

TrueCommand™ Guide

Version 1.1



CONTENTS

1 Introduction	3
2 Typography	4
3 Starting	6
3.1 Locating the TrueCommand™ IP Address	6
3.2 Adding TrueCommand™ as an Exception	6
3.2.1 Adding an Exception in Firefox	7
3.2.2 Adding an Exception in Chrome	8
3.3 Signing Up for TrueCommand™	9
4 Dashboard	13
4.1 Managing NAS Databases	15
5 Systems	16
5.1 Groups	17
5.2 Discovered Systems	17
6 Users	19
6.1 Add User	19
6.2 Edit User	20
7 Teams	22
7.1 Add Team	22
7.2 Edit Team	22
8 Alerts	24
8.1 System Alerts	25
8.2 TrueCommand™ Alert Rules	25
8.3 Alert Plugins	27
9 Reports	28
9.1 Create Report	28
9.2 View Report	29
9.3 Share Report	30
10 Logs	32
11 Administration	33
12 Update	37
13 Help Text	38
14 User Menu	39

15 Restart or Shut Down	41
16 System Configuration Utility	43
16.1 <i>Manage Services</i>	44
16.2 <i>Manage Networking</i>	44
16.3 <i>Date/Time Settings</i>	44
16.4 <i>Manage Updates</i>	45
16.5 <i>Reset UI User Password</i>	45
16.6 <i>Reboot System</i>	45
16.7 <i>Shutdown System</i>	45
16.8 <i>Root Terminal</i>	45
17 Installation	46
17.1 System Requirements	46
17.2 Virtualization	46
17.2.1 VirtualBox	46
17.2.2 VMware ESXi	53
17.3 Installing TrueCommand™	57

INTRODUCTION

Welcome to TrueCommand™!

TrueCommand™ is a top-level management solution for managing multiple FreeNAS and TrueNAS systems. This is sometimes called a “single pane of glass” appliance and provides a unified administration for multiple users and multiple systems on networks.

TrueCommand™ can monitor an entire network of FreeNAS® and TrueNAS® systems. This includes showing system statistics on storage usage, network activity, active services, and more. Even more, TrueCommand™ has the ability to create custom reports about individual systems or a combination of many systems.

TYPOGRAPHY

These typographic conventions are referenced throughout the docs:

Table 2.1: TrueCommand™ Icons

Icon	Name	Usage
	Configure	Configurable options.
	Administration	Administration page. Only visible to admin accounts.
	Systems	Systems page.
	Teams	Teams page.
	Delete	Delete item.
	Alert Error	Critical alert.
	Alert Warning	Warning alert.
	Alert Information	Information alert.
	Alert Resolve	Resolve alert.
	Alert Rules	Alert rules page.
	Report Share	Share report with other users.
	Show	Show item.
	Expand	Expand item.
	Calendar	Choose a date.
	Edit	Edit item.
	Help	Display additional help text for items.
	Metrics	Show item metrics.
	Offline	Offline status.

Continued on next page

Table 2.1 – continued from previous page

Icon	Name	Usage
	Plus	Add item.
	Minus	Remove item.
	Power	Shut down TrueCommand™.
	Restart	Shut down and restart the system.
	TrueCommand™ Update	Update TrueCommand™.
	System Update	Update the desired system.
	All Alerts	All alerts page.
	Database Backup	Back up the system database.
	Database Restore	Restore system databases.
	System web interface	View the system web interface.

STARTING

Please see the [Installation](#) (page 46) chapter for instructions on installing TrueCommand™ to a virtual machine or hardware if it has not already been installed.

The *Appliance Status* screen appears when TrueCommand™ is running.

```
Appliance Status
BETA3 (20190311045346)
(hit 'Enter' to launch setup)
=====
IP Address:  10.0.2.15
Time:       15:15:16 UTC
-----
Database           started
Middleware         started 00:00:32 (0)
WebUI              started
sshd               started
=====
```

Fig. 3.1: Appliance Status

Locating the TrueCommand™ IP Address

The IP address of the TrueCommand™ system is displayed at the top of the *Appliance Status* menu. Enter the DNS hostname or IP address in a browser to access the TrueCommand™ web interface.

Adding TrueCommand™ as an Exception

TrueCommand™ uses a [self signed certificate](https://en.wikipedia.org/wiki/Self-signed_certificate) for a secure connection. Because of this, most internet browsers consider the IP address or DNS hostname untrustworthy. The IP address or DNS hostname must be added as an exception to connect.

