curve_fit	no	no	no	1

### Description

Calculate a line or point from real data, and perform interpolations or extrapolations as desired.

### Input Arguments

- Required Arguments:
  - "x-data" (JSONArray of numbers) : X-axis coordinate points for real data (must be same length as "y-data" list).
  - "y-data" (JSONArray of numbers) : Y-axis coordinate points for real data (must be same length as "x-data" list).
- Optional Arguments (unless specifically listed, only one of these options may be provided at any time):
  - "find-y-for-x" (JSONArray of numbers) : Array of X values in which to report points for the fitted-curve. (Will calculate associated Y values for each point)
    - Default Value: Will automatically return curve points using the same "x-data" coordinate points, but Y values are adjusted to fit the curve.
  - "find-x-for-y" (JSONArray of numbers) : Array of Y values in which to report points for the fitted-curve. (Will calculate associated X values for each point)
    - Default Value: This will replace the "find-y-for-x" default value
  - "extrapolate-y-for-x" (number) : Extra X coordinate point with which to calculate Y (can be used in conjunction with the "find-x-for-y" optional input).
  - "extrapolate-x-for-y" (number) : Extra Y coordinate point with which to calculate X (can be used in conjunction with the "find-y-for-x" optional input).

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

#### Example 1

```
{
  "x-data" : [ 0,1,2,3,4,5,6,7,8],
  "y-data" : [0,2,4,6,8,10,12,14,16],
  "find-y-for-x" : [ 10, 11, 12],
  "extrapolate-x-for-y" : 100
}
```

#### Example 2

```
{
  "x-data" : [ 0,1,2,3,4,5,6,7,8],
  "y-data" : [0,2,4,6,8,10,12,14,16],
  "extrapolate-x-for-y" : 100
}
```

### Reply Example Arguments

#### Example 1

```
"curve_fits" : {
  "x-data" : [10,11,12,50],
  "y-data" : [20,22,24,100]
}
```

#### Example 2

```
"curve_fits" : {
  "x-data" : [0,1,2,3,4,5,6,7,8,50],
  "y-data" : [0,2,4,6,8,10,12,14,16,100]
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [data/retrieve](#)

## 5.7.3 - data/list\_fields

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
data	list_fields	no	no	no	1

### Description

List all the types of data which are available for particular server(s). The types of data are returned in a “path” format where the “%” symbol is used to separate field names. Example: the “cpu%num\_cpus” path corresponds to the “cpu” object, and the value of the “num\_cpus” field within that object.

### Input Arguments

- Required:
  - none ({}).
- Optional:
  - “tvid” (string **or** JSONArray of strings) : ID of the specific system(s) to scan for fields.
  - “with\_type” (boolean) : Return an array of objects with the “data\_type” of the field also specified. This is helpful for doing filtering later on based on types of fields (default: false).
    - Data type return examples: “string”, “bool”, “number”.
    - Sub-categories may also be provided for some fields to provide units (when available): “number:KB”, “number:B”, “number:%”
  - “filter\_type” (string) : Only return fields of this type (example: “number”).
  - “ui\_format” (boolean) : Flag for returning the structure in an internal UI-integration format. Format may change between versions of TrueCommand.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "server_id_1"
}
```

### Reply Example

NOTE: If no tvid is given, then a generic “fields” object will be returned instead of the objects tagged by the the tvid’s. In the generic “fields” object, there will be items tagged within carats ( for example). These are placeholder labels for something that is system-specific (“” might become “ada0” for particular systems).

```
{
  "fields": [
    "cpu%num_cpus",
    "cpu%total%idle",
    "cpu%total%system",
    "cpu%total%user",
    "cpu_temp%<cpu_number>",
    "cpu_temp%average",
    "cpu_temp%units",
    "disks%<diskID>%L(q)",
    "disks%<diskID>%KBps",
    "disks%<diskID>%ms/r",
    "disks%<diskID>%ms/w",
    "disks%<diskID>%ops/s",
    "disks%<diskID>%r/s",
    "disks%<diskID>%usy",
    "disks%<diskID>%w/s",
    "memory%active_bytes",
    "memory%active_percent",
    "memory%cache-hit-percent",
    "memory%free_bytes",
    "memory%free_percent",
    "memory%inactive_bytes",
    "memory%inactive_percent",
    "memory%laundry_bytes",
    "memory%laundry_percent",
    "memory%total_bytes",
    "memory%wired_bytes",
    "memory%wired_percent",
    "network%<deviceID>%KB/s in",
    "network%<deviceID>%KB/s out",
    "network%total%KB/s in",
    "network%total%KB/s out",
    "pools%pool_<pool_name>%cache_size",
    "pools%pool_<pool_name>%cache_size_used",
    "pools%pool_<pool_name>%cache_size_used_percent",
    "pools%pool_<pool_name>%data_size",
    "pools%pool_<pool_name>%data_size_used",
    "pools%pool_<pool_name>%data_size_used_percent",
    "pools%pool_<pool_name>%log_size",
    "pools%pool_<pool_name>%log_size_used",
    "pools%pool_<pool_name>%log_size_used_percent",
    "pools%pool_<pool_name>%spare_size",
    "pools%pool_<pool_name>%spare_size_used",
  ]
}
```

```
"pools%pool_<pool_name>%spare_size_used_percent",  
"pools%total_size",  
"pools%total_size_used",  
"pools%total_size_used_percent",  
"time_t"  
]  
}
```

### Reply Example 2 (with types, greatly simplified list just to show format)

```
{  
  "fields" : [  
    { "path" : "cpu%num_cpus", "data_type" : "number" },  
    { "path" : "memory%active_bytes", "data_type" : "number:B" },  
    { "path" : "memory%active_percent", "data_type" : "number:%" }  
  ]  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [data/retrieve](#)
- [data/current\\_stats](#)

## 5.7.4 - data/retrieve

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
data	retrieve	no	no	yes	1

### Description

Retrieve data from specified servers/fields

### Input Arguments

- Required Arguments:
  - "tvid" (string or JsonArray of strings)
  - "time\_start" (string)
- Optional Arguments:
  - "time\_end" (string - if not supplied it defaults to the current time)
  - "raw\_objects" (bool) : Show raw system information rather than the compressed system summary (false by default)
  - "data\_list" (string, JsonArray of strings, or null)
    - Path(s) to the data from the stats tree that you would like returned (using the "%" delimiter for object names).
    - If null, the full stats object will be returned.
    - Default value: ["cpu", "cpu\_temp", "disks", "memory", "network", "storage", "time\_t"]

For information about the time formats, please look at the [Input Time Codes section](#) for details.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : ["server_id_1", "server_id_2"],
  "time_start" : "1d"
}
```

### Reply Example

```
{
  "server_id_1" : {
    "cpu": {
      "num_cpus": [24,24,24,24,24,24,24],
      "total": {
        "idle": [97.04,97.97,97.96,96.96,96.97],
        "system": [1.58,1.63,1.63,1.63,1.63,1.67,1.67],
        "user": [1.38,1.42,1.42,1.38,1.38,1.33,1.33]
      }
    },
    "cpu_temp": {
      "0": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "1": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "2": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "3": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "4": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "5": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "6": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "7": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "8": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "9": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "10": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "11": [39.6,39.5,39.5,39.5,39.1,39.5,39.5],
      "12": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "13": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "14": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "15": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "16": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "17": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "18": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "19": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "20": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "21": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "22": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "23": [39.6,39.5,39.5,39.5,39.2,39.5,39.5],
      "average": [38.02,37.92,37.92,37.92,37.58,37.92,37.92],
      "units": ["C","C","C","C","C","C","C"]
    },
    "disks": {
      "da0": {
        "L(q)": [1,0,0,0,0,0,0],
        "kBps": [109,0,0,0,0,0,0],
        "ms/r": [0,0,0,0,0,0,0],
        "ms/w": [18.2,0,0,0,0,0,0],
        "ops/s": [15,0,0,0,0,0,0],
        "r/s": [0,0,0,0,0,0,0],
        "usy": [26.6,0,0,0,0,0,0],
        "w/s": [15,0,0,0,0,0,0]
      },
      "da1": {
```



```

    "L(q)": [1,0,0,0,0,0,0],
    "kBps": [523,927,0,0,0,931,0],
    "ms/r": [0,0,0,0,0,0,0],
    "ms/w": [4.8,5.2,0,0,0,5.5,0],
    "ops/s": [29,68,0,0,0,58,0],
    "r/s": [0,0,0,0,0,0,0],
    "usy": [14.1,30.4,0,0,0,28.2,0],
    "w/s": [29,66,0,0,0,56,0]
  },
  "memory": {
    "active_bytes": [615657472,607043584,608591872,607801344,611266560,613457920,613670912],
    "active_percent": [0.37,0.37,0.37,0.37,0.37,0.37,0.37],
    "cache-hit-percent": [0,0,0,0,0,0,0],
    "free_bytes": [13736296448,13733982208,13728608256,13728935936,13730336768,13728468992,13726720000],
    "free_percent": [8.26,8.26,8.26,8.26,8.26,8.26,8.26],
    "inactive_bytes": [158953472,169697280,172240896,168235008,165654528,165232640,165285888],
    "inactive_percent": [0.1,0.1,0.1,0.1,0.1,0.1,0.1],
    "laundry_bytes": [0,0,0,0,0,0,0],
    "laundry_percent": [0,0,0,0,0,0,0],
    "total_bytes": [16621088768,16621060096,16621060096,16621060096,16621060096,16621060096,16621060096],
    "wired_bytes": [2110181376,2110337024,2111619072,2116087808,2113802240,2113900544,2115383296],
    "wired_percent": [1.27,1.27,1.27,1.27,1.27,1.27,1.27]
  },
  "network": {
    "lo0": {
      "KB/s in": [22.48,0,0.95,10.18,357.04,0,1.23],
      "KB/s out": [22.48,0,0.95,10.18,357.04,0,1.23]
    },
    "oce0": {
      "KB/s in": [1.21,0,0.6,1.21,1.91,0,1.37],
      "KB/s out": [22.04,0,0,9.84,119.42,0,0]
    },
    "oce1": {
      "KB/s in": [0,0,0,0,0,0,0],
      "KB/s out": [0,0,0,0,0,0,0]
    },
    "total": {
      "KB/s in": [44.51,0,0.95,20.02,476.46,0,1.23],
      "KB/s out": [23.69,0,1.55,11.39,358.96,0,2.6]
    }
  },
  "pools": {
    "pool_sas": {
      "cache_size": [0,0,0,0,0,0,0],
      "cache_size_used": [0,0,0,0,0,0,0],
      "cache_size_used_percent": [0,0,0,0,0,0,0],
      "data_size": [70866960384,70866960384,70866960384,70866960384,70866960384,70866960384,70866960384],
      "data_size_used": [1052307456,1052356608,1055154176,1055911936,1052520448,1052270592,1052016640],
      "data_size_used_percent": [1.48,1.48,1.49,1.49,1.49,1.48,1.48],
      "log_size": [0,0,0,0,0,0,0],
      "log_size_used": [0,0,0,0,0,0,0],
      "log_size_used_percent": [0,0,0,0,0,0,0],
      "spare_size": [0,0,0,0,0,0,0],
      "spare_size_used": [0,0,0,0,0,0,0],
      "spare_size_used_percent": [0,0,0,0,0,0,0]
    },
    "total_size": [70866960384,70866960384,70866960384,70866960384,70866960384,70866960384,70866960384],
    "total_size_used": [1052307456,1052356608,1055154176,1055911936,1052520448,1052270592,1052016640],
    "total_size_used_percent": [1.48,1.48,1.49,1.49,1.49,1.48,1.48]
  },
  "time_t": [1538682320,1538682342,1538682363,1538682385,1538682407,1538682428,1538682450]
}

```

## Events

Events from this change will be sent to all administrators and any user with read access to this server.

Example:

```

{
  "namespace" : "event",
  "name" : "data/retrieve",
  "id" : "",
  "args" : {
    "tvid" : "system_id_with_new_data"
  }
}

```

## Log Summary

This API call does not generate a detailed log summary item

## See Also

- [data/current\\_stats](#)
- [data/list\\_fields](#)

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## 5.9 - Email management

### API Class: email

#### Email management interactions.

This API namespace was deprecated in version 1.1, and removed in version 1.2. Please look at the alertplugins/\* API namespace for the replacement for this functionality.

There are four email functions:

- Writing ssmtp configuration file
- Editing ssmtp configuration file
- Deleting ssmtp configuration file
- Sending emails

#### Reference Guide

- [email/deleteconfig](#)
- [email/editconfig](#)
- [email/send\\_test](#)
- [email/writeconfig](#)

## 5.9.1 - email/deleteconfig

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
email	deleteconfig	yes	yes	yes	1 (Removed in 1.2)

This API namespace was deprecated in version 1.1, and removed in version 1.2. Please look at the alertplugins/\* API namespace for the replacement for this functionality.

### Description

Delete SSMTP Configuration

### Input Arguments

- Required:
  - none ({})

### Request Example Arguments

```
{
  "namespace" : "email",
  "name" : "deleteconfig",
  "id" : "some_id",
  "args" : {
  }
}
```

### Reply Example

```
{
  "namespace" : "email",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

## 5.9.2 - email/editconfig

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
email	editconfig	yes	yes	yes	1 (Removed in 1.2)

This API namespace was deprecated in version 1.1, and removed in version 1.2. Please look at the alertplugins/\* API namespace for the replacement for this functionality.

### Description

Configure SSMTP

### Input Arguments

- Required:
  - "rootaddress" (String)
  - "mailserver" (String)
  - "port" (String)
  - "security" (String) ("TLS" or "STARTTLS" or "TLS+STARTTLS")
  - "AuthUser" (String)
  - "AuthPass" (String)
  - "AuthMethod" (String)

### Configuration of SSMTP

```
{
  "namespace" : "email",
  "name" : "writeconfig",
  "id" : "some_id",
  "args" : {
    "rootaddress" : "email@domain.com",
    "mailserver" : "smtp.domain.com",
    "port" : "587",
    "security" : "TLS+STARTTLS",
    "AuthUser" : "useraddress",
    "AuthPass" : "userpass",
    "AuthMethod" : "LOGIN"
  }
}
```

### Reply Example

```
{
  "namespace" : "email",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```



## 5.9.3 - email/send\_test

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
email	send_test	Yes	No	No	1 (Removed in 1.2)

This API namespace was deprecated in version 1.1, and removed in version 1.2. Please look at the alertplugins/\* API namespace for the replacement for this functionality.

### Description

Send a test email to a designated address. This can be used for verifying that the system email configuration is setup properly and functional.

### Input Arguments

- Required:
  - "to" (String) or (JSONArray) : Email address(es) to send the test email to.

### Request Example Arguments for single recipient

```
{
  "namespace" : "email",
  "name" : "send_test",
  "id" : "some_id",
  "args" : {
    "to" : "address_1@domain.com"
  }
}
```

### Request Example Arguments for multiple recipients

```
{
  "namespace" : "email",
  "name" : "send_test",
  "id" : "some_id",
  "args" : {
    "to" : ["address_1@domain.com" , "address_2@domain.com"]
  }
}
```

### Reply Example

```
{
  "namespace" : "email",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

## 5.9.4 - email/writeconfig

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
email	writeconfig	yes	yes	yes	1 (Removed in 1.2)

This API namespace was deprecated in version 1.1, and removed in version 1.2. Please look at the alertplugins/\* API namespace for the replacement for this functionality.

### Description

Write SSMTP Configuration

### Input Arguments

- Required:
  - "rootaddress" (String) : This email address will appear in the "From" field of email alerts
  - "mailserver" (String) : Address to contact for email submissions (Example: "smtp.gmail.com")
  - "port" (String) : Port number to use when contacting the mail server (Example: "587");
  - "security" (String) ("TLS" or "STARTTLS" or "TLS+STARTTLS")
  - "AuthUser" (String) : Username to use when connecting to the mailserver
  - "AuthPass" (String) : Password to use when connecting to the mailserver
  - "AuthMethod" (String) : Type of authentication to mailserver ("LOGIN" is standard username/password).

### Request Example Arguments

```
{
  "namespace" : "email",
  "name" : "writeconfig",
  "id" : "some_id",
  "args" : {
    "rootaddress" : "email@domain.com",
    "mailserver" : "smtp.domain.com",
    "port" : "587",
    "security" : "TLS+STARTTLS",
    "AuthUser" : "useraddress",
    "AuthPass" : "userpass",
    "AuthMethod" : "LOGIN"
  }
}
```

### Reply Example

```
{
  "namespace" : "email",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

## 5.10 - Event Formatting

Description of the events subsystem for websocket connections

### Event Messages

For websocket connections, spontaneous events will be periodically sent to clients which announce changes which happen within the middleware itself. These events will always have the following form:

```
{
  "namespace" : "event",
  "name" : "api_class_or_subsystem",
  "id" : "",
  "args" : {}
}
```

Where the contents of the arguments object is determined by the type of event (the “name” field). See the documentation on the individual API calls for details on the events that each call may generate or be impacted by.