Adding an Exception in Firefox

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

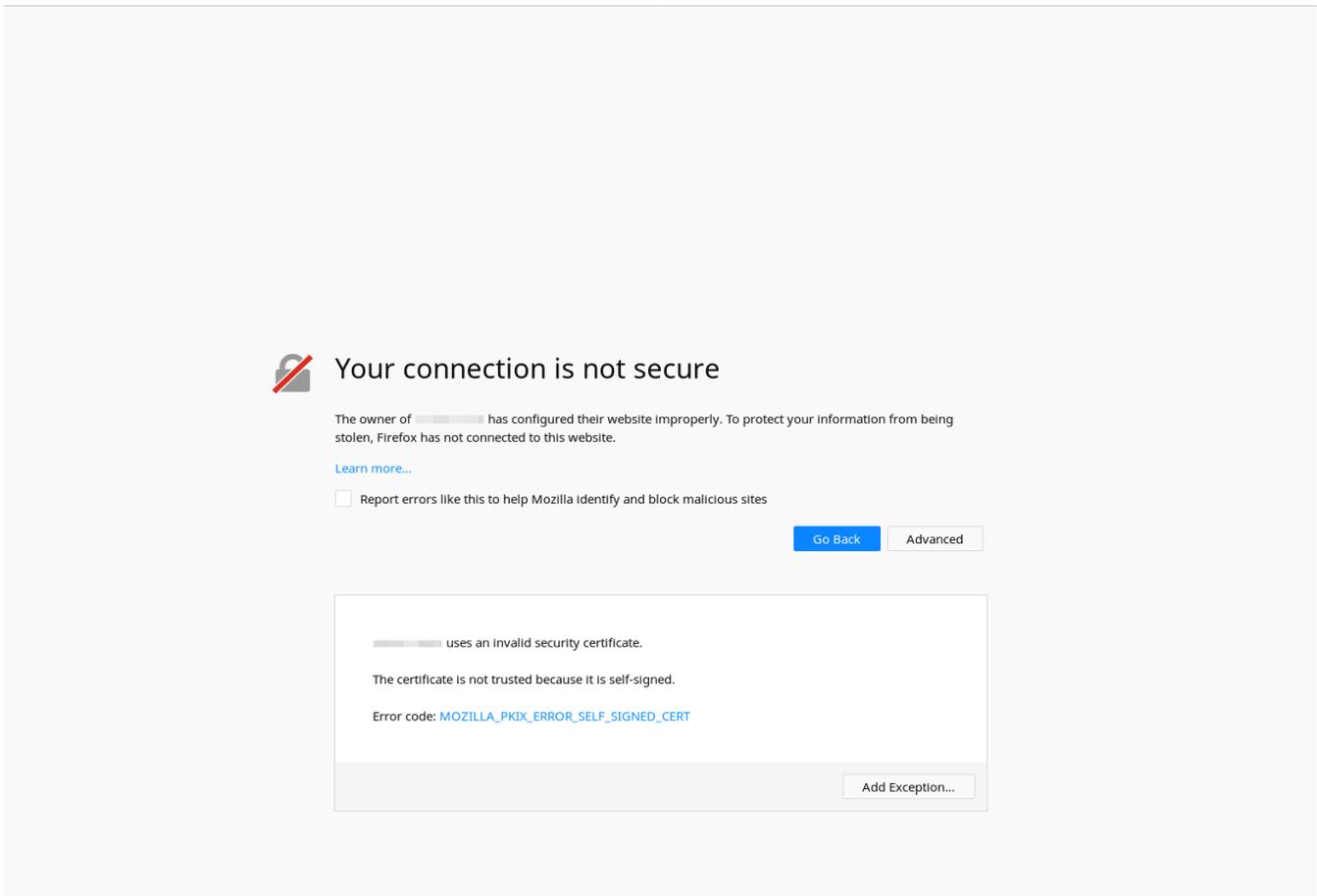


Fig. 3.2: Firefox Connection Warning

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

Click *Confirm Security Exception*.