- Example event message from the creation of a new user account:

```
{
  "namespace" : "event",
  "name" : "users/add",
  "id" : "",
  "args" : {}
}
```

## 5.11 - External Systems

### API Class: external

Class of API calls that provide access for external systems to submit information to TrueCommand for storage and/or analysis.

These API calls are **only** available via HTTP requests (PUT or POST) with a valid authorization token that is associated with a specific system. These tokens may be used as the “password” within a basic authentication request (username is ignored by TrueCommand, only the token is used).

### Authentication Token Management References

- [servers/list\\_tokens](#)
- [servers/add\\_tokens](#)
- [servers/remove\\_tokens](#)

## 5.11.1 - external/submit\_alerts

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
external	submit_alerts	N/A	N/A	yes	1.1

### Description

API hook for external systems to submit alert notices to TrueCommand. This requires that the external system use a valid system auth token to submit the API call over HTTP.

**Note:** This works for both “external” types of systems as well as FreeNAS/TrueNAS systems. It just needs a valid auth token which associates the API request with a currently-registered system.

**Note 2:** This will NOT work with websocket connections. HTTP API submissions only.

### Implementation Details

It is recommended that this API usage be scripted and run automatically based on some external trigger. An example of such a script is included below for demonstration purposes:

```
#!/bin/sh

# Access info for TrueCommand (system and auth token)
TC_SYSTEM="CHANGEME"
TC_TOKEN="CHANGEME"

# CHANGEME : Gather/Assemble the data about the system
# This data object is a hard-coded string for demonstration purposes only
DATA='{ "external-alert-1" : { "source" : "external_alert_system_XYZ", "type" : "warning", "time_t" : "1565274547", "text" : "This is a test of al

#Now submit the statistics
URL="https://${TC_SYSTEM}/api/external/submit_alerts"
echo "Submitting Alert: ${URL}"
echo "${DATA}" | jq -r . #Helps verify that the JSON was formatted properly
echo "-----"
curl -k --data "${DATA}" -u ":${TC_TOKEN}" -X PUT "${URL}"
```

### Input Arguments

- Required:
  - alert-ID (JSON Object) : Every alert needs to have a unique alert ID, this can be any string. This allows TrueCommand to see/combine alert notices with the same ID while also keeping track of all the times that the alert was submitted or triggered.
    - “source” (string) : Internal source designation for the alert. Can be anything that is useful for diagnosing and fixing the alert.
      - Examples: “SMART tests”, “service/XYZ”, “alertsystem/123”
    - “type” (string) : Priority designation for the alert. Must be one of the following options: “information”, “warning”, or “critical”
    - “time\_t” (string or number) : UNIX timestamp for when the alert was created on the system itself.
    - “text” (string) : User-facing text for the alert.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "external_alert_1" : {
    "source" : "external_alert_system_XYZ",
    "type" : "warning",
    "time_t" : "1565274547",
    "text" : "This is a test of alert system XYZ forwarding to TrueCommand"
  }
}
```

### Reply Example Arguments

```
{
  "result" : "success"
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call will generate the standard event notifications for new alert notices. See the [notices/list](#) API for event details.

**See Also**

- [servers/list\\_tokens](#)
- [external/submit\\_stats](#)

## 5.11.2 - external/submit\_stats

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
external	submit_stats	N/A	N/A	yes	1.1

### Description

API hook for external systems to submit statistics to TrueCommand. This requires that the external system use a valid system auth token to submit the API call over HTTP.

**Note:** This works for both “external” types of systems as well as FreeNAS/TrueNAS systems. It just needs a valid auth token which associates the API request with a currently-registered system.

**Note 2:** This will NOT work with websocket connections. HTTP API submissions only.

### Implementation Details

It is recommended that this API usage be scripted and setup to run on a fairly regular periodic basis (at least once every hour). An example of such a script is included below for demonstration purposes:

```
#!/bin/sh

# Access info for TrueCommand (system and auth token)
TC_SYSTEM="CHANGEME"
TC_TOKEN="CHANGEME"

# CHANGEME : Gather/Assemble the data about the system
# This data object is a hard-coded string for demonstration purposes only
DATA='{ "hostname" : "TESTHOST", "version" : "TESTVERSION", "storage" : { "total-bytes" : 4096, "used-bytes" : 1523 }, "memory" : { "bytes-per-p'

#Now submit the statistics
URL="https://${TC_SYSTEM}/api/external/submit_stats"
echo "Submitting Stats: ${URL}"
echo "${DATA}" | jq -r . #Helps verify that the JSON was formatted properly
echo "-----"
curl -k --data "${DATA}" -u ":${TC_TOKEN}" -X PUT "${URL}"
```

### Input Arguments

- Required:
  - “hostname” (string) : System hostname
  - “cpu” (Json Array of Objects) : One object per CPU
    - “user” (number) : Percent utilization by user processes
    - “system” (number) : Percent utilization by system processes
    - “idle” (number) : Percent remaining un-used.
  - “memory” (Json Object) : Information about memory usage on the system. Primary memory types supported are “active”, “free”, “inactive”, “laundry”, and “wired”.
    - “bytes-per-page” (number) : [Optional] conversion from page numbers to bytes (if pages are supplied)
    - “cache-hit-percent” (number) : [Optional] Percentage of memory requests hitting the ZFS cache
    - “[something]-pages” (number) : Number of pages of a particular type of memory. As many of these fields as needed. This requires that the “bytes-per-page” conversion number also be provided.
    - “[something]-bytes” (number) : Number of bytes of a particular type of memory. As many of these fields as needed. These fields are preferred over the -pages fields if they both have the same prefix (“free-bytes” will be used instead of “free-pages” if both are provided).
  - “network” (Json Array of Json Objects) : Information about network usage on the system (one object per interface)
    - “name” (string) : [Required] Unique name of the interface (example: “igb0”)
    - “KB/s in” (number) : [Recommended] Current data transfer into the interface
    - “KB/s out” (number) : [Recommended] Current data transfer out of the interface
    - “[something]” (number) : [Optional] Statistic to record.
  - “storage” (Json Object) : Information about storage utilization from the system
    - “total-bytes” (number) : Total size of the available storage in bytes
    - “used-bytes” (number) : Amount of storage space already used in bytes.
  - “version” (string) : Version number of the system
  - “uptime\_seconds” (number) : System uptime in seconds.
- Optional (but recommended):
  - “cpu\_temperatures” (Json Array of numbers) : One element per CPU, with temperature number in degrees Celcius.
  - “disk” (Json Array of Json Objects) : One element per hard-disk of stats about that disk.
    - Note: Each disk object must have a field called “Name” which contains the unique identifier for that disk (“ada0” or “da3” for example). All other field names are arbitrary/optional but should have numerical values.
  - “timezone” (string) : System timezone (Example: “America/New\_York”)
  - “model” (string) : model information about the system (typically CPU make/model)

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "hostname": "1.2.3.4",
  "cpu": [{ "user": 15, "system": 25, "idle": 60 }],
  "memory": {
```

```
    "bytes-per-page": 256,  
    "cache-hit-percent": 23,  
    "free-bytes": 12885465088,  
    "inactive-pages": 234980,  
    "active-pages": 35654568  
  },  
  "storage": {  
    "total-bytes": 32098409238230,  
    "used-bytes": 430984030458  
  },  
  "network": [{ "name": "igb0", "KB/s in": 13568, "KB/s out": 2036 }],  
  "version": "2.7.6",  
  "uptime_seconds": 518799978  
}
```

## Reply Example Arguments

```
{  
  "result" : "success"  
}
```

## Log Summary

This API call does not generate a detailed log summary item

## Events

This API call will generate the standard event notifications for new statistics. See the [servers/list](#) API for event details.

## See Also

- [servers/list\\_tokens](#)
- [external/submit\\_alerts](#)



## 5.12 - FreeNAS management

### API Class: FreeNAS

API calls which allow the user to interact with FreeNAS systems directly. The access to this subsystem still respects the user permissions for systems, so a user will only be able to send modification API calls to a FreeNAS system if that user has write permission for that system.

- Note: The API documentation for FreeNAS can be found on any local FreeNAS system: `[IP_OF_FREENAS]/api/docs`
- Note 2: TrueCommand only provides access to the **websocket** API for FreeNAS, not the REST[1.0/2.0] API calls.

### Reference Guide

- [freenas/available\\_methods](#)
- [freenas/send\\_method](#)

## 5.12.1 - freenas/available\_methods

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
freenas	available_methods	N/A	N/A	N/A	1

### Description

Returns a list of all the supported FreeNAS API methods which can be used for the “freenas/send\_method” API call. This will return all the known/supported methods as well as the permission level required in order to use it.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "methods" : {
    "disk.decrypt" : "r/w",
    "disk.get_encrypted" : "r",
    "disk.get_unused" : "r",
    "disk.query" : "r",
    "disk.update" : "r/w",
    "disk.wipe" : "r/w"
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [freenas/send\\_method](#)

## 5.12.2 - freenas/send\_method

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
freenas	send_method	N/A	N/A	N/A	1

### Description

**This is only available for Websocket connections** Call a designated FreeNAS method API.

### Input Arguments

- Required Arguments:
  - "tvid" : (string or array of strings) ID of the system(s) to send the API request to
  - "method" : (string) API method to call (example: "disk.query")
  - "params" : (anything) JSON field that is passed directly to FreeNAS as the method arguments (typically an array of JSON information)

### Notes:

- The "id" field of the API request will be automatically re-used for the designated FreeNAS API call and reply.
- The return format of FreeNAS API calls vary widely, the only guarantee is that the "id" field of the reply will match that of the request.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "id" : "freenas_api_call_1",
  "namespace" : "freenas",
  "name" : "send_method",
  "args" : {
    "tvid" : "server_id_1",
    "method" : "disk.query",
    "params" : []
  }
}
```

### Reply Example

```
{
  "id": "freenas_api_call_1",
  "msg": "result",
  "result": [
    {
      "acousticlevel": "DISABLED",
      "advpowermgmt": "DISABLED",
      "description": "",
      "enclosure_slot": null,
      "expiretime": null,
      "hddstandby": "ALWAYS ON",
      "identifier": "{serial}30GS10WTT84Z",
      "multipath_member": "",
      "multipath_name": "",
      "name": "ada0",
      "number": 0,
      "passwd": "",
      "serial": "30GS10WTT84Z",
      "size": "30016659456",
      "smartoptions": "",
      "subsystem": "ada",
      "togglesmart": true,
      "transfermode": "Auto"
    },
    {
      "acousticlevel": "DISABLED",
      "advpowermgmt": "DISABLED",
      "description": "",
      "enclosure_slot": null,
      "expiretime": null,
      "hddstandby": "ALWAYS ON",
      "identifier": "{serial}5NH0N524",
      "multipath_member": "",
      "multipath_name": "",
      "name": "ada1",
      "number": 1,
      "passwd": "",
      "serial": "5NH0N524",
      "size": "80026361856",
      "smartoptions": "",
      "subsystem": "ada",
      "togglesmart": true,
      "transfermode": "Auto"
    }
  ]
}
```

## Events

This API call does not emit any middleware events.

## Log Summary

This API call does not generate a detailed log summary item

```
{}
```

## See Also

- [freenas/available\\_methods](#)

## 5.13 - LDAP

### LDAP authentication options

TrueCommand provides the ability to use an external LDAP authentication server for managing user logins permissions.

Active directory environments utilize an LDAP authentication server as part of the active directory specifications. As such, the information specified here also applies to using an active directory instance for handling the authentication.

### LDAP Settings Object

Each LDAP server definition can use provide several options to ensure

- “server” (string, Required) : IP or DNS name of the LDAP server
- “require\_tls” (boolean, default: true) : Require a fully-verified TLS connection to the LDAP server before submitting user details. If false, this will attempt and use a TLS connection if one is available, but failover to trying a non-TLS connection as needed.
- “user” (string, optional) : Username to try when validating the connection to the LDAP server (will use the account username by default)
  - WARNING: Do not provide this option when setting a system-wide LDAP authentication rule. It will overwrite the actual username being used to login. It is
- “domain” (string, optional) : Domain settings for user authentication
  - Short form (“mycorp.com”): Use @ for the LDAP connection.
  - Long form (“cn=users,dc=mycorp,dc=com”) : Full list of domain settings needed for LDAP authentication.
    - NOTE: The “\${USER}” string can be used in the long-form domain definition as a placeholder for the username. This will typically be needed when setting up a system-wide LDAP authentication rule.
- “sasldb\_domain” (string, optional) : Specify the requested authorization ID for SASL bind.
  - Must be one of the following formats: “dn:” or “u:”
  - Setting this field automatically switches the connection method over to a SASL bind.

### SSL/TLS Connection Info

If the LDAP server uses an SSL certificate generated by a custom certificate authority (CA), then one of two things must occur before the LDAP server can be used by TrueCommand:

- (Option 1) The custom certificate authority must be registered with TrueCommand via the [ssl/ca\\_import](#) API call.
- (Option 2) The “require\_tls” option can be disabled to allow non-TLS connections to the LDAP server. WARNING: This option can possibly leak user information and is not recommended.

## 5.14 - License management

### API Class: Licensing

API calls related to the currently-registered user license.

#### Reference Guide

- [license/check](#)
- [license/getvuid](#)
- [license/info](#)
- [license/register](#)

### 5.14.1 - license/check

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
license	check	no	no	yes	1

#### Description

Check whether the current license is expired or already reached.

#### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

#### Reply Example

```
{
  "disks_over_limit" : false,
  "license_expired" : false
}
```

#### Events

Any licensing changes will generate a "license/check" event which will be sent out to all connected users.

Example:

```
{
  "namespace" : "event",
  "name" : "license/check",
  "id" : "",
  "args" : {}
}
```

#### Log Summary

This API call does not generate a detailed log summary item

#### See Also

- [license/register](#)
- [license/info](#)

## 5.14.2 - license/getvuid

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
license	getvuid	no	no	no	1

### Description

Return general the TV ID for the system itself

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{  
  "system_id" : "my_unique_system_id",  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

#### See Also

- [license/info](#)
- [license/register](#)

## 5.14.3 - license/info

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
license	info	yes	no	no	1

### Description

Return the information contained within the current license

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

NOTE: The full license info will probably be more expansive than the example here (vendor/licensee info, etc).

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "license" : {
    "contact" : {
      "sales_email" : "sales@ixsystems.com",
      "sales_phone" : "1-408-943-4100",
      "support_email" : "support@ixsystems.com",
      "support_phone" : "1-408-943-4100"
    },
    "license" : {
      "id" : "default_tv_id",
      "name" : "Default License",
      "system_id" : ""
    },
    "limits" : {
      "max_disks" : 50
    }
  },
  "current_disks" : 10,
  "current_systems" : 3
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [license/register](#)
- [license/gettvuid](#)
- [license/check](#)



## 5.14.4 - license/register

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
license	register	yes	no	yes	1

### Description

Register a new license with TrueCommand (administrator only)

### Input Arguments

- Required:
  - `"license_file_contents"` : (string) Contents of the license file encapsulated as a string (file contents should already be base64-encoded can just be read/passed through as text)

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "license_file_contents" : "contents_of_the_license_file_on_client_system",  
}
```

### Reply Example

- Example Reply Arguments (success):

```
{  
  "result" : "success"  
}
```

- Example Reply Arguments (failure): NOTE: This type of failure means that the license/signature files were detected to be invalid and unable to be used (not the same kind of failure as an invalid API submission or unauthorized access).

```
{  
  "result" : "failure"  
}
```

### Events

This API call will generate a [license/check](#) event.

If the license expires while TrueCommand is still running, this will generate another [license/check](#) event.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [license/info](#)
- [license/gettvuid](#)

## 5.15 - Notice management

### API Class: notices

These are alert messages which have been activated by one of the custom alert rules. They are unique instances of alerts, which are tagged by the system which triggered the alert (and associated information) as well as mechanisms for users to comment on notices and eventually mark them as resolved.

### Reference Guide

- [notices/add\\_comment](#)
- [notices/create\\_fake](#)
- [notices/delete](#)
- [notices/delete\\_comment](#)
- [notices/list](#)
- [notices/set\\_resolved](#)

## 5.15.1 - notices/add\_comment

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	add_comment	no	no	yes	1

### Description

Add a comment to an alert notice. This can be done for any notice, even ones that have been marked as resolved.

### Input Arguments

- Required inputs:
  - "aid" : (string) ID for the alert notice to comment on
  - "comment" : (string) Text to add as a comment
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "aid" : "3",
  "comment" : "Anybody looking into this?"
}
```

### Reply Example

```
{
  "3" : {
    "aid" : "3",
    "caid" : "alert_rule_4",
    "tvid" : "server_id_1",
    "source" : "memory",
    "resolved" : false,
    "resolved_by" : "",
    "resolved_time" : "",
    "priority" : "warning",
    "system_time_triggered" : [1104541261]
    "alert_rule" : {
      "caid" : "alert_rule_4",
      "tvid" : "",
      "source" : "memory",
      "type" : "memory-free",
      "dataset" : "value",
      "alerttype" : "less_than",
      "value" : "20%",
      "priority" : "warning",
      "isactive" : true
    },
    "comments" : [
      "[20180102T15:32:55Z](admin_1) Anybody looking into this?"
    ]
  }
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "",
  "id" : "event",
  "args" : {
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [notices/list](#)
- [notices/set\\_resolved](#)

- [notices/delete\\_comment](#)
- [notices/delete](#)
- [notices/create\\_fake](#)

## 5.15.2 - notices/create\_fake

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	create_fake	yes	no	no	1

### Description

This is a way to automatically create a “fake” alert notice for testing.

### Input Arguments

- Required Arguments:
  - “tvid” : (string) ID of the system which “triggered” the fake alert
  - “caid” : (string) ID of the alert rule that will be used as the trigger for the notice.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "system_id_1",
  "caid" : "alert_rule_1"
}
```

### Reply Example

```
{
  "result" : "success",
  "aid" : "test-4"
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [notices/list](#)
- [notices/add\\_comment](#)
- [notices/set\\_resolved](#)
- [notices/delete\\_comment](#)
- [notices/delete](#)

## 5.15.3 - notices/delete

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	delete	yes	yes	yes	1

### Description

Delete an alert notice in its entirety. There is no way to recover an alert notice that has been deleted, so this should be handled with extreme care. **Administrator Access Only**

### Input Arguments

- Required Arguments:
  - "aid": (string or JSON array of strings) Notice ID(s) to delete.
    - Special Option: "aid" = "delete-all: yes, this is terrible... don't do it!"
    - This will delete *all* alert notices in the database (mainly used for developer debugging)

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "aid" : "3"
}
```

### Reply Example

```
{}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "notices/delete",
  "id" : "",
  "args" : {
    "aid" : ["3"]
  }
}
```

### Log Summary

Changes made via this API call will be automatically entered into the system log, and a summary statement will appear which looks like the following:

```
"summary" : {
  "action" : "notices/delete",
  "changed_by_username" : "admin_user",
  "changed_by_uuid" : "admin_user_uuid",
  "deleted_aid" : ["3"]
}
```

### See Also

- [notices/list](#)
- [notices/add\\_comment](#)
- [notices/set\\_resolved](#)
- [notices/delete\\_comment](#)
- [notices/create\\_fake](#)

## 5.15.4 - notices/delete\_comment

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	delete	yes	no	yes	1

### Description

Delete a comment from an alert notice. This can be done for any notice, even ones that have been marked as resolved.

**Administrator Access Only** : This change is permanent and cannot be undone.

### Input Arguments

- Required inputs:
  - "aid" : (string) ID for the alert notice to comment on
  - "comment" : (JSON array of strings) Each item in the array should contain the preamble to the comment which needs to be deleted.

### Request Example Arguments

**ARGUMENTS ONLY**: See the [basics](#) of API requests for additional formatting information.

```
{
  "aid" : "3",
  "comment" : ["[20180102T15:32:55Z](admin_1)"]
}
```

### Reply Example

```
{
  "3" : {
    "aid" : "3",
    "caid" : "alert_rule_4",
    "tvid" : "server_id_1",
    "source" : "memory",
    "resolved" : false,
    "resolved_by" : "",
    "resolved_time" : "",
    "priority" : "warning",
    "system_time_triggered" : [1104541261]
    "alert_rule" : {
      "caid" : "alert_rule_4",
      "tvid" : "",
      "source" : "memory",
      "type" : "memory-free",
      "dataset" : "value",
      "alerttype" : "less_than",
      "value" : "20%",
      "priority" : "warning",
      "isactive" : true
    },
    "comments" : []
  }
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{
  "namespace" : "event",
  "name" : "",
  "id" : "event",
  "args" : {
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [notices/list](#)
- [notices/add\\_comment](#)
- [notices/set\\_resolved](#)
- [notices/delete](#)
- [notices/create\\_fake](#)

## 5.15.5 - notices/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	list	no	no	no	1

### Description

List alert notices for systems that the user can view:

### Input Arguments

- Required inputs: none ({}).
- Optional inputs:
  - "tvid" : (string or array of strings) Restrict the search to notices about the specified systems. Default value is to search for notices from all systems the current user can view (read access).
  - "all\_notices" : (boolean - false by default) Return notices that have been marked as resolved.
  - "count" : (integer) Maximum limit for the number of notices returned
  - "limit\_datetime" : ([string : date/time code](#)) Provide a date/time cutoff for the search (default value: current date/time)
  - "newer\_than\_datetime" : (boolean) Return notices newer than the datetime cutoff (default: false - older than cutoff)
  - "sort\_ascending\_time" : (boolean) Return notices in an array format arranged oldest->newest (if true) or newest->oldest (if false). Do not set this optional flag to return it in the standard object-based format.
- **Note:** The "system\_time\_triggered" field returns the time code (in time\_t format) for finding the trigger of the event in the system data logs. This can be very useful for viewing all of the data/subsystems around the time that the alert was triggered for debugging purposes.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "server_id_1",
  "all_notices" : true
}
```

### Reply Example

```
{
  "3" : {
    "aid" : "3",
    "caid" : "alert_rule_4",
    "tvid" : "server_id_1",
    "source" : "memory%free_percent",
    "users_notified" : ["user_id_1", "user_id_3"],
    "resolved" : false,
    "resolved_by" : "",
    "resolved_time" : "",
    "priority" : "warning",
    "system_time_triggered" : [1104541261],
    "last_update_time" : "20180101T12:02:375Z",
    "alert_notice_created_time_t" : 1104541266,
    "alert_rule" : {
      "caid" : "alert_rule_4",
      "tvid" : "",
      "source" : "memory%free_percent",
      "alerttype" : "less_than",
      "value" : "20",
      "priority" : "warning",
      "inactive" : true
    },
    "comments" : [
      "[20180102T15:32:55Z](admin_1) Anybody looking into this?"
    ]
  },
  "1" : {
    "aid" : "1",
    "caid" : "alert_rule_4",
    "tvid" : "server_id_1",
    "source" : "memory%free_percent",
    "users_notified" : ["user_id_5", "user_id_2"],
    "resolved" : true,
    "resolved_by" : "user_id_4",
    "resolved_time" : "20170620T12:02:05Z",
    "priority" : "warning",
    "system_time_triggered" : [504925261, 504925335],
    "last_update_time" : "20170619T12:02:375Z",
    "alert_notice_created_time_t" : 504925265,
    "alert_rule" : {
      "caid" : "alert_rule_4",
      "tvid" : "",
      "source" : "memory%free_percent",
      "alerttype" : "less_than",
      "value" : "20",
      "priority" : "warning",
      "inactive" : true
    }
  },
}
```



```

"comments" : [
  "[20170620T11:50:05Z](admin_4) I got this",
  "[20170620T11:51:42Z](admin_2) Sure thing",
  "[20170620T12:02:05Z](admin_4) Fixed - just needed to restart Samba to free up a stale memory cache",
]
}
}

```

## Events

Events from this change will be sent to everybody currently logged-in who has read permission for the system which triggered the alert

Example:

```

{
  "namespace" : "event",
  "name" : "notices/add",
  "id" : "",
  "args" : {
    "8" : {
      "aid" : "8",
      "caid" : "alert_rule_4",
      "tvid" : "server_id_1",
      "source" : "memory%free_percent",
      "users_notified" : ["user_id_1", "user_id_2"],
      "resolved" : false,
      "resolved_by" : "",
      "resolved_time" : "",
      "priority" : "warning",
      "system_time_triggered" : [504925261],
      "last_update_time" : "20170619T12:02:375Z",
      "alert_notice_created_time_t" : 504925265,
      "alert_rule" : {
        "caid" : "alert_rule_4",
        "tvid" : "",
        "source" : "memory%free_percent",
        "alerttype" : "less_than",
        "value" : "20",
        "priority" : "warning",
        "isactive" : true
      },
      "comments" : []
    }
  }
}

```

**NOTE:** If an alert was modified in any way (such as getting marked resolved or having comments added/removed), this same event will be sent out but with the "notices/update" name instead.

## Log Summary

This API call does not generate a detailed log summary item

### See Also

- [notices/add\\_comment](#)
- [notices/set\\_resolved](#)
- [notices/delete\\_comment](#)
- [notices/delete](#)
- [notices/create\\_fake](#)

## 5.15.6 - notices/set\_resolved

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
notices	set_resolved	no	no	yes	1

### Description

Mark an alert notice as resolved, and optionally add a comment about why.

### Input Arguments

- Required inputs:
  - "aid" : (string or JSON Array of strings) ID(s) for the alert notice to resolve
- Optional inputs:
  - "comment" : (string) Text to add as a comment about why the alert was resolved

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "aid" : "1",
  "comment" : "Fixed - just needed to restart Samba to free up a stale memory cache"
}
```

### Reply Example

```
{
  "1" : {
    "aid" : "1",
    "caid" : "alert_rule_4",
    "tvid" : "server_id_1",
    "source" : "memory%free_percent",
    "resolved" : true,
    "resolved_by" : "user_id_4",
    "resolved_time" : "20170620T12:02:05Z",
    "priority" : "warning",
    "system_time_triggered" : [504925261]
    "alert_rule" : {
      "caid" : "alert_rule_4",
      "tvid" : "",
      "source" : "memory%free_percent",
      "alerttype" : "less_than",
      "value" : "20",
      "priority" : "warning",
      "isactive" : true
    },
    "comments" : [
      "[20170620T11:50:05Z](admin_4) I got this",
      "[20170620T11:51:42Z](admin_2) Sure thing",
      "[20170620T12:02:05Z](admin_4) Fixed - just needed to restart Samba to free up a stale memory cache",
    ]
  }
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to impacted server(s).

Example:

```
{}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [notices/list](#)
- [notices/add\\_comment](#)
- [notices/delete\\_comment](#)
- [notices/delete](#)
- [notices/create\\_fake](#)

## 5.16 - Remote Protocol Communications

### API Class: rpc

Authentication procedures for websocket connections to TrueCommand or other “universal” information requests.

### Reference Guide

- [rpc/auth](#)
- [rpc/auth\\_clear](#)
- [rpc/auth\\_token](#)
- [rpc/query](#)

### 5.16.1 - rpc/auth

Namespace	Name	Admin Only	Log Summary	Generates Event
rpc	auth	N/A	N/A	N/A

#### Description

Login to TrueCommand with a username and password. This needs to be performed within a few seconds of establishing the websocket connection, otherwise the server will close down the connection.

#### Input Arguments

- Required:
  - “username” (string) : Name of the user to login
  - “password” (string) : Password associated with the specified user
- Optional:
  - none ({})

#### Request Example Arguments

```
{
  "namespace" : "rpc",
  "name" : "auth",
  "id" : "some_id",
  "args" : {
    "username": "myuser",
    "password": "mypassword"
  }
}
```

#### Reply Example

```
{
  "namespace" : "response",
  "name" : "auth",
  "id" : "some_id",
  "args" : {
    "args" : ["long_random_auth_token", 900, "user_uuid"]
  }
}
```

The arguments returned are:

- [0]: Authentication token which can be used to automatically re-connect to the middleware
- [1]: Time (in seconds) that must pass without any communication from the client before the token gets invalidated.
- [2]: The current user's UUID.

#### Log Summary

This API call does not generate a detailed log summary item

#### Events

This API call does not emit any middleware events.

#### See Also

- [rpc/auth\\_token](#)
- [rpc/auth\\_clear](#)
- [rpc/query](#)

## 5.16.2 - rpc/auth\_clear

Namespace	Name	Admin Only	Log Summary	Generates Event
rpc	auth_clear	N/A	N/A	N/A

### Description

Logout of an existing session. This will invalidate any existing auth tokens for the user session and close down the websocket connection.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

```
{
  "namespace" : "rpc",
  "name" : "auth_clear",
  "id" : "some_id",
  "args" : {}
}
```

### Reply Example

There is no reply. The server responds by closing the websocket connection after invalidating any outstanding auth tokens and closing the current session (nearly-instant action).

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [rpc/auth](#)
- [rpc/auth\\_token](#)
- [rpc/query](#)

## 5.16.3 - rpc/auth\_token

Namespace	Name	Admin Only	Log Summary	Generates Event
rpc	auth_token	N/A	N/A	N/A

### Description

Login to TrueCommand with a previously-provided login token. This needs to be performed within a few seconds of establishing the websocket connection, otherwise the server will close down the connection. A successful login with an auth token will automatically invalidate that token and a new token will be returned for future use again.

### Input Arguments

- Required:
  - "token" (string) : Authorization token to use
- Optional:
  - none ({})

### Request Example Arguments

```
{
  "namespace" : "rpc",
  "name" : "auth_token",
  "id" : "some_id",
  "args" : {
    "token": "long_random_auth_token"
  }
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "auth_token",
  "id" : "some_id",
  "args" : {
    "args" : ["long_random_auth_token", 900, "user_uuid"]
  }
}
```

The arguments returned are:

- [0]: Authentication token which can be used to automatically re-connect to the middleware
- [1]: Time (in seconds) that must pass without any communication from the client before the token gets invalidated.
- [2]: The current user's UUID.

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [rpc/auth](#)
- [rpc/auth\\_clear](#)
- [rpc/query](#)

## 5.16.4 - rpc/query

Namespace	Name	Admin Only	Log Summary	Generates Event
rpc	query	N/A	N/A	N/A

### Description

List all the available systems/subsystems that the user can interact with.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

```
{
  "namespace" : "rpc",
  "name" : "query",
  "id" : "some_id",
  "args" : {}
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "query",
  "id" : "some_id",
  "args" : {
    "rpc": ["auth", "auth_token", "auth_clear", "query"]
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [rpc/auth](#)
- [rpc/auth\\_token](#)
- [rpc/auth\\_clear](#)

## 5.17 - Reporting Formats

Basic information about reports and the types of widgets available.

The reports objects used by all of the “reports/\*\*” API calls include a generic “widgets” object which defines all the various appearance-related options and charting selections for a report. This document details all the various formatting options for that widgets object which are supported by the TrueCommand middleware. Everything outside the scope of this format is simply ignored by the middleware.

### The “widgets” object and item placement

The top-level of the “widgets” object contains the information necessary for creating the layout of the items on the screen. The screen is divided into a grid of equally-sized quadrants, with the “column\_count” field determining the number of columns to divide the screen into, and the length of the “items” array determining placement of the items. The row number is automatically determined (items / columns) and the page will become scrollable as needed to fit all of the items.