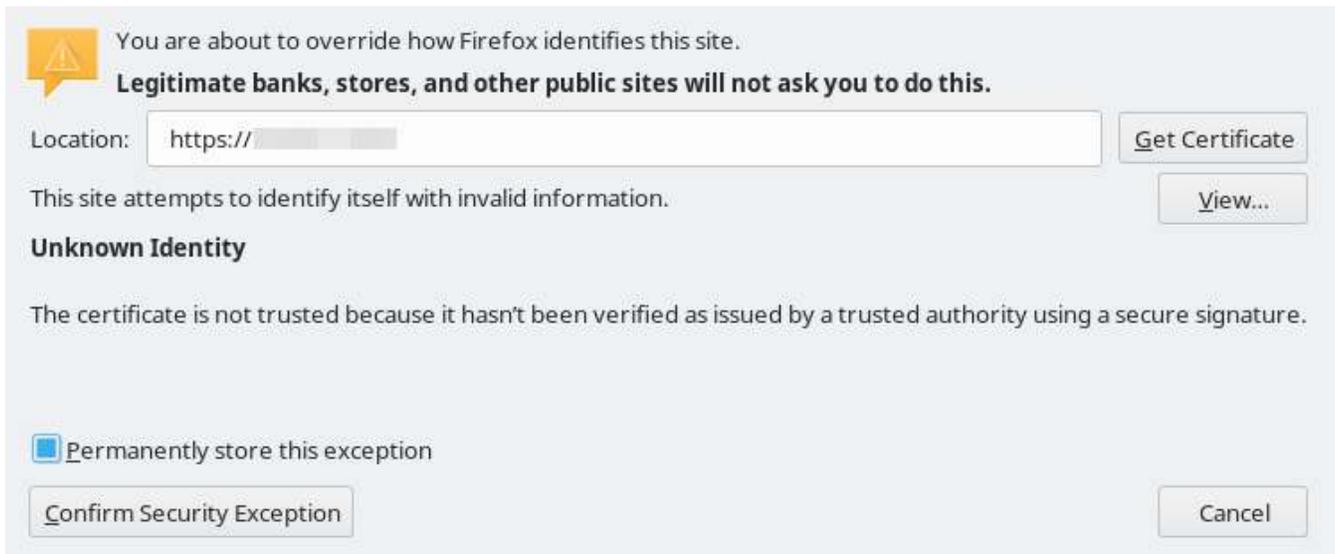


Fig. 3.3: Firefox Add Exception

Adding an Exception in Chrome

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

Click *Proceed to hostname (unsafe)*.

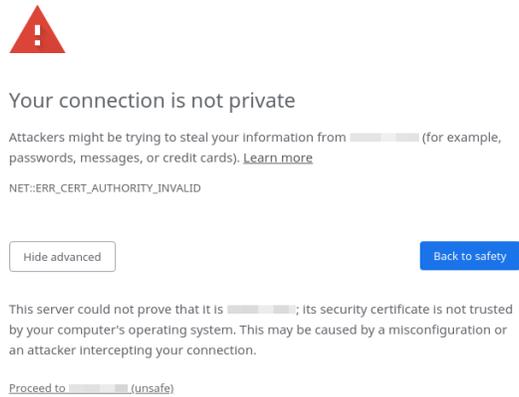


Fig. 3.4: Chrome Connection Warning

Signing Up for TrueCommand™

Follow these steps to create a new admin user:

1. **Log in using the default username** (`admin`) **and password** (`admin`). This username is only present when there are no actual users defined in the database.