The items are placed into the grid starting with the top-left corner, so a column count of 2 with an item length of 3 will result in a 2x2 grid with the top row filled in and the left-most grid of the second row also populated.

Top-level object format example:

```
"widgets" : {
  "column_count" : 2,
  "items" : [
    {<Widget1>},
    {<Widget2>},
    {<Widget3>}
  ]
}
```

Visual Representation:

Widget1	Widget 2
Widget3	-empty-

It is also possible insert gaps or arrange the items on the page by inserting “null” values into the items array for every blank grid point on the page.

Example 2:

```
"widgets" : {
  "column_count" : 2,
  "items" : [
    {<Widget1>},
    null,
    {<Widget2>},
    null,
    {<Widget3>}
  ]
}
```

Visual Representation:

Widget1	-empty-
Widget2	-empty-
Widget3	-empty-

Visual Representation if the column count is changed to 3:

Widget1	-empty-	Widget2
-empty-	Widget3	-empty-

### Types of widgets

All widget options **must** contain a field called “type” which is set to one of the following options:

- “chart” : A graphical chart of information
- “list” : An auto-generated list of information
- “text” : Simple text which should be shown. Supports some basic rules for inserting information such as timestamps automatically.

Details for these types of widgets are included below

#### Chart Widgets

**Line Charts**

**Bar Charts**

**Area Charts**

**Donut Charts**

**Pie Charts**

**List Widgets**

**Text Widgets**



## 5.18 - Server management

### API Class: servers

These API calls are for managing which FreeNAS/TrueNAS servers are available through the TrueCommand system. Administrators can see/modify all servers irrespective of the servers/groups listed on their particular user account. Their user settings are better utilized as “favorites” for the home-page of the web interface or something similar. Non-administrators will only be able to view/interact with servers as dictated by the permissions set in their user configuration

### Reference Guide

- [servers/add](#)
- [servers/add\\_tokens](#)
- [servers/available](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_rename](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_tokens](#)
- [servers/list\\_writable](#)
- [servers/reconnect](#)
- [servers/remove](#)
- [servers/remove\\_tokens](#)
- [servers/update](#)

## 5.18.1 - servers/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
server	add	yes	yes	yes	1

### Description

Add a new FreeNAS/TrueNAS server to the TrueCommand administration framework.

### Input Arguments

- Required Arguments:
  - "ip" (string) : DNS name or IP address of the system on the network.
  - "login\_user" (string) : Name of the user to login to the system
    - NOTE: Not needed/used if the "is\_external" flag is enabled
  - "login\_password" (string) : Password for the user to login to the system
    - NOTE: Not needed/used if the "is\_external" flag is enabled
- Optional Arguments:
  - "nickname" (string) : User-visible name for this system
    - NOTE: This field is required if the "is\_external" flag is enabled
  - "groups" (JSONArray of strings)
  - "tags" (JSONArray) : Search tags, Format - ["tag\_1", "tag\_2"]
  - "ignore\_alerts" (string or JSONArray of strings) : Types of passthrough alerts to ignore from the NAS
    - Added in TrueCommand 1.1
    - Valid types: "information", "warning", "critical", or "all"
    - Default value: null. No alerts are ignored.
  - "is\_external" (boolean) : This system is a not a FreeNAS/TrueNAS system (default: false)
    - Added in TrueCommand 1.1
    - Information from this system is only submitted via the "external" API namespace
    - TrueCommand does not connect to this system directly. TC is just an endpoint for storing/viewing stats that the system periodically submits.
    - This flag cannot be changed later.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "ip" : "192.168.0.1",
  "login_user" : "root",
  "login_password" : "server_password",
  "nickname" : "server_nickname",
  "groups" : ["group1", "group2"]
}
```

### Reply Example

- Example Reply Arguments (success):

```
{
  "result" : "success",
  "id" : "new_server_id"
}
```

- Example Reply Arguments (error: IP already managed)

```
{
  "error" : "IP Exists",
  "code" : "400",
  "message" : "Bad Request"
}
```

### Events

Events from this change will be sent to all currently-connected administrators and any user with read access to the new server (such as from adding a server to an existing group).

Example event message:

```
{
  "namespace" : "event",
  "name" : "servers/add",
  "id" : "",
  "args" : {
    "tvid" : "new_server_id"
  }
}
```

### Log Summary

Log entries for this API call will have the following “summary” object. Note that empty fields from the input arguments (hostname, mac\_address, groups, nickname) will result in those fields getting excluded from the summary as well (the summary only lists the *changes*).

```
"summary" : {  
  "action" : "servers/add",  
  "added_by_username" : "admin_user",  
  "added_by_uuid" : "admin_user_uuid",  
  "new_ip" : "newuser",  
  "new_tvid" : "new_server_id",  
  "new_nickname" : "server_nickname",  
  "new_groups" : ["group1","group2"]  
}
```

### See Also

- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.2 - servers/add\_tokens

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	add_tokens	yes	no	yes	1.1

### Description

Create authentication tokens that are associated with a specific system. These tokens may be used to submit information to TrueCommand via the “external” namespace of API calls.

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - “tvid” (string) : System ID for where to generate auth tokens
  - “name” (string or Json Array of strings) : Nickname(s) for the tokens to create. These should generally be useful for the user to remember what they were using the token for.
    - The names given here must be unique. This API will not overwrite existing tokens if the name was already created previously.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "server_id_1",
  "names" : "token_4"
}
```

### Reply Example

```
{
  "result" : "success",
  "tokens" : {
    "token_1" : "XXXXXXXXXXXXXX",
    "token_2" : "YYYYYYYYYYYYYY",
    "token_3" : "ZZZZZZZZZZZZZZ",
    "token_4" : "ABCDEFGHJKLMNPO",
  }
}
```

### Events

This API call will emit a “servers/list\_tokens” event to notify other administrators of the change. See the [servers/list\\_tokens](#) API reference for details.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/list\\_tokens](#)
- [servers/remove\\_tokens](#)

## 5.18.3 - servers/available

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
servers	available	yes	no	no	1.3	

### Description

[Cloud-instance only] Display the list of NAS's that are currently available within the wireguard network. This only displays the nicknames and internal wireguard IP's of the systems as generated by the cloud-instance account portal. It does not verify the availability of the systems in any way.

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "available" : {
    "172.28.0.13" : "my-nas.local",
    "172.28.0.19" : "nas2.local"
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.4 - servers/current\_stats

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	current_stats	no	no	yes	1

### Description

Ask for any information about the servers. NOTE: This will only return information about servers that the current user has read access to. By default this will return the information about all the servers the user is aware of, but the "tvid" input can be used to restrict the output information as needed. More information may be returned than that shown in the example below.

### Input Arguments

- Required Arguments: none ({})
- Optional Arguments: "tvid" (string **or** JSONArray of strings)

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "server_id_1" : {
    "hostname" : "server_hostname",
    "version" : "server_version",
    "cpu_num" : 1,
    "memory_bytes" : 1024
  }
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to this server whenever the statistics for a server are changed. NOTE: Arguments for the event exactly match the format of the servers/current\_stats API call return, just for a single system.

- Example event message:

```
{
  "namespace" : "event",
  "name" : "servers/current_stats",
  "id" : "",
  "args" : {
    "server_id_1" : {
      "hostname" : "server_hostname",
      "version" : "server_version",
      "cpu_num" : 1,
      "memory_bytes" : 1024
    }
  }
}
```

- Example "disconnection" event message for when TrueCommand loses connection to a system.

```
{
  "namespace" : "event",
  "name" : "servers/disconnected",
  "id" : "",
  "args" : {
    "tvid" : "server_id_1"
  }
}
```

- Example "connection" event message for when TrueCommand establishes a connection to a system.

```
{
  "namespace" : "event",
  "name" : "servers/connected",
  "id" : "",
  "args" : {
    "tvid" : "server_id_1"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.5 - servers/direct\_auth

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	direct_auth	no	no	no	1

### Description

Request direct access to a server (requires user write permissions for server) This will return all the necessary information to directly connect to the server for advanced configuration

NOTE: The authentication token returned is only temporary - any significant delay in using it to login to the server may result in the token becoming invalid.

### Input Arguments

- Required: "id" (string)
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{  
  "id" : "server_id_1"  
}
```

### Reply Example

- Example Reply Arguments (success):

```
{  
  "server_status" : "online",  
  "server_ip" : "192.168.0.1",  
  "server_auth_token" : "some_temporary_authentication_token"  
}
```

- Example Reply Arguments (unavailable):

```
{  
  "server_status" : "offline"  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)



# 5.18.6 - servers/edit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	edit	yes	yes	yes	1

## Description

Modify an existing server settings

NOTE: Administrator access only - non-administrators will receive a 403/Forbidden error

## Input Arguments

- Required Arguments: "id" (string)
- Optional Arguments (at least one):
  - "ip" (string)
  - "login\_user" (string)
  - "login\_password" (string)
  - "nickname" (string)
  - "groups" (JsonArray of strings)
  - "tags" (JsonArray) : Search tags, Format - ["tag\_1", "tag\_2"].
  - "connection\_paused" (boolean) : Pause the connection. Will connect to the system and allow minimal access, but no stats or probes will run on the NAS.
  - "ignore\_alerts" (string or JsonArray of strings) : Types of passthrough alerts to ignore from the NAS
    - Valid types: "information", "warning", "critical", or "all". Submit a null value to reset back to system defaults.

## Request Example Arguments

ARGUMENTS ONLY: See the [basics](#) of API requests for additional formatting information.

```
{
  "id" : "server_id_1",
  "nickname" : "new_nickname",
  "groups" : ["group3", "group4"]
}
```

## Reply Example

```
{
  "server_id_1" : {
    "id" : "server_id_1",
    "nickname" : "new_nickname",
    "groups" : ["group3", "group4"],
    "ip" : "192.168.0.1",
    "login_user" : "root",
    "mac_address" : "system_mac_address",
    "connection_secure" : true,
    "connection_paused" : false,
    "connection_error" : "Connected"
  }
}
```

## Events

Events from this change will be sent to all administrators and any user with read access to this server.

Example:

```
{
  "namespace" : "event",
  "name" : "servers/edit",
  "id" : "",
  "args" : {
    "tvid" : "server_id_1"
  }
}
```

## Log Summary

This API call does not generate a detailed log summary item

```
"summary" : {
  "action" : "servers/edit",
  "changed_by_username" : "admin_user",
  "changed_by_uuid" : "admin_user_uuid",
  "new_ip" : "192.168.0.1",
  "new_login_user" : "root",
  "new_login_password" : "-----",
  "new_nickname" : "new_nickname",
  "new_groups" : ["group3","group4"]
}
```

**See Also**

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.7 - servers/find\_available

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
servers	find_available	yes	no	no	1	1.2

### Description

**This API call has been removed in version 1.2**

Ask for a list of all non-associated servers on the local network which are discoverable via MDNS.

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "192.168.10.10" : {
    "address" : "192.168.10.10",
    "target" : "my_local_server.local",
    "name" : "my_local_server",
    "port" : "80"
  },
  "192.168.10.11" : {
    "address" : "192.168.10.11",
    "target" : "my_local_server2.local",
    "name" : "my_local_server2",
    "port" : "80"
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.8 - servers/groups\_add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	groups_add	yes	no	yes	1

### Description

Simplification for adding existing servers to new or existing groups

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - "[server\_id]" : String or array of strings for groups which need to include this server

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "server_id_1" : "new_group_1",
  "server_id_2" : [ "new_group_1", "new_group_2" ]
}
```

### Reply Example

```
{
  "server_id_1" : [ "previous_group_1", "previous_group_2", "new_group_1" ],
  "server_id_2" : [ "previous_group_1", "previous_group_2", "new_group_1", "new_group_2" ]
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to this server.

Example:

```
{
  "namespace" : "event",
  "name" : "servers/edit",
  "id" : "",
  "args" : {}
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.9 - servers/groups\_remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	groups_remove	yes	no	no	1

### Description

Simplification for removing existing servers from existing groups

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - "[server\_id]" : String or array of strings for groups which need to be removed from this server
- Optional:
  - none ({} )

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "server_id_1" : "previous_group_1",
  "server_id_2" : [ "previous_group_2", "previous_group_3" ]
}
```

- Example Group Assignments (initial, before example request)

```
"server_id_1" : [ "previous_group_1", "previous_group_2" ],
"server_id_2" : [ "previous_group_1", "previous_group_2" ]
```

### Reply Example

```
{
  "server_id_1" : [ "previous_group_2" ],
  "server_id_2" : [ "previous_group_1" ]
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to this server.

Example:

```
{
  "namespace" : "event",
  "name" : "servers/edit",
  "id" : "",
  "args" : {}
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.10 - servers/groups\_rename

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	groups_rename	yes	yes	yes	1

### Description

Simplification for renaming a server group to a different name. If a group with the new name exists, then this will effectively “merge” the old group into the new one.

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - “groupname\_old” : (String) Existing name for the group.
  - “groupname\_new” : (String) New name for the group.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "groupname_old" : "group01",
  "groupname_new" : "group_1"
}
```

### Reply Example

```
{
  "result" : "success",
  "group_renamed" : "group01",
  "new_group" : "group_1"
}
```

### Events

This API call will generate a standard “servers/list\_groups” event due to the group name changes. See the [servers/list\\_groups](#) API documentation for event formatting and examples.

## Log Summary

Log entries for this API call will have the following “summary” object.

```
"summary" : {
  "action" : "servers/groups_rename",
  "added_by_username" : "admin_user",
  "added_by_uuid" : "admin_user_uuid",
  "group_renamed" : "group01",
  "new_group" : "group_1"
}
```

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.11 - servers/groups\_replace

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	groups_replace	yes	no	yes	1

### Description

Simplification for replacing the group assignments for existing servers

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - "[server\_id]" : String or array of strings for groups which need to include this server
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "server_id_1" : "new_group_1",
  "server_id_2" : [ "new_group_1", "new_group_2" ]
}
```

### Reply Example

```
{
  "server_id_1" : [ "new_group_1" ],
  "server_id_2" : [ "new_group_1", "new_group_2" ]
}
```

### Events

Events from this change will be sent to all administrators and any user with read access to this server.

Example:

```
{
  "namespace" : "event",
  "name" : "servers/edit",
  "id" : "",
  "args" : {}
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

5.18.12 - servers/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	list	no	no	no	1

Description

List basic information about the associated servers

Input Arguments

- Required Arguments: none ({})
- Optional Arguments:
  - "with\_details" : (true/false) - Also include the information from the "servers/current\_stats" API call.

Request Example Arguments

ARGUMENTS ONLY: See the [basics](#) of API requests for additional formatting information.

{}

Reply Example

- Example Reply Arguments (read-only server)

```
{
  "server1" : {
    "id" : "server1",
    "nickname" : "server_nickname",
    "hostname" : "server_hostname",
    "groups" : ["group1", "group2"],
    "connection_is_up" : true,
    "connection_error" : "",
    "last_sync","yyyy-MM-dd hh:mm:ss",
    "updates_available" : true,
    "updates_running" : false
  }
}
```

- Example Reply Arguments (read-only server, with extra details requested)

```
{
  "server1" : {
    "id" : "server1",
    "nickname" : "server_nickname",
    "hostname" : "server_hostname",
    "groups" : ["group1", "group2"],
    "connection_is_up" : true,
    "connection_error" : "",
    "last_sync","yyyy-MM-dd hh:mm:ss",
    "updates_available" : true,
    "updates_running" : false,
    "current_stats" : {
      "hostname" : "server_hostname",
      "version" : "server_version",
      "cpu_num" : 1,
      "memory_bytes" : 1024
    }
  }
}
```

- Example Reply Arguments (read/write server)

```
{
  "server1" : {
    "id" : "server1",
    "nickname" : "server_nickname",
    "hostname" : "server_hostname",
    "groups" : ["group1", "group2"],
    "connection_is_up" : true,
    "connection_error" : "",
    "last_sync","yyyy-MM-dd hh:mm:ss",
    "updates_available" : true,
    "updates_running" : false
    "ip" : "192.168.0.1",
    "login_user" : "root",
    "mac_address" : "system_mac_address"
  }
}
```

Events

This API call does not emit any middleware events.



## Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.13 - servers/list\_groups

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	list_groups	no	no	Yes	1

### Description

List all the current groups and which servers are associated with each group. If a non-administrator makes this API call, it will only return information about the groups that the user currently has access to see.

NOTE: Administrator access requirement removed in version 1.2

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "group1" : ["server_1", "server_2"],
  "group2" : ["server_1", "server_3"],
  "group3" : ["server_4"]
}
```

### Events

Events will be sent to all currently-connected administrators when the list of groups on the system is changed via any of the servers/groups\_\* API calls.

Example event message:

```
{
  "namespace" : "event",
  "name" : "servers/list_groups",
  "id" : "",
  "args" : {
    "group1" : ["server_1", "server_2"],
    "group2" : ["server_1", "server_3"],
    "group3" : ["server_4"]
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.14 - servers/list\_tokens

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	list_tokens	yes	no	no	1.1

### Description

List all the current authentication tokens which are associated with a specific system. These are tokens that may be used to submit system information via the "external" namespace of API calls, and are associated with a specific system registration.

NOTE: Administrator access only - non-administrators will receive a 403/Forbidden error

### Input Arguments

- Required:
  - "tvid" (string) : System ID for which to return current auth tokens
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "system_id_1"
}
```

### Reply Example

```
{
  "tokens" : {
    "token_1" : "XXXXXXXXXXXX",
    "token_2" : "YYYYYYYYYYYY",
    "token_3" : "ZZZZZZZZZZZZ"
  }
}
```

### Events

This API call does not emit any middleware events of it's own. Any modification of the available tokens will emit a "servers/list\_tokens" event to notify other administrators of the change.

```
{
  "namespace" : "event",
  "name" : "servers/list_tokens",
  "id" : "",
  "args" : {
    "tvid" : "system_id_1"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add\\_tokens](#)
- [servers/remove\\_tokens](#)

## 5.18.15 - servers/list\_writable

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	list_writable	no	no	no	1

### Description

List all the servers that the current user has write access to. This is useful for determining which servers the current user can directly access for administration purposes.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "server_id_1" : {
    "id" : "server_id_1",
    "hostname" : "server_hostname",
    "nickname" : "server_nickname",
    "server_status" : "online"
  },
  "server_id_2" : {
    "id" : "server_id_2",
    "hostname" : "server_2_hostname",
    "nickname" : "server_2_nickname",
    "server_status" : "offline"
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/remove](#)

## 5.18.16 - servers/reconnect

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	reconnect	no	no	no	1.3

### Description

Trigger TrueCommand to attempt to restart the connection to designated NAS's. This can be run for any NAS that the user has write-access to.

Update status is reported via the [servers/list](#) API output.

### Input Arguments

- Required: "id" (string or JSON Array of strings) : System ID's for which systems to queue up reconnections
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "id" : "server_id_1"
}
```

### Reply Example

- Example Reply Arguments (success):

```
{
  "result" : "success",
  "restart_queued" : ["server_id_1"]
}
```

- Example Reply Arguments (incompatible version of NAS):

```
{
  "result" : "failure"
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)

## 5.18.17 - servers/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	remove	yes	yes	yes	1

### Description

Remove a FreeNAS/TrueNAS server from the administration framework

NOTE: Administrator access only - non-administrators will receive a 403/Forbidden error

NOTE 2: This will not remove the data previously collected from the server - just the connection/management of the server.

### Input Arguments

- Required Arguments: "id" (string) ID string for the server to remove
  - Added in v1.1: "id" may also be a JSON array of strings, each string being the ID of a server to remove.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "id" : "server_id_1"
}
```

### Reply Example

```
{
  "result" : "success"
}
```

### Events

Events from this change will be sent to **all** active connections.

Example:

```
{
  "namespace" : "event",
  "name" : "servers/remove",
  "id" : "",
  "args" : {
    "tvid" : ["server_id_1"]
  }
}
```

### Log Summary

Log entries for this API call will have the following "summary" object. Note that empty fields from the input arguments (hostname, mac\_address, groups, nickname) will result in those fields getting excluded from the summary as well (the summary only lists the *changes*).

```
"summary" : {
  "action" : "servers/remove",
  "removed_by_username" : "admin_user",
  "removed_by_uuid" : "admin_user_uuid",
  "removed_ip" : "newuser",
  "removed_tvid" : "new_server_id",
  "removed_nickname" : "server_nickname",
  "removed_hostname" : "server_hostname",
  "removed_mac_address" : "server_mac",
  "removed_from_groups" : ["group1", "group2"]
}
```

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/direct\\_auth](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)

## 5.18.18 - servers/remove\_tokens

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	remove_tokens	yes	no	yes	1.1

### Description

Remove special access tokens from server registrations.

NOTE: Administrator access only - all others will get a 403/Forbidden error

### Input Arguments

- Required:
  - "tvid" (string) : System ID where the auth token needs to be removed
  - "name" (string or Json Array of strings) : Name(s) of the tokens to remove
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "tvid" : "server_id_1",
  "names" : ["token_1", "token_2"]
}
```

### Reply Example

```
{
  "result" : "success",
  "tokens" : {
    "token_3" : "XXXXXXXXXXXXXX"
  }
}
```

### Events

This API call will emit a "servers/list\_tokens" event to notify other administrators of the change. See the [servers/list\\_tokens](#) API reference for details.

## Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add\\_tokens](#)
- [servers/list\\_tokens](#)

## 5.18.19 - servers/update

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
servers	update	no	no	no	1.1

### Description

Have a NAS start performing updates. The system will automatically reboot to finish the update procedures. These updates will only occur on the currently-selected update train. Switching update trains must be performed on the NAS itself.

Update status is reported via the [servers/list](#) API output.

### Input Arguments

- Required: "id" (string or JSON Array of strings) : System ID's for the systems to start upgrading.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "id" : "server_id_1"
}
```

### Reply Example

- Example Reply Arguments (success):

```
{
  "result" : "success",
  "starting_updates" : ["server_id_1"],
  "unsupported" : []
}
```

- Example Reply Arguments (incompatible version of NAS):

```
{
  "result" : "failure"
  "unsupported" : ["server_id_1"]
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [servers/add](#)
- [servers/current\\_stats](#)
- [servers/edit](#)
- [servers/find\\_available](#)
- [servers/groups\\_add](#)
- [servers/groups\\_remove](#)
- [servers/groups\\_replace](#)
- [servers/list](#)
- [servers/list\\_groups](#)
- [servers/list\\_writable](#)
- [servers/remove](#)



## 5.19 - SSL Certificate Management

### API Class: Sys

Class of functions for managing SSL certificates and custom certificate authority files.

### Reference Guide

- [ssl/ca\\_import](#)
- [ssl/ca\\_list](#)
- [ssl/ca\\_remove](#)
- [ssl/cert\\_import](#)
- [ssl/cert\\_info](#)
- [ssl/cert\\_reset](#)

### 5.19.1 - ssl/ca\_import

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	ca_import	yes	no	no	1

#### Description

Import a custom certificate authority (CA) certificate which will be accepted for all NAS connections.

If the "name" matches an already existing custom CA, then that CA file will be overwritten with the new contents.

#### Input Arguments

- Required:
  - "name" : (string) internal name for the CA certificate
  - "pem" : (string) Certificate contents (must be in PEM format)
- Optional:
  - "pem\_as\_base64" : (boolean) The "pem" string is provided in base64-encoded format (default: false).

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "name" : "mycustomCA-1"  
  "pem" : "ASF1JBGI0UWSKLDFGJBNSDF:GJBNGSDFIVU54394785SDIGHB",  
  "pem_as_base64" : true  
}
```

#### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success"  
}
```

#### Log Summary

This API call does not generate a detailed log summary item

#### Events

This API call does not emit any middleware events.

#### See Also

- [ssl/ca\\_list](#)
- [ssl/ca\\_remove](#)

## 5.19.2 - ssl/ca\_list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	ca_list	yes	no	no	1

### Description

List the internal names of all custom CA files that have been imported.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "custom_ca_list" : ["mycustomca-1"]  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [ssl/ca\\_import](#)
- [ssl/ca\\_remove](#)

## 5.19.3 - ssl/ca\_remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	ca_remove	yes	no	no	1

### Description

Remove custom certificate authority file(s).

### Input Arguments

- Required:
  - "ca\_certs": (string or JSON array of strings) Name of the certificate to remove.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "ca_certs" : "mycustomCA-1"  
}
```

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [ssl/ca\\_import](#)
- [ssl/ca\\_list](#)

## 5.19.4 - ssl/cert\_import

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	cert_import	yes	no	no	1

### Description

Import a custom SSL certificate to be used for the TrueCommand web interface.

### Input Arguments

- Required:
  - "pem" : (string) Certificate contents (must be in PEM format)
  - "key" : (string) Key contents (must be in RSA/PEM format without a passphrase).
- Optional:
  - "pem\_as\_base64" : (boolean) The "pem" string is provided in base64-encoded format (default: false).
  - "key\_as\_base64" : (boolean) The "key" string is provided in base64-encoded format (default: false).

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "pem" : "ASFIJBGIUWSKLDGJBNPDF:GJBNBGSDFIVU54394785SDIGHB",  
  "pem_as_base64" : true,  
  "key" : "SZGFJISBEGILUWSGELIFUBIUGBSILUDGBGLRKS",  
  "key_as_base64" : true  
}
```

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [ssl/cert\\_reset](#)
- [ssl/cert\\_info](#)

## 5.19.5 - ssl/cert\_info

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	cert_info	yes	no	no	1

### Description

View information about the current TrueCommand SSL certificate

### Input Arguments

- Required:
- Optional:

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {}
```

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "using_custom_cert" : false  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [ssl/cert\\_import](#)
- [ssl/cert\\_reset](#)

## 5.19.6 - ssl/cert\_reset

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
ssl	cert_reset	yes	no	no	1

### Description

Remove any custom SSL certificate for TrueCommand itself and replace it with the automatically-generated self-signed certificate.

Note that this API call will return an error if there is currently no custom SSL certificate being used.

### Input Arguments

- Required:
- Optional:

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {}
```

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [ssl/cert\\_import](#)
- [ssl/cert\\_info](#)

## 5.20 - System Management

### API Class: sys

Class of functions for interacting with low-level system functionality for TrueCommand itself.

#### Reference Guide

- [sys/info](#)
- [sys/list\\_config](#)
- [sys/middleware\\_log](#)
- [sys/reboot](#)
- [sys/reboot\\_stop](#)
- [sys/reboot\\_time](#)
- [sys/set\\_config](#)
- [sys/update\\_check](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/updates\\_available](#)
- [sys/upload\\_file](#)
- [sys/version\\_info](#)

### 5.20.1 - sys/info

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	info	no	no	no	1

#### Description

Return general information about the system itself

#### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

#### Reply Example

```
{
  "system_id" : "my_unique_system_id",
  "system_version" : "0.4"
}
```

#### Events

This API call does not emit any middleware events.

#### Log Summary

#### See Also

- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.2 - sys/list\_config

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	list_config	yes	no	no	1

### Description

View the current system configuration settings. See the [sys/set\\_config](#) API for all the possible settings.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "config" : {  
    "server_polling_seconds" : 20,  
    "ssl_accept_hostmismatch" : true,  
    "ssl_accept_selfsigned" : true,  
    "stats_keep_months" : 24  
  }  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/set\\_config](#)



## 5.20.3 - sys/middleware\_log

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	middleware_log	N/A	N/A	N/A	1

### Description

Return the contents of the middleware log file (typically used for system debugging).

**NOTE:** The contents of the log file will use the html “  
” tag for line breaks.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{  
  "log": "Opening Database...<br>Database Connected<br>Using SSL Library:<br> - Version: \"LibreSSL 2.6.4\"<br>Server Started: \"2018-10-09T14:  
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

This API call does not generate a detailed log summary item

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.4 - sys/reboot

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	reboot	yes	no	yes	1	1.2

### Description

#### API Call Obsolete : Removed in version 1.2

Schedule a system reboot for the TrueCommand appliance. There is a 5 minute delay by default in order to allow other logged-in users enough time to finish up whatever they are doing before the system goes down. There will also be system-wide events announcing the impending reboot to all active user sessions.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - "delay\_seconds" (integer) : Schedule the reboot to happen this many seconds after the API call is received.
    - Default Value: 300 (5 minutes)
  - "poweroff" (boolean) : Power off the system instead of rebooting it.
    - Default Value: false
    - When enabled, the "reboot\_type" info field will change to "poweroff" during the delay.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {
  "delay_seconds" : 15
}
```

### Reply Example

```
"args" : {
  "reboot_delay_seconds" : 15,
  "reboot_time" : "2019-01-01T05:40:19Z",
  "reboot_type" : "restart"
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

Name	Who Receives
sys/reboot	Everyone

Example:

```
{
  "namespace" : "event",
  "name" : "sys/reboot",
  "id" : "event",
  "args" : {
    "reboot_delay_seconds" : 15,
    "reboot_time" : "2019-01-01T05:40:19Z",
    "reboot_type" : "restart"
  }
}
```

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.5 - sys/reboot\_stop

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	reboot_stop	Yes	no	Yes	1.1	1.2

### Description

#### API Call Obsolete : Removed in version 1.2

Cancel any pending reboot or shutdown procedure. Requires administrator permissions.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success"  
}
```

OR if no reboot is scheduled:

```
"args" : {  
  "result" : "No reboot timer to stop"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This will generate a "sys/reboot" event with the following arguments:

```
"args" : {  
  "reboot_scheduled" : false  
}
```

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.6 - sys/reboot\_time

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	reboot_time	no	no	no	1	1.2

### Description

#### API Call Obsolete : Removed in version 1.2

See if there is a scheduled reboot of the TrueCommand system, and the time remaining before the system reboot occurs.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "reboot_scheduled" : true,  
  "reboot_delay_seconds" : 13,  
  "reboot_time" : "2019-01-01T05:40:19Z",  
  "reboot_type" : "restart"  
}
```

OR if no reboot is scheduled:

```
"args" : {  
  "reboot_scheduled" : false  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.7 - sys/set\_config

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	set_config	yes	no	no	1

### Description

Change various system-configuration options for TrueCommand.