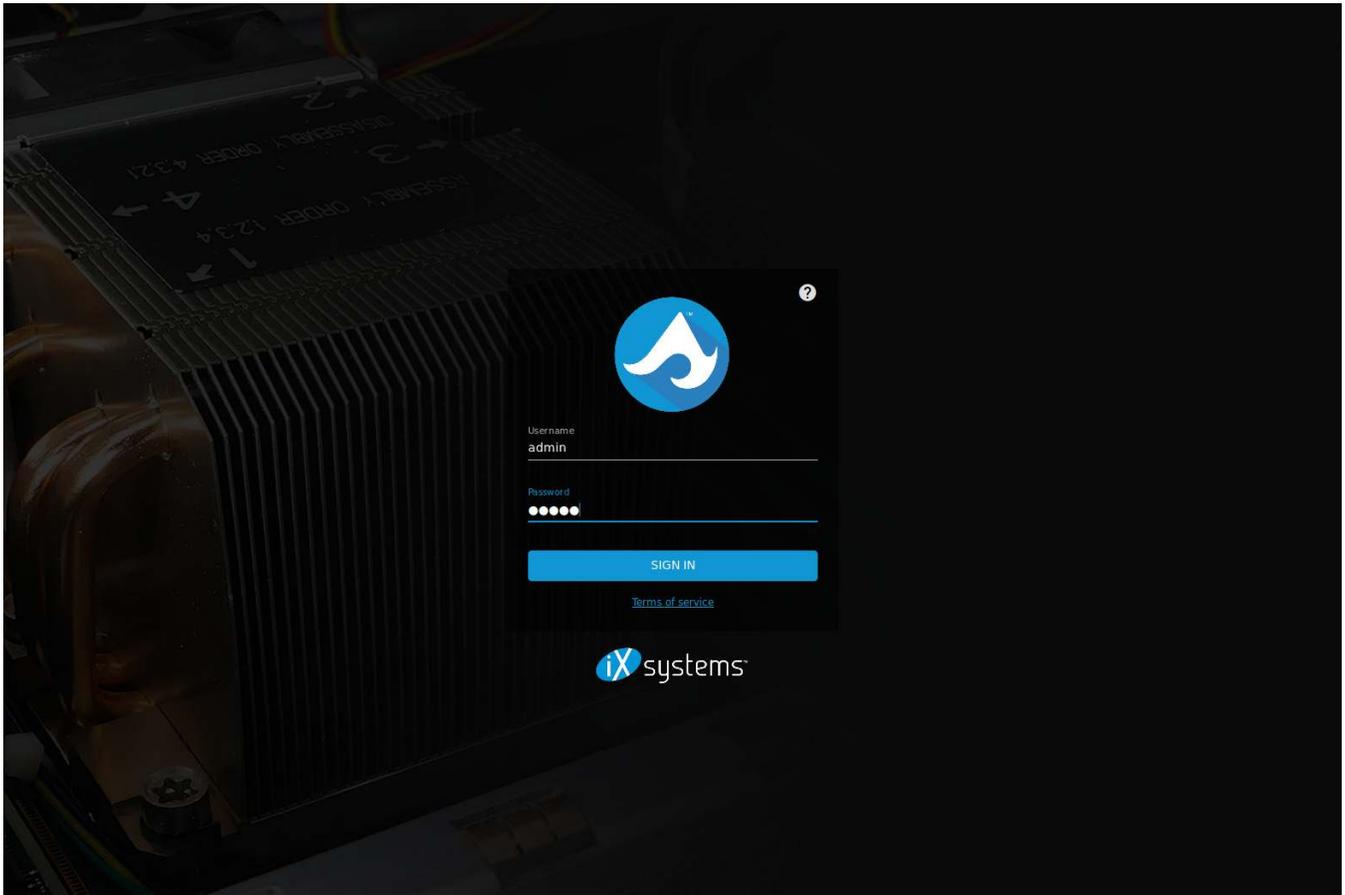


Fig. 3.5: Log in to Access Sign Up Page

2. 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*.