### Input Arguments

- Required:
  - At least one of the optional arguments
- Optional:
  - "server\_polling\_seconds" : (integer) Number of seconds between data collection probes for a NAS (minimum 10)
    - [WARNING] Changing this value will automatically trigger a close/restart of the NAS connection.
  - "stats\_keep\_months" : (integer) Number of months of statistics to keep within the TrueCommand database
  - "ssl\_accept\_selfsigned" : (boolean) Accept self-signed certificates when establishing a connection to a NAS.
  - "ssl\_accept\_hostmismatch" : (boolean) Accept certificate even if the hostname on the cert does not match the URL/IP of the NAS.
  - "ssl\_ignore\_all" : (boolean) Ignore any SSL errors with certificates when connecting to a NAS. When enabled, this will overwrite take precedence over the self-signed and hostmismatch options.
  - "nas\_ssl\_only" : (boolean) Require SSL connections to all NAS's. TC will not attempt non-secure connections.
  - "nas\_ignore\_alerts" : (string or JsonArray of strings) Ignore passthrough alerts of the listed type(s) for all NAS connections.
    - Valid types: "information", "warning", "critical", or "all"
    - NOTE: These defaults are only respected if the custom ignore rules for the individual NAS is empty. See the [servers/edit](#) API call for setting custom ignore rules for specific NAS connections.
  - "nas\_backup\_config\_keep" : (positive integer) Number of configuration backups to keep for each NAS. Set to 0 to disable automatic backups.
  - "ldap\_create\_users" : (boolean) Allow valid LDAP authentication to dynamically create user accounts as needed. See the "ldap\_default\_teams" value to determine which teams/permissions these dynamically-created user accounts are allowed.
  - "ldap\_default\_teams" : (JsonArray of strings) List of team ID's that a new user should be added to.
  - "ldap\_servers" (JsonArray of objects) : List of LDAP settings objects \* See the [ldap](#) settings page for details

NOTE: If an optional argument is not provided or the type of value is not valid (such as a null value), then that setting will not be changed.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {
  "stats_keep_months" : 12,
  "ssl_accept_hostmismatch" : false
}
```

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {
  "result" : "success"
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/list\\_config](#)

## 5.20.8 - sys/update\_check

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	update_check	yes	no	no	1	1.2

### Description

**This API has been removed and is no longer available on version 1.2 and later**

Have TrueCommand perform a check for whether system updates are available. This is a manual probe to start the update check only. TrueCommand automatically checks for system updates every 24 hours or whenever the middleware is restarted otherwise.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "result" : "success",  
  "status" : "starting check for updates"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/upload\\_file](#)

## 5.20.9 - sys/update\_now

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	update_now	yes	no	yes	1	1.2

### Description

**This API has been removed and is no longer available on version 1.2 and later**

Perform TrueCommand system updates and reboot the system. Note that for offline updates, this process generally takes less than 10 seconds before the system will reboot to finish the update. For online updates this may take a while longer while it downloads the update files. During an online update, the current status of the update process can be found with the [sys/update\\_status](#) API call.

### Input Arguments

- Required:
  - none ({}): If no arguments are provided, then it will assume that an online update is being attempted.
- Optional (only one of these may be provided at a time):
  - "fetch\_url" (string): Fetch an offline update file from a designated URL on the local network.
  - "file\_upload" (string): Filename of the offline update file that was uploaded via the [sys/upload\\_file](#) mechanisms.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {
  "fetch_url" : "https://mylocalserver.net/system-update.img"
}
```

### Reply Example (success)

```
"args" : {
  "result" : "success",
  "updates", "starting"
}
```

### Reply Example (failure)

```
"args" : {
  "result" : "failure",
  "error", "Invalid file or url"
}

"args" : {
  "result" : "failure",
  "error", "Update procedure already running"
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

Name	Who Receives
sys/update_now	Everyone

There are 3 different types of events that will get sent out, but all of them will have the same basic formatting.

1. When the update process starts and every 5 seconds while the updates are running:

```
{
  "namespace" : "event",
  "name" : "sys/update_now",
  "id" : "event",
  "args" : {
    "update_running" : true,
    "reboot_required" : false,
    "details" : "last line of process log ONLY"
  }
}
```

2. When the update process finishes Example:

```
{
  "namespace" : "event",
  "name" : "sys/update_now",
  "id" : "event",
  "args" : {
    "result" : "success",

```

```
"reboot_required" : true,  
"update_running" : false,  
"details" : "full process log here with <br> line breaks"  
}
```

#### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)



## 5.20.10 - sys/update\_status

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	update_status	no	no	no	1	1.2

### Description

**This API has been removed and is no longer available on version 1.2 and later**

View the log file for the current update procedure, and report whether the system is waiting to reboot to finish performing updates.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "reboot_required" : true,  
  "update_running" : false,  
  "update_status" : "log file of information<br>on multiple lines"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/upload\\_file](#)

## 5.20.11 - sys/updates\_available

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
sys	updates_available	no	no	no	1	1.2

### Description

**This API has been removed and is no longer available on version 1.2 and later**

Check for available updates to the TrueCommand appliance.

- **NOTE** This requires the ability to connect to the iXsystems update server. Offline update files may be provided using the [sys/update\\_now](#) API call.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "updates_available" : true,  
  "updates_info" : "information about update"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)
- [sys/upload\\_file](#)

## 5.20.12 - sys/upload\_file

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	upload_file	yes	no	no	1

### Description

Request a temporary authentication token for uploading a file to the TrueCommand system. Access credentials are only valid for 10 minutes after the request, and can be used to send a POST request to the "[TrueCommand system IP]/upload" URL to upload the file. Files that are uploaded are **temporary**. They will be removed the next time the system is rebooted.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Reply Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
"args" : {  
  "upload_user" : "ihgUyfk1jh",  
  "upload_pass" : "oihvUIiu8yvU6y75786yv",  
  "upload_expires" : "yyyyMMddhhmmss"  
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)
- [sys/reboot\\_time](#)
- [sys/reboot](#)
- [sys/updates\\_available](#)
- [sys/update\\_now](#)
- [sys/update\\_status](#)

## 5.20.13 - sys/version\_info

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
sys	version_info	no	no	no	1.3

### Description

Return general information about the current system version and other versions.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "version_info" : {
    "current_version" : "1.2.2",
    "updates_available" : false,
    "versions" : [
      { "version" : "1.2.2", "latest" : true, "date" : "2020-03-11", "notes" : "Patch fix 2: More CA and DB restore fixes", "url" : "https://w"},
      { "version" : "1.2.1", "latest" : false, "date" : "2020-02-25", "notes" : "Patch fix for CA certificate handling", "url" : "https://www.i"},
      { "version" : "1.2", "latest" : false, "date" : "2020-02-18", "notes" : "First docker release of TrueCommand", "url" : "https://www.ixsys"}
    ]
  }
}
```

### Events

This API call does not emit any middleware events.

### Log Summary

#### See Also

- [sys/info](#)
- [sys/middleware\\_log](#)

## 5.21 - System reports

### API Class: reports

### System report definitions and sharing options

System reports are user-defined rules for creating groups of charts or other statistics from all the NAS connections that are available. These reports can be shared with other users or teams, and edit permissions can also be given to other users as well.

### Reporting Options

All of the options available for insertion into a report are details on the [reporting](#) page.

## 5.21.1 - reports/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
reports	add	No	No	Yes	1.1

### Description

Create a new report. The user who creates the report is always included in the “owners” list for the report, and is granted full edit/delete permissions for the report in the future. In addition, the owner of a report is able to share the report with other users/teams on a read-only basis, or grant ownership of a report to other users for edit capabilities as well.

TrueCommand Administrators have permission to edit all reports, even if they are not explicitly included in the “owners” list.

### Input Arguments

- Required:
  - “name” (string) : Visible title to be shown for the report.
- Optional:
  - “owners” (string or Json Array of strings) : User ID’s for those who are granted edit permission for this report.
    - Note: The middleware ensures that the user editing the report always keeps ownership of the report.
    - The word “all” can be provided in order to grant edit permission to all users.
  - “shared\_users” (string or Json Array of strings) : User ID’s for those who are granted read access for this report.
    - Note: The word “all” can be used in place of a user ID in order to grant access to all users.
  - “shared\_teams” (string or Json Array of strings) : Team ID’s for those who are granted read access for this report.
    - Note: The word “all” can be used in place of a team ID in order to grant access to all teams.
  - “widgets” (Json Object) : Special data object for defining the visible widgets for this report.
    - See the [reporting](#) page for full details.
  - “tags” (Json Array of strings) : Search tags to help filter available reports

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "name" : "My Report 1",
  "shared_users" : "all"
}
```

### Reply Example

```
{
  "namespace" : "reports",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "5" : {
      "roid" : "5",
      "name" : "My Report 1",
      "owners" : ["user_id_1"],
      "shared_users" : ["all"],
      "shared_teams" : [],
      "widgets" : {},
      "last_modified_time_t" : 1562075297,
      "last_modified_user" : "user_id_1",
      "tags" : []
    }
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This will generate a [reports/list](#) API event.

### See Also

- [reports/remove](#)
- [reports/edit](#)
- [reports/list](#)

## 5.21.2 - reports/edit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
reports	edit	No	Yes	Yes	1.1

### Description

Modify an existing report. Any user included in the “owners” list has permission to modify a report, including granting edit access to other users.

TrueCommand Administrators have permission to edit all reports, even if they are not explicitly included in the “owners” list.

### Input Arguments

- Required:
  - “roid” (string) : Report Object ID for the desired report to be changed
- Optional:
  - “name” (string) : Visible title to be shown for the report.
  - “owners” (string or Json Array of strings) : User ID’s for those who are granted edit permission for this report.
    - Note: The middleware ensures that the user editing the report always keeps ownership of the report.
    - The word “all” can be provided in order to grant edit permission to all users.
  - “shared\_users” (string or Json Array of strings) : User ID’s for those who are granted read access for this report.
    - Note: The word “all” can be used in place of a user ID in order to grant access to all users.
  - “shared\_teams” (string or Json Array of strings) : Team ID’s for those who are granted read access for this report.
    - Note: The word “all” can be used in place of a team ID in order to grant access to all teams.
  - “widgets” (Json Object) : Special data object for defining the visible widgets for this report.
    - See the [reporting](#) page for full details.
  - “tags” (Json Array of strings) : Search tags to help filter available reports

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "roid" : "5",
  "name" : "My New report Name"
}
```

### Reply Example

```
{
  "namespace" : "reports",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "5" : {
      "roid" : "5",
      "name" : "My New report Name",
      "owners" : ["user_id_1"],
      "shared_users" : ["all"],
      "shared_teams" : [],
      "widgets" : {},
      "last_modified_time_t" : 1562075384,
      "last_modified_user" : "user_id_1",
      "tags" : []
    }
  }
}
```

### Log Summary

The log summary contains a “new\_” entry for every field that was changed by the API call.

```
{
  "new_name" : "My New report Name",
  "new_last_modified_time_t" : 1562075384
}
```

### Events

This will generate a [reports/list](#) API event.

### See Also

- [reports/add](#)
- [reports/remove](#)
- [reports/list](#)

## 5.21.3 - reports/generate

Namespace	Name	Admin Only	Log Summary	Has Event	Version Added
reports	generate	No	No	No	1.1

### Description

This will take a designated report object with a time range and system list and return a complete report structure with all data associated with the systems pre-populated and formatted for display in the UI. This will return JSON data structures formatted for use with the "chart.js" javascript library when charts are requested as part of a report.

### Input Arguments

- Required Arguments:
  - "roid" (string) : Report Object ID for the report to generate
  - "tvid" (string or JsonArray of strings) : System(s) for which to generate the report.
  - "time\_start" (time\_t)
- Optional Arguments:
  - "time\_end" (time\_t - if not supplied it defaults to the current time)

The user requesting the report must have read permission for the designated report and systems, otherwise a BAD REQUEST error will be returned.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "roid" : "my_report_1",
  "tvid" : ["system_1", "system_2"],
  "time_start" : 1590682420
}
```

### Reply Example

```
{
  "namespace" : "reports",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "my_report_1" : {
      "roid" : "my_report_1",
      "name" : "My Report",
      "owners" : ["user_1", "user_2"],
      "shared_users" : ["user_3"],
      "shared_teams" : ["team A"],
      "last_modified_user" : "user_id_1",
      "last_modified_time_t" : 1562075297,
      "widgets" : {
        "column_count" : 2,
        "items" : [
          {
            "id" : "network_chart_1",
            "internal_type" : "chart:line",
            "custom_settings" : false,
            "name" : "Network Traffic Chart",
            "summary" : "Chart of network traffic",
            "preview_image" : "",
            "data_paths" : null,
            "api" : null,
            "settings" : null,
            "data" : { <chart.js data object> }
          }
        ]
      }
    }
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This this API call does not emit any middleware events.

### See Also

- [reports/add](#)
- [reports/edit](#)



- [reports/remove](#)
- [reports/list](#)

## 5.21.4 - reports/list

Namespace	Name	Admin Only	Log Summary	Has Event	Version Added
reports	list	No	No	Yes	1.1

### Description

This will list all the reports where the current user is tagged as an “owner” of the repo, or any reports that are shared with the current user. For specific details about the formatting of the report “widgets” object, please view the

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
}
```

### Reply Example

```
{
  "namespace" : "reports",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "read_only" : {
      "internal-3" : {
        "roid" : "internal-3",
        "name" : "Internal Report",
        "owners" : [ "user_id_1" ],
        "shared_users" : [ "user_id_4", "all" ],
        "shared_teams" : [ "team_id_3" ],
        "last_modified_user" : "user_id_1",
        "last_modified_time_t" : 1562075297,
        "widgets" : { <report details here> }
      }
    },
    "read_write" : {
      "5" : {
        "roid" : "5",
        "name" : "My Sample Report",
        "owners" : [ "user_id_1" ],
        "shared_users" : [ "user_id_4" ],
        "shared_teams" : [ "team_id_3" ],
        "last_modified_user" : "user_id_1",
        "last_modified_time_t" : 1562075297,
        "widgets" : { <report details here> }
      }
    }
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This this API call does not emit any middleware events by itself, many of the other reports API calls will emit a reports/list event when they change the number of available reports in some way. The format for this event is included below.

Example:

```
{
  "namespace" : "event",
  "name" : "reports/list",
  "id" : "event",
  "args" : {
    "roid" : [ "1" ]
  }
}
```

### See Also

- [reports/add](#)

- [reports/edit](#)
- [reports/remove](#)

## 5.21.5 - reports/list\_templates

Namespace	Name	Admin Only	Log Summary	Has Event	Version Added
reports	list_templates	No	No	Yes	1.1

### Description

This will return all the known report item template objects by the current version of TrueCommand. These can be inserted into the “widgets” object within a report into order to enable that type of item in the report.

For details about the “widgets” object formatting, please look at the [Reporting section](#) for details.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
}
```

### Reply Example

```
{
  "namespace": "reports",
  "name": "response",
  "id": "some_id",
  "args": {
    "result": "success",
    "templates": {
      "chart_line": {
        "id": "chart_line",
        "internal_type": "chart:line",
        "custom_settings": true,
        "name": "Generic Line Chart",
        "summary": "Add a chart of data points pointing to custom data",
        "preview_image": "",
        "data_paths": [],
        "data": null,
        "api": [
          { "fieldname": "title", "summary": "Title for the chart", "value": { "type": "string" } },
          { "fieldname": "subtitle", "summary": "Subtitle for the chart", "value": { "type": "string" } },
          { "fieldname": "axis_label", "summary": "Label for the Y axis", "value": { "type": "string" } },
          { "fieldname": "point_size", "summary": "Size of data points (px)", "value": { "type": "integer", "default": 8, "min": 0, "max": 100 } },
          { "fieldname": "line_size", "summary": "Width of the line (px)", "value": { "type": "integer", "default": 4, "min": 1, "max": 10 } },
          { "fieldname": "series_color", "summary": "Color codes for series", "is_array": true, "value": { "type": "string" } },
          { "fieldname": "y_min", "summary": "Minimum Y-axis value", "value": { "type": "float" } },
          { "fieldname": "y_max", "summary": "Maximum Y-axis value", "value": { "type": "float" } }
        ],
        "settings": {}
      },
      "network_chart": {
        "id": "network_chart",
        "internal_type": "chart:line",
        "custom_settings": false,
        "name": "Network Traffic Chart",
        "summary": "Chart of network traffic",
        "preview_image": "",
        "data_paths": [
          { "path": "network%total%KB/s in", "legend": "Total Download" },
          { "path": "network%total%KB/s out", "legend": "Total Upload" }
        ],
        "data": null,
        "api": [],
        "settings": {
          "title": "Network Traffic",
          "subtitle": "",
          "axis_label": "KB/s",
          "point_size": 0,
          "line_size": 3,
          "y_min": 0
        }
      }
    }
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

## Events

This this API call does not emit any middleware events.

## See Also

- [reports/add](#)
- [reports/edit](#)
- [reports/remove](#)

## 5.21.6 - reports/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
reports	remove	No	Yes	reports/list	1.1

### Description

Remove a custom report. You must be listed as either an “owner” on the report or a TrueCommand administrator otherwise this action will return a “FORBIDDEN” error code.

### Input Arguments

- Required:
  - “roid” (string or array of strings) : Report Object ID (roid) corresponding to the report(s) that need to be removed.
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "roid" : ["1", "5"]
}
```

### Reply Example

```
{
  "namespace" : "reports",
  "name" : "response",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This will generate a [reports/list](#) API event.

### See Also

- [reports/add](#)
- [reports/edit](#)
- [reports/list](#)

## 5.22 - Team management

### API Class: teams

These API calls are for managing teams of users and assigning system permissions to a team rather than an individual user. A "team" is basically a way to save system-access permissions to a generic ID and then associate as many user accounts to that team as desired, allows a quick update of team permissions to impact all users simultaneously.

### Reference Guide

- [teams/add](#)
- [teams/edit](#)
- [teams/list](#)
- [teams/remove](#)

## 5.22.1 - teams/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
teams	add	yes	yes	yes	1

### Description

Create a new team (Administrator Access Only - others will get a 403/Forbidden error code).

### Input Arguments

- Required Arguments:
  - "name" (string) : Name of the team (must be unique - will return an error if a team with that name already exists).
- Optional Arguments:
  - "allowed\_servers" (JSONArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "allowed\_groups" (JSONArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "icon\_base64" (string) : Base64-encoded icon file that can be used to represent the team.
  - "tags" (JSONArray) : Search tags, Format - ["tag\_1", "tag\_2"].
  - "create\_alerts" (boolean) : Team members are allowed to create alert rules (default value: false)
    - Field added in version 1.1

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "name" : "My Team"
}
```

### Reply Example

```
{
  "result" : "success",
  "ugid" : "new_team_ugid",
  "name" : "My Team"
}
```

### Events

Events from this change will be sent to all currently-connected administrators and any user with read access to the new server (such as from adding a server to an existing group).

Example:

```
{
  "namespace" : "event",
  "name" : "teams/add",
  "id" : "",
  "args" : {
    "ugid" : "my_team-1",
    "name" : "My Team"
  }
}
```

### Log Summary

Log entries for this API call will have the following "summary" object. Note that empty fields from the input arguments (icon\_base64, allowed\_servers, allowed\_groups) will result in those fields getting excluded from the summary as well (the summary only lists the *changes*).

```
"summary" : {
  "action" : "teams/add",
  "created_by_username" : "admin_user",
  "created_by_uuid" : "admin_user_uuid",
  "new_name" : "My Team",
  "new_ugid" : "my_team-1",
  "allowed_servers" : [ ["server_id_1","r/w"], ["server_id_2","r"] ],
  "allowed_groups" : [ ["group_1","r"], ["group_2","r/w"] ]
}
```

### See Also

- [teams/edit](#)
- [teams/list](#)
- [teams/remove](#)



## 5.22.2 - teams/edit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
teams	edit	yes	yes	yes	1

### Description

Modify an existing team. Any user accounts associated with this team will automatically transition to the modified permissions or team name without any further action in the user account settings. (Administrator Access Only - others will get a 403/Forbidden error code).

### Input Arguments

- Required Arguments:
  - "ugid" (string) : ID of the team (user group) to be modified.
- Optional Arguments:
  - "name" (string) : Name of the team (must be unique - will return an error if a team with that name already exists).
  - "allowed\_servers" (JsonArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "allowed\_groups" (JsonArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "icon\_base64" (string) : Base64-encoded icon file that can be used to represent the team.
  - "tags" (JsonArray) : Search tags, Format - ["tag\_1", "tag\_2"].
  - "create\_alerts" (boolean) : Team members are allows to create alert rules (default value: false)
    - Field added in version 1.1

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "ugid" : "my_team-1"
  "name" : "My New Team Name",
  "icon_base64" : "new_base64_icon_contents"
}
```

### Reply Example

```
{
  "result" : "success"
}
```

### Events

Events from this change will be sent to all currently-connected administrators

Example:

```
{
  "namespace" : "event",
  "name" : "teams/remove",
  "id" : "",
  "args" : {
    "ugid" : "my_team-1",
    "name" : "My New Team Name"
  }
}
```

### Log Summary

Log entries for this API call will have the following "summary" object. Note that empty fields from the input arguments (name, icon\_base64, allowed\_servers, allowed\_groups) will result in those fields getting excluded from the summary as well (the summary only lists the *changes* via the "new\_\*" fields).

```
"summary" : {
  "action" : "teams/edit",
  "edit_by_username" : "admin_user",
  "edit_by_uuid" : "admin_user_uuid",
  "edit_name" : "My Team",
  "edit_ugid" : "my_team-1",
  "new_name" : "My New Team Name",
  "new_icon_base64" : "new_base64_icon_contents"
}
```

### See Also

- [teams/add](#)
- [teams/list](#)
- [teams/remove](#)

## 5.22.3 - teams/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
teams	list	no	no	no	1

### teams/list

List all the currently-defined teams and the associated permission sets.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

Note: The “allowed\_servers”, “allowed\_groups”, and “team\_members” fields will only be visible when this API is used by an administrator.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
}
```

### Reply Example (administrator access)

```
{
  "team_1" : {
    "uuid" : "team_1",
    "name" : "Test Team 1",
    "allowed_servers" : [[{"server_id_1", "r/w"}, [{"server_id_2", "r"}]],
    "allowed_groups" : [[{"group_1", "r/w"}, [{"group_2", "r"}]],
    "create_alerts" : false,
    "team_members" : {
      "user_id_1":{
        "uuid" : "user_id_1",
        "username" : "user1",
        "isAdministrator" : false,
        "extra_info" : {
          "full_name" : "SysAdmin 1",
          "email" : "sysadmin1@somewhere.net"
        }
      },
      "user_id_2":{
        "uuid" : "user_id_2",
        "username" : "user2",
        "isAdministrator" : false,
        "extra_info" : {
          "full_name" : "SysAdmin 2",
          "email" : "sysadmin2@somewhere.net"
        }
      }
    },
    "icon_base64" : "base64_string_of_icon"
  },
  "team_2" : {
    "uuid" : "team_2",
    "name" : "Test Team 2",
    "allowed_servers" : [[{"server_id_1", "r/w"}, [{"server_id_2", "r"}]],
    "allowed_groups" : [[{"group_4", "r/w"}, [{"group_5", "r"}]],
    "create_alerts" : true,
    "team_members" : {
      "user_id_5":{
        "uuid" : "user_id_5",
        "username" : "users5",
        "isAdministrator" : false,
        "extra_info" : {
          "full_name" : "SysAdmin 5",
          "email" : "sysadmin5@somewhere.net"
        }
      },
      "user_id_2":{
        "uuid" : "user_id_2",
        "username" : "user2",
        "isAdministrator" : false,
        "extra_info" : {
          "full_name" : "SysAdmin 2",
          "email" : "sysadmin2@somewhere.net"
        }
      }
    },
    "icon_base64" : "base64_string_of_icon"
  }
}
```

## Reply Example (non-administrator access)

```
{
  "team_1" : {
    "ugid" : "team_1",
    "name" : "Test Team 1",
    "icon_base64" : "base64_string_of_icon"
  },
  "team_2" : {
    "ugid" : "team_2",
    "name" : "Test Team 2",
    "icon_base64" : "base64_string_of_icon"
  }
}
```

## Events

This API call does not emit any middleware events.

## Log Summary

This API call does not generate a detailed log summary item

## See Also

- [teams/add](#)
- [teams/edit](#)
- [teams/remove](#)

## 5.22.4 - teams/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
team	remove	yes	yes	yes	1

### Description

Remove a team. (Administrator Access Only - others will get a 403/Forbidden error code).

### Input Arguments

- “ugid” (string) : ID of the team (user group) to be removed.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "ugid" : "my_team-1"
}
```

### Reply Example

```
{
  "result" : "success"
}
```

### Events

Events from this change will be sent to all currently-connected administrators and any user with read access to the new server (such as from adding a server to an existing group).

Example:

```
{
  "namespace" : "event",
  "name" : "teams/remove",
  "id" : "",
  "args" : {
    "ugid" : "my_team-1",
    "name" : "My Team"
  }
}
```

### Log Summary

Log entries for this API call will have the following “summary” object. Note that empty fields from the input arguments (icon\_base64, allowed\_servers, allowed\_groups) will result in those fields getting excluded from the summary as well (the summary only lists the *changes*).

```
"summary" : {
  "action" : "teams/remove",
  "removed_by_username" : "admin_user",
  "removed_by_uuid" : "admin_user_uuid",
  "remove_name" : "My Team",
  "remove_uuid" : "my_team-1",
}
```

### See Also

- [teams/add](#)
- [teams/edit](#)
- [teams/list](#)

## 5.23 - Time Formatting

Formatting for using time-based access for API calls

### Input Time Codes

- Typical name for arguments that use this format: "time\_start", "time\_end"

Some API calls may take relative time codes as inputs. The format for these types of time codes are "[number][unit]", with the following units that are supported:

- "m" : Minutes
- "h" : Hours
- "d" : Days
- "M" : Months
- "y" : Years

A timecode can also be supplied in the time\_t (unix time code) format by not placing any units on the end of the input field.

Examples:

- 1 day relative time: "1d"
- 38 minutes relative time: "38m"
- Exact time\_t code: "1531226292"

### Output Time Codes

There are two primary time codes that are used when information gets returned from the middleware:

1. Unix Time Code (time\_t)
  - This is a time stamp corresponding to the number of seconds since the epoch (also called "POSIX time" or "Unix time"). "Epoch" is a standard point of reference for computer times which corresponds to midnight of January 1st, 1970, UTC.
  - Example: "1540831626" corresponds to a date/time of "Mon Oct 29 16:47:06 UTC 2018"
2. Database Time Format
  - YYYY-MM-DDThh:mm:ssZ Where "T" is the delimiter between the date and the time, and the optional "Z" on the end indicates UTC time.
  - This is a standardized date/time format used by many databases.
  - **NOTE:** All times returned are in UTC time (whether the "Z" is on the end of the time code or not).
  - Example: "2001-01-01T01:01:01Z" corresponds to January 1st, 2001 at 1:01 AM and 1 second, UTC

## 5.24 - UI Logging

### API Class: uilogs

These endpoints provide the UI with a means of managing log records. One use-case is creating log entries to document UI runtime errors.

### Reference Guide

- [uilogs/add](#)
- [uilogs/clear](#)
- [uilogs/list](#)

### 5.24.1 - uilogs/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
uilogs	add	no	no	no	1

#### Description

Create a new log entry

#### Input Arguments

- Required Inputs:
  - "log\_entry": (JSON object) The data to be saved in the log entry.

#### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "log_entry" : { "error_info": "A problem occurred..." }
}
```

#### Reply Example

```
{
  "result" : "success",
  "entry" : {
    "log_id" : "f7d4c622-f432-4431-9506-4cbf68b0082d",
    "time_t" : 1554996212,
    "log_entry": {
      "error_info": "A problem occurred..."
    }
  }
}
```

#### Events

This API call does not generate events.

#### Log Summary

This API call does not generate a detailed log summary item.

#### See Also

- [uilogs/list](#)
- [uilogs/clear](#)

## 5.24.2 - uilogs/clear

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
uilogs	clear	no	no	no	1

### Description

Remove all UI log records from the database.

### Input Arguments

- Required Arguments: none ({})

### Reply Example

```
{
  "result" : "success",
  "total_removed" : 12
}
```

### Events

This API call does not generate events.

### Log Summary

This API call does not generate a detailed log summary item.

### See Also

- [uilogs/list](#)
- [uilogs/add](#)

## 5.24.3 - uilogs/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
uilogs	list	no	no	no	1

### Description

Requests a list of all UI log entries.

### Input Arguments

- Required Arguments: none ({})

### Reply Example

```
{
  "result" : "success",
  "entries" : [
    {
      "log_id" : "f7d4c622-f432-4431-9506-4cbf68b0082d",
      "time_t" : 1554996212,
      "log_entry": {
        "error_info": "A problem occurred..."
      }
    },
    {
      "log_id" : "6043af9c-fdbd-42c7-a820-ab4a5568e092",
      "time_t" : 1554996673,
      "log_entry": {
        "dashboard": "Failed to load..."
      }
    }
  ]
}
```

### Events

This API call does not generate events.

### Log Summary

This API call does not generate a detailed log summary item.

### See Also

- [uilogs/clear](#)
- [uilogs/add](#)



## 5.25 - User management

### API Class: users

#### User management interactions.

There are two main kinds of users within TrueCommand: administrators and non-administrators.

*Administrators* are those who have full access to the appliance itself:

- Add/remove user accounts
- Add/remove system registrations
- View audit logs
- and more...

*Non-Administrators* are those who can login to TrueCommand to view or change individual systems on the network with permissions that were assigned by an administrator. These accounts may still be system administrators, but only have access to manage a subset of all the system registered within the appliance.

**Note:** The term “user” corresponds to somebody who can login to the appliance via the web UI (typically a system administrator of some kind). It does *not* correspond to system users or accounts with SSH access to the system.

#### Reference Guide

- [users](#)
- [users/add](#)
- [users/edit](#)
- [users/get\\_data](#)
- [users/insert\\_data](#)
- [users/insert\\_data\\_value](#)
- [users/list](#)
- [users/list\\_active](#)
- [users/remove](#)

## 5.25.1 - users

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	set_data	no	no	no	1

### Description

Save any random data to be associated with the currently logged-in user. This is useful to save/restore a cache of user settings that might be needed by the Web UI for instance.

**WARNING:** This API call will overwrite the entire data object for the user with the given arguments. To insert data into an existing object, please use the [users/insert\\_data](#) or [users/insert\\_data\\_value](#) API calls.

### Inputs Arguments

- Required:
  - Anything as long as the input arguments are a Json Object

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "generic_data" : "sample field",
  "dataobject": {
    "datafield1" : "1"
  }
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "set_data",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [users/get\\_data](#)
- [users/insert\\_data](#)
- [users/insert\\_data\\_value](#)

## 5.25.2 - users/add

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	add	yes	yes	yes	1

### Description

Add a new user account to TrueCommand (Administrator Access Only - others will get a 403/Forbidden error code)

### Input Arguments

- Required:
  - "username" (string)
  - "isAdministrator" (bool)
  - Exactly **one** of the following options:
    - "password" (string) : Provide a local-system password for this user
    - "ldap\_servers" (JSONArray of objects) : Authenticate with an LDAP server. Object details below:
      - "server" (string, Required) : IP or DNS name of the LDAP server
      - "user" (string, optional) : Username to try when validating the connection to the LDAP server (will use the account username by default)
      - "domain" (string, optional) : Append @ to the username before attempting the LDAP connection.
- Optional:
  - "allowed\_servers" (JSONArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "allowed\_groups" (JSONArray) : Format - [ ["id1","r/w or r"], ["id2","r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
  - "allowed\_teams" (JSONArray) : Format - ["team\_1", "team\_2"]
  - "full\_name" (string) : Appears in "extra\_info" field
  - "email" (string) : Appears in "extra\_info" field
  - "title" (string) : Appears in "extra\_info" field
  - "phone\_number" (string) : Appears in "extra\_info" field
  - "contact\_info" (string) : Appears in "extra\_info" field
  - "notes" (string) : Appears in "extra\_info" field
  - "icon\_base64" (string) : Appears in "extra\_info" field
  - "tags" (JSONArray) : Format - ["tag\_1", "tag\_2"]. Appears in "extra\_info" field
  - "create\_alerts" (boolean or null) : User can create alert rules (even if not an administrator). Inherits permission from teams by default.
    - If set to a null or non-boolean value, then this user will inherit permission from any associated teams.
    - Field added in version 1.1

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "username" : "newuser",
  "password" : "mypassword",
  "isAdministrator" : false,
  "allowed_servers" : [{"server1", "r"}],
  "allowed_groups" : [{"group1", "r/w"}],
  "full_name" : "John Doe"
}
```

### Reply Example Arguments

```
{
  "result" : "success",
  "uuid" : "new_user_uuid"
}
```

### Log Summary

Log entries for this API call will have the following "summary" object. Note that empty fields from the input arguments (servers, groups, teams) will result in those fields getting excluded from the summary as well (the summary only lists the *changes* to the user account).