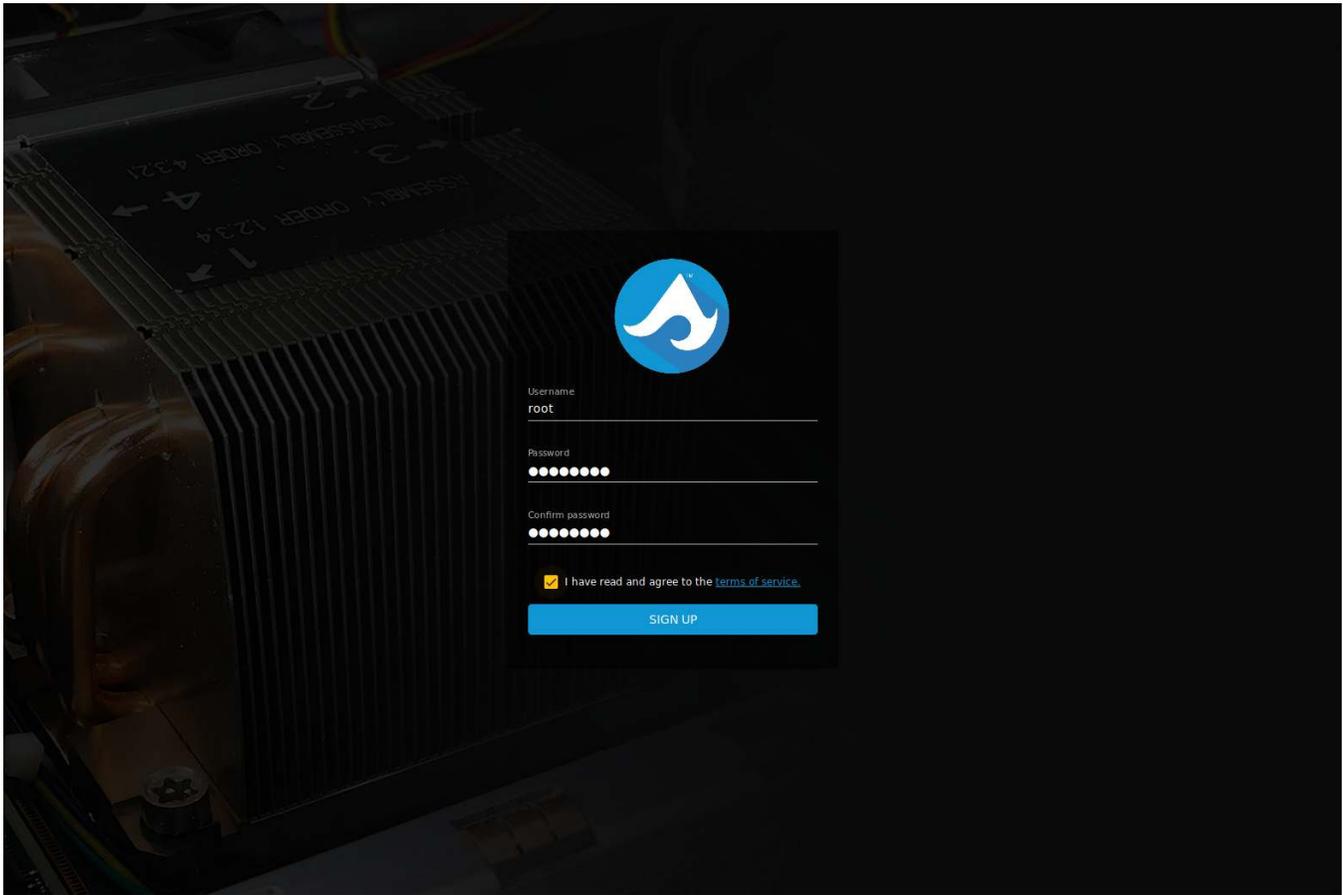


Fig. 3.6: Sign Up for TrueCommand™

3. Log in with the administrator user just created. The TrueCommand™ web interface is displayed.

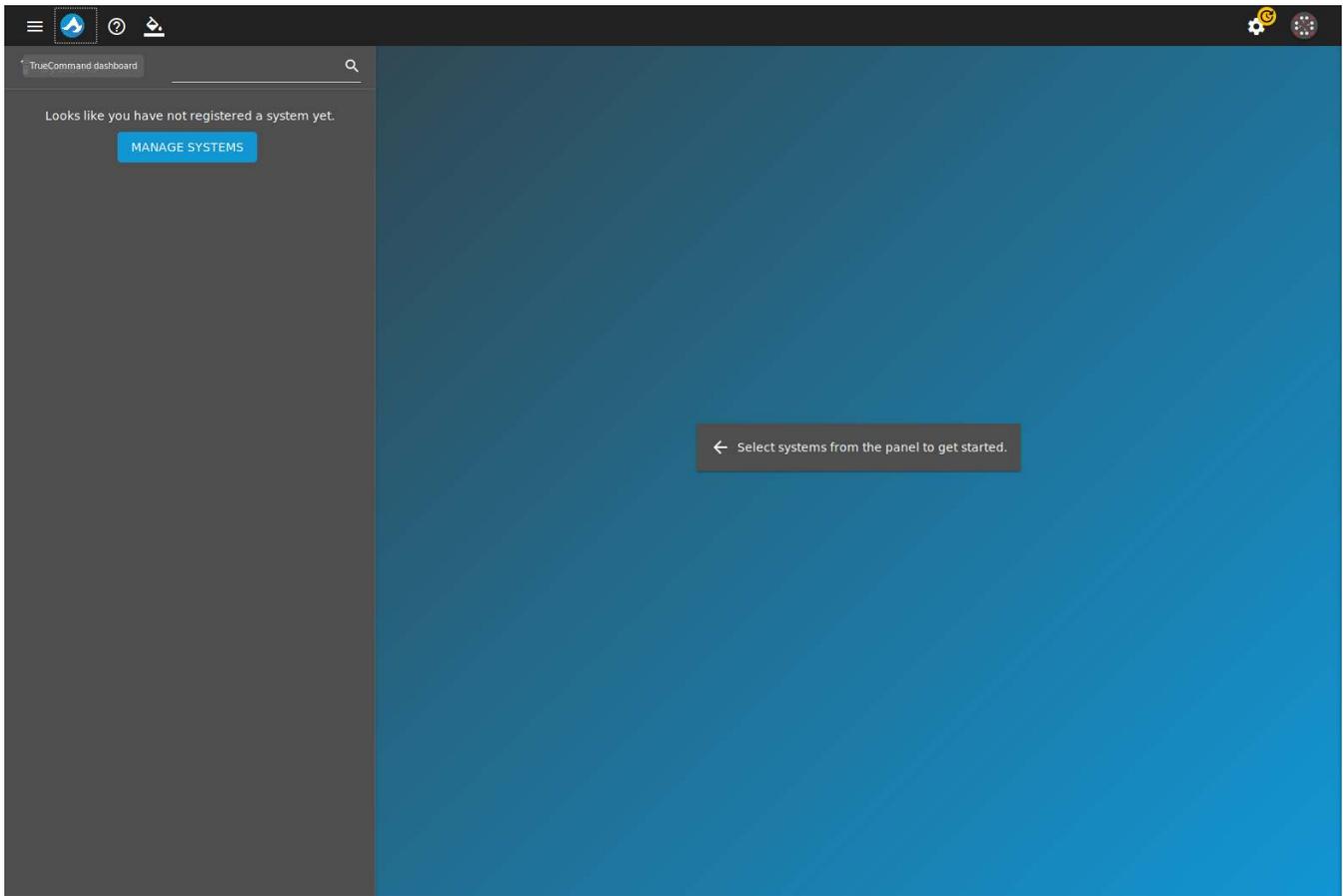


Fig. 3.7: Empty Dashboard

The *Dashboard* (page 13) is empty until TrueCommand™ begins monitoring systems.

DASHBOARD

The dashboard is used to manage and monitor FreeNAS® and TrueNAS® systems. It displays system storage capacity, CPU usage, memory usage, network statistics, and other useful information. To open the dashboard, click the TrueCommand™ logo in the upper-left side of the web interface.