```
"summary" : {
  "action" : "users/add",
  "created_by_username" : "admin_user",
  "created_by_uuid" : "admin_user_uuid",
  "isAdministrator" : false,
  "new_username" : "newuser",
  "new_uuid" : "new_user_uuid",
  "allowed_servers" : [{"server1", "r"}],
  "allowed_groups" : [{"group1", "r/w"}],
  "allowed_teams" : ["team1", "team2"]
  "new_extra_info" : {
    "new_full_name" : "John Doe",
    "new_email" : "john.doe@myuniversity.com",
    "new_title" : "SysAdmin - Physics Department",
    "new_phone_number" : "1-123-456-7890 x123",
    "new_contact_info" : "address, office#, etc..",
    "new_notes" : "Additional notes about this user"
  }
}
```

```
}  
}
```

Events

Name	Who Receives
users/add	Administrators

Example:

```
{  
  "namespace" : "event",  
  "name" : "users/add",  
  "id" : "",  
  "args" : {  
    "uuid" : "new_user_uuid",  
    "username" : "newuser"  
  }  
}
```

See Also

- [users/remove](#)
- [users/edit](#)
- [users/list](#)

## 5.25.3 - users/edit

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	edit	no	yes	yes	1

### Description

Modify an existing user account

**Note:** Non-administrators only have access to change their own password **only if LDAP authentication is not being used**. Non-admins also have permission to change some of the extra\_info fields. Administrator status and allowed servers/groups will not be touched.

### Input Arguments

- Required:
  - "uuid" (string) : User ID of the account to modify
  - "verify\_password" (string) : Password of the user currently making the API request.
    - Only required if the "password" of the user is to be changed.
    - Will return a FORBIDDEN error if this password cannot be used to re-verify the current user session.
    - Added in version 1.1
- Optional arguments (at least one required)
  - Administrator access only:
    - "username" (string)
    - "ldap\_servers" (JSONArray of objects) : List of LDAP settings objects
      - See the [ldap](#) settings page for details
    - "isAdmin" (bool)
    - "allowed\_servers" (JSONArray) : Format - [ ["id1", "r/w or r"], ["id2", "r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
    - "allowed\_groups" (JSONArray) : Format - [ ["id1", "r/w or r"], ["id2", "r/w or r"] ] where "r"=ReadOnly and "r/w"=ReadWrite
    - "allowed\_teams" (JSONArray) : Format - [ "team\_1", "team\_2" ]
    - "create\_alerts" (boolean or null) : User can create alert rules (even if not an administrator). Inherits permission from teams by default.
      - If set to a null or non-boolean value, then this user will inherit permission from any associated teams.
      - Field added in version 1.1
  - Self modification (non-admin) or Administrator access:
    - "password" (string) (cannot be used if "ldap\_servers" is populated)
    - "full\_name" (string) : Appears in "extra\_info" field
    - "email" (string) : Appears in "extra\_info" field
    - "title" (string) : Appears in "extra\_info" field
    - "phone\_number" (string) : Appears in "extra\_info" field
    - "contact\_info" (string) : Appears in "extra\_info" field
    - "notes" (string) : Appears in "extra\_info" field
    - "icon\_base64" (string) : Appears in "extra\_info" field
    - "tags" (JSONArray) : Format - [ "tag\_1", "tag\_2" ]. Appears in "extra\_info" field

### Notes about "ldap\_servers" and "password" inputs:

When the "ldap\_servers" field is populated, the local password field will get deleted and all authentication routines will use the input password to authentication with the list of LDAP servers (starting with the first one in the list, and going down the line until it finds a "valid" login or it will consider the authentication attempt a failure).

It is possible to switch individual users to/from LDAP authentication via the following example edits:

1. Enable LDAP authentication for the given user account. This will also delete the password hash from the local database as well. Note that the "username" **MUST** match the username on file with the LDAP provider.

```
{
  "uuid" : "user_id_1",
  "ldap_servers" : "ldap02.example.com"
}
```

2. Switch from LDAP authentication back to the local password authentication

```
{
  "uuid" : "user_id_1",
  "ldap_servers" : null,
  "password" : "new_password"
}
```

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "uuid" : "user_id_1",
  "username" : "new_username",
  "ldap_servers" : "ldap01.example.com",
}
```

```
"isAdministrator" : true,
"allowed_servers" : [["server1", "r"]],
"allowed_groups" : [["group1", "r/w"]],
"full_name" : "John Doe"
}
```

Reply Example (Non-Administrator)

```
{
  "namespace" : "response",
  "name" : "edit",
  "id" : "some_id",
  "args" : {
    "user_id_1":{
      "uuid" : "user_id_1",
      "username" : "new_username",
      "isAdministrator" : false,
      "ldap_auth" : true,
      "extra_info" : {
        "full_name" : "John Doe"
      }
    }
  }
}
```

Reply Example (Administrator)

```
{
  "namespace" : "response",
  "name" : "edit",
  "id" : "some_id",
  "args" : {
    "user_id_1":{
      "uuid" : "user_id_1",
      "username" : "new_username",
      "isAdministrator" : true,
      "allowed_servers" : [["server1", "r"]],
      "allowed_groups" : [["group1", "r/w"]],
      "ldap_auth" : true,
      "ldap_servers" : ["ldap01.example.com"],
      "extra_info" : {
        "full_name" : "John Doe"
      }
    }
  }
}
```

Log Summary

Log entries for this API call will have the following “summary” object. Note that all the summary fields that start with “new\_” will only exist if that value was \*changed\* by the API call (the summary only lists the \*changes\* to the user account).

```
"summary" : {
  "action" : "users/edit",
  "edit_by_username" : "admin_user",
  "edit_by_uuid" : "admin_user_uuid",
  "edit_username" : "newuser",
  "edit_uuid" : "new_user_uuid",
  "new_username" : "newusername",
  "new_password" : "-----",
  "new_isAdministrator" : false,
  "new_allowed_servers" : [["server1", "r"]],
  "new_allowed_groups" : [["group1", "r/w"]],
  "new_allowed_teams" : ["team1", "team2"],
  "new_ldap_servers" : ["ldap01.example.com"],
  "new_extra_info" :{
    "new_full_name" : "John Doe",
    "new_email" : "john.doe@myuniversity.com",
    "new_title" : "SysAdmin - Physics Department",
    "new_phone_number" : "1-123-456-7890 x123",
    "new_contact_info" : "address, office#, etc..",
    "new_notes" : "Additional notes about this user"
  }
}
```

Events

Name	Who Receives
users/edit	Administrators + User Modified

Example:

```
{
  "namespace" : "event",
  "name" : "users/edit",
  "id" : "",
  "args" : {
    "user_id_1":{
      "uuid" : "user_id_1",
      "username" : "new_username"
    }
  }
}
```

**See Also**

- [users/add](#)
- [users/remove](#)
- [users/list](#)

## 5.25.4 - users/get\_data

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	get_data	no	no	no	1

### Description

Fetch any data associated with the currently logged-in user. This is useful to save/restore a cache of user settings that might be needed by the Web UI for instance.

### Input Arguments

- Required:
  - none ({})
- Optional:
  - "key\_path" : [Deprecated in v2.0] "/"-delimited JSON object path (Example: "my/settings/variable")
  - "key\_default\_value" : [Deprecated in v2.0] Value returned if the key path does not exist in the JSON data (empty string by default)

### Examples

- Example data stored on the server

```
{
  "obj1" : {
    "obj2" : {
      "value1" : "my_nested_value"
    }
  },
  "value1" : "top_level_value"
}
```

- Example Reply Arguments (no "key\_path", returns full JSON data)

```
{
  "data" : {
    "obj1" : {
      "obj2" : {
        "value1" : "my_nested_value"
      }
    }
  },
  "value1" : "top_level_value"
}
```

- Example 1: Request Arguments with key\_path which exists in data

```
{
  "key_path" : "obj1/obj2/value1",
  "key_default_value" : "default_value"
}
```

- Reply arguments for Example 1:

```
{
  "obj1/obj2/value1" : "my_nested_value"
}
```

- Example 2: Request Arguments with key\_path which **does not** exist in data

```
{
  "key_path" : "obj1/value1",
  "key_default_value" : "default_value"
}
```

- Reply arguments for Example 2:

```
{
  "obj1/value1" : "default_value"
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [users/set\\_data](#)



- [users/insert\\_data](#)
- [users/insert\\_data\\_value](#)

## 5.25.5 - users/insert\_data

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
users	insert_data	no	no	no	1	2.0

This API namespace was removed in version 2.0 Please look at the users/set\_data API for the alternative to this functionality.

### Description

Save any random data to be associated with the currently logged-in user. This is useful to save/restore a cache of user settings that might be needed by the Web UI for instance.

This is different from the [users/set\\_data](#) API call in that the fields within the input arguments will be **added** to the current user data rather than replace it. Any input objects/variables with the same name as existing fields in the user data **will** overwrite those fields however.

### Input Arguments

- Required:
  - Anything as long as the input arguments are a Json Object

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "generic_data" : "sample field",
  "dataobject": {
    "datafield1" : "1"
  }
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "insert_data",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "data" : {
      [COPY OF CURRENT DATA OBJECT]
    }
  }
}
```

### Changes from Example

Original saved data:

```
{
  "dataobject" : {
    "A" : "a"
  },
  "dataobject2" : {
    "B" : "b"
  }
}
```

After change from the request above:

```
{
  "generic_data" : "sample field",
  "dataobject": {
    "datafield1" : "1"
  },
  "dataobject2" : {
    "B" : "b"
  }
}
```

Note that the entire "dataobject" was replaced. If you only want to insert an item into dataobject, then you will want to use the [users/insert\\_data\\_value](#) API call instead.

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

**See Also**

- [users/get\\_data](#)
- [users/set\\_data](#)
- [users/insert\\_data\\_value](#)

## 5.25.6 - users/insert\_data\_value

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added	Version Removed
users	insert_data_value	no	no	no	1	2.0

This API namespace was removed in version 2.0 Please look at the users/set\_data API for the alternative to this functionality.

### Description

Save any random data to be associated with the currently logged-in user. This is useful to save/restore a cache of user settings that might be needed by the Web UI for instance.

This is different from the "set\_data" API call in that the fields within the input arguments will be **added** to the current user data rather than replace it. Any input objects/variables with the same name as existing fields in the user data **will** overwrite those fields however.

### Input Arguments

- Required:
  - "key\_path" and "key\_value" pairs ("/" delimiter for object path)

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "dataobject/datafield1" : "1",
  "generic_data" : "sample_field"
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "insert_data_value",
  "id" : "some_id",
  "args" : {
    "result" : "success",
    "data" : {
      [COPY OF CURRENT DATA OBJECT]
    }
  }
}
```

### Changes from Example

Original saved data:

```
{
  "dataobject" : {
    "A" : "a"
  },
  "dataobject2" : {
    "B" : "b"
  }
}
```

After change from the request above:

```
{
  "generic_data" : "sample field",
  "dataobject": {
    "datafield1" : "1",
    "A" : "a"
  },
  "dataobject2" : {
    "B" : "b"
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

### See Also

- [users/get\\_data](#)

- [users/set\\_data](#)
- [users/insert\\_data](#)

## 5.25.7 - users/list

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	list	no	yes	no	1

### Description

List user information. If currently logged-in with an administrator account, this will show all info about all users, otherwise only the basic info about the current user account will be returned

### Input Arguments

- Required:
  - none ({})
- Optional:
  - "users" (string or array of strings) : If the "users" argument is supplied by an administrator account, it will limit the return list of information to the users specified.

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example (Non-admin request)

```
{
  "namespace" : "",
  "name" : "",
  "id" : "some_id",
  "args" : {
    "current_user_id":{
      "uuid" : "current_user_id",
      "username" : "myuser",
      "isAdministrator" : false,
      "is_active" : true
    }
  }
}
```

### Reply Example (Admin request)

```
{
  "namespace" : "",
  "name" : "",
  "id" : "some_id",
  "args" : {
    "user_id_1":{
      "uuid" : "user_id_1",
      "username" : "user1",
      "isAdministrator" : false,
      "is_active" : true,
      "allowed_servers" : [["server1", "r/w"], ["server2", "r"]],
      "allowed_groups" : [["group1", "r"], ["group2", "r"]],
      "create_alerts" : false,
      "extra_info" : {
        "full_name" : "SysAdmin 1",
        "email" : "sysadmin1@somewhere.net"
      }
    }
    "user_id_2":{
      "uuid" : "user_id_2",
      "username" : "user2",
      "isAdministrator" : true,
      "allowed_servers" : [["server1", "r/w"], ["server2", "r/w"]],
      "allowed_groups" : [["group1", "r/w"], ["group2", "r/w"]],
      "create_alerts" : null,
      "extra_info" : {
        "phone_number" : "123-456-7890",
        "email" : "sysadmin2@somewhere.net"
      }
    }
  }
}
```

- The "extra\_info" object corresponds to any extra/optional information that was added for this user (may be an empty object if no extra information has been saved).

### Log Summary

This API call does not generate a detailed log summary item

### Events

This API call does not emit any middleware events.

**See Also**

- [users/list\\_active](#)

## 5.25.8 - users/list\_active

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	list_active	yes	no	no	1

### Description

List all currently-active user sessions (Administrator Access Only - others will get a 403/Forbidden error code) The output reply contains all users with active sessions, as well as the number of active sessions for each user

### Input Arguments

- Required:
  - none ({})
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "list_active",
  "id" : "some_id",
  "args" : {
    "list_active":{
      "user1" : 1,
      "user2" : 2
    }
  }
}
```

### Log Summary

This API call does not generate a detailed log summary item

### Events

General users/list\_active events will be sent out any time a user logs into or out of the middleware.

Name	Who Receives
users/list_active	Everyone

Example:

```
{
  "namespace" : "event",
  "name" : "users/list_active",
  "id" : "",
  "args" : {}
}
```

### See Also

- [users/list](#)
- [rpc/auth\\_clear](#)



## 5.25.9 - users/remove

Namespace	Name	Admin Only	Log Summary	Generates Event	Version Added
users	remove	yes	yes	yes	1

### Description

Removes a user account from TrueCommand (Administrator Access Only - others will get a 403/Forbidden error code)

### Input Arguments

- Required:
  - "uuid" (string) : User ID of the account to remove
- Optional:
  - none ({})

### Request Example Arguments

**ARGUMENTS ONLY:** See the [basics](#) of API requests for additional formatting information.

```
{
  "uuid" : "user_id_1"
}
```

### Reply Example

```
{
  "namespace" : "response",
  "name" : "remove",
  "id" : "some_id",
  "args" : {
    "result" : "success"
  }
}
```

### Log Summary

Log entries for this API call will have the following "summary" object.

```
"summary" : {
  "action" : "users/remove",
  "removed_by_username" : "admin_user",
  "removed_by_uuid" : "admin_user_uuid",
  "remove_username" : "olduser",
  "remove_uuid" : "old_user_uuid",
}
```

### Events

Name	Who Receives
users/remove	Administrators

Events from this change will be sent to all currently-connected administrators. If the deleted user account was associated with an active session, that connection will be automatically closed by the server.

Example:

```
{
  "namespace" : "event",
  "name" : "users/remove",
  "id" : "",
  "args" : {
    "uuid" : "user_id_1",
    "username" : "user-one"
  }
}
```

### See Also

- [users/add](#)
- [users/edit](#)
- [users/list](#)

## 6 - Notices

### 6.1 - End of Life Notices

#### 6.1.1 - TrueCommand 1.1

**September 29, 2020**

TrueCommand 1.1 has reached its End of Life and is no longer receiving security updates. The TrueCommand 1.3.2 release announcement can be found at <https://www.ixsystems.com/blog/truecommand-1-3-2/>.

Please schedule a time to upgrade to the latest version of TrueCommand. If assistance is required, please contact the iXsystems Support Team.

Contact Method	Contact Options
Web	<a href="https://support.ixsystems.com">https://support.ixsystems.com</a>
Email	<a href="mailto:support@ixsystems.com">support@ixsystems.com</a>
Telephone	Monday - Friday, 6:00AM to 6:00PM Pacific Standard Time: US-only toll-free: 855-473-7449 option 2 Local and international: 408-943-4100 option 2
Telephone	After Hours (24x7 Gold Level Support only): US-only toll-free: 855-499-5131 International: 408-878-3140 (international calling rates will apply)

## 6.1.2 - TrueCommand 1.0

**September 29, 2020**

TrueCommand 1.0 has reached its End of Life and is no longer receiving security updates. The TrueCommand 1.3.2 release announcement can be found at <https://www.ixsystems.com/blog/truecommand-1-3-2/>.

Please schedule a time to upgrade to the latest version of TrueCommand. If assistance is required, please contact the iXsystems Support Team.

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Email	<a href="mailto:support@ixsystems.com">support@ixsystems.com</a>
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