The dashboard is empty when first setting up TrueCommand™ because no systems are being monitored. [Add Systems](#) (page 16) to view them on the dashboard. All added systems are shown on the dashboard by default. Each system summary has options for that system, including viewing more details, opening the system web interface, installing updates, and others. These options change according to the account permissions that is currently logged in to the TrueCommand™ web interface.

To hide a system on the dashboard, unset the checkbox in the *Systems* side panel. Access the system by clicking [System web interface](#) (page 5) in the side panel. This opens the system interface associated with the DNS hostname or IP address. TrueCommand™ uses SSL by default to connect to other systems. This means if an authentic certificate authority is not used on the system, TrueCommand™ cannot connect to view the system web interface. See [Certificate Authorities](https://www.ixsystems.com/documentation/freenas/11.2-U6/system.html#cas) (https://www.ixsystems.com/documentation/freenas/11.2-U6/system.html#cas) and [Certificates](https://www.ixsystems.com/documentation/freenas/11.2-U6/system.html#certificates) (https://www.ixsystems.com/documentation/freenas/11.2-U6/system.html#certificates) for more detailed information on how to create a certificate.

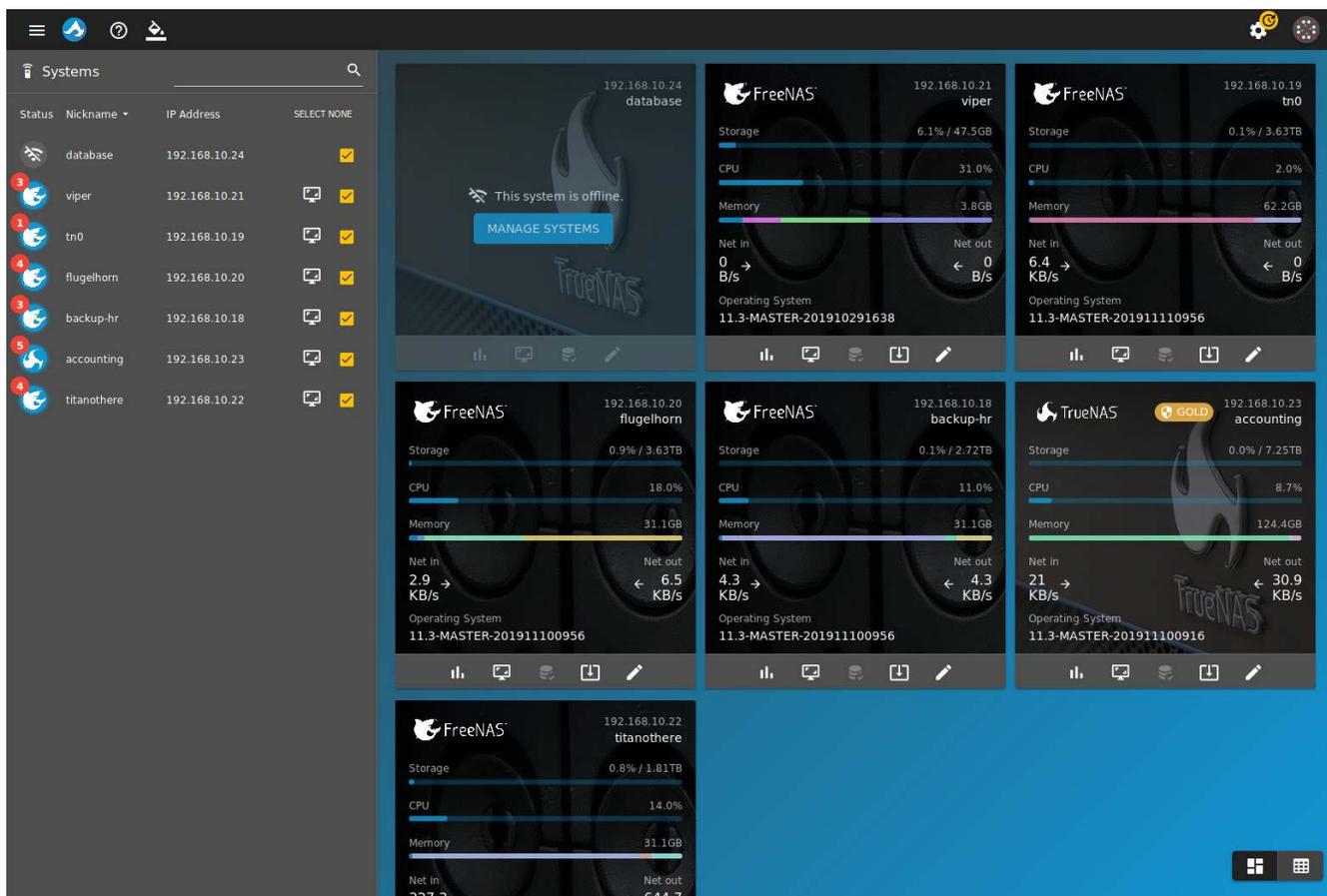


Fig. 4.1: Dashboard with Systems

Live statistics are displayed for each connected system. To edit the TrueCommand™ settings for a system, click the [edit](#) (page 4) button. FreeNAS® or TrueNAS® systems with available updates show a [system update](#) (page 5) button. Clicking [system update](#) (page 5) installs updates and reboots that system.

Clicking [System web interface](#) (page 5) in the side panel accesses that system. This opens the system interface associated with the DNS hostname or IP address.

To hide a system on the dashboard, unset the checkbox in the *Systems* side panel. View more information about a specific system by hiding all other systems on the dashboard. When only one system is shown, additional tabs show more system details. There are also system controls for user accounts that can administrate the FreeNAS® or TrueNAS® system:

- *Metrics* shows a variety of system usage statistics. These can be filtered by date.
- *Storage* summarizes the storage pool status. Clicking [metrics](#) (page 4) for a pool shows more usage details and dataset notes.
 - Clicking [expand](#) (page 4) shows the disk status. Clicking [metrics](#) (page 4) for one of the related disks shows the full activity history of that disk.
- *Network* shows the configuration and current bandwidth of each physical and virtual network interface. Clicking [metrics](#) (page 4) for a device shows more detailed traffic graphs.
- *Services* lists every available service. Service states are displayed, along with options to stop, start, or set a service to auto-start.
- *Jails* lists jails with configuration details and current state. Jails can be started or stopped.
- *Virtual Machines* lists virtual machines (VM) with configuration details and current status. VMs can also be started or stopped.

- *Alerts* shows [alerts](#) (page 24) generated by the FreeNAS® or TrueNAS® system. Alerts are sorted between *Active* and *Resolved* notices. To see more details or comments on an alert, click the [alert error](#) (page 4) icon. Alerts can be marked as resolved or removed completely.
- *Database Backups* manages database files copied from attached iXsystems™ NAS systems. This feature is only available with a TrueCommand™ license.
- *Audit* tracks changes that have been made to the system configuration. TrueCommand™ updates the audit log every 30 minutes with entries that show which item changed and whether a TrueCommand™ user initiated the change. To keep log information secure, it is recommended to [secure NAS connections with SSL](#) (page 35). To view the complete entry for the configuration change, click [show](#) (page 4).

Managing NAS Databases

This feature is only available with a TrueCommand™ license.

TrueCommand™ detects when changes are made to an attached iXsystems™ NAS system configuration and creates a copy of the NAS database. These database copies can be restored to one or more iXsystems™ NAS systems, cloning that configuration. FreeNAS® or TrueNAS® systems must be version 11.2 or greater to permit automated database backups.

By default, TrueCommand™ saves up to seven copies of a single system database. This count resets when the attached iXsystems™ NAS is updated to a new version of FreeNAS® or TrueNAS®. For example, say TrueCommand™ has saved five different database files from a TrueNAS® 11.2 system. When that system is updated to TrueNAS® 11.3, TrueCommand™ keeps the existing 11.2 database copies and automatically saves up to seven copies of the 11.3 system database.

Automated backup settings are located in the TrueCommand™ [configuration options](#) (page 35).

To back up a NAS database manually, go to the *Dashboard* and click [database backup](#) (page 5).

Saved database files can be located by going to the *Dashboard*, showing details for a single system, and clicking the *Database Backups* tab. Each entry shows the FreeNAS® or TrueNAS® database version, when the database was copied to TrueCommand™, and buttons to delete or restore the database.

Restoring a Database

Danger: Do not restore a database to a system that has a different version of FreeNAS® or TrueNAS® installed! See the FreeNAS® or TrueNAS® [documentation](https://www.ixsystems.com/documentation) (https://www.ixsystems.com/documentation) for instructions about rolling a system back to a software version that matches the database being restored.

Clicking [database restore](#) (page 5) shows restore options for the selected database. Click *ADD SYSTEM* to choose a system to restore to that database configuration. Choosing multiple systems applies that database to all selected systems, allowing easy cloning of a single FreeNAS® or TrueNAS® configuration across multiple systems. Systems are unavailable in both TrueCommand™ and the individual NAS web interface while the database is applied.

SYSTEMS

Systems contains all the options for TrueCommand™ to begin monitoring a system. The systems page has three tabs: *Systems* (page 16), *System Groups* (page 17), and *Discovered Systems* (page 17). View the systems page by going to *configure* (page 4) → *systems* (page 4).

Click *configure* (page 4) → *systems* (page 4) → + *NEW SYSTEM* to begin monitoring a system. Enter the system IP address or DNS hostname, nickname, and password. If a mistake is made, the contents of the fields can be reset by clicking *RESET FORM*. To add the new system, click *ADD SYSTEM*. Adding a system with an incorrect password shows that system as *offline* (page 4) in the dashboard and added systems list.

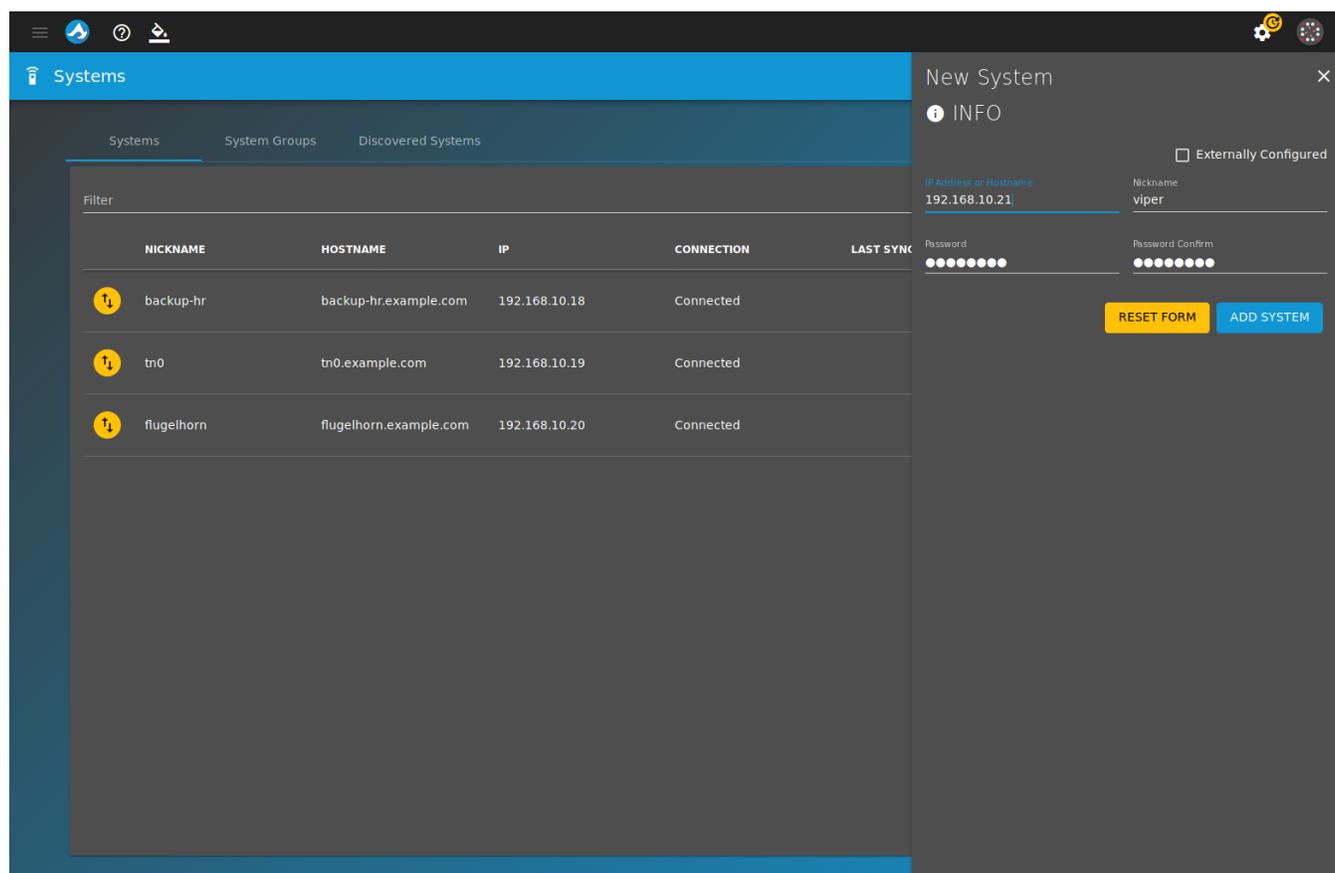


Fig. 5.1: Adding a New System

Click *Systems* to view all added systems.

Systems can be edited by clicking *edit* (page 4). Change the system information by entering new information in the fields and clicking *SAVE CHANGES*. To go back to the original contents of the fields, click *RESET FORM*.

A system can be removed from TrueCommand™ monitoring by clicking *delete* (page 4).

Groups

Groups are collections of systems that are organized by TrueCommand™ administrators. Systems are organized into groups to efficiently manage permissions and reports.

Click *System Groups* to view the list of created groups and the systems they contain. Groups are created by clicking *configure* (page 4) → *Systems* → + *NEW GROUP*. Enter a group name. Click *ADD SYSTEM* to add a system to the group. Repeat this step to add multiple systems to a group. Click *CREATE GROUP* when all desired systems are added to the group.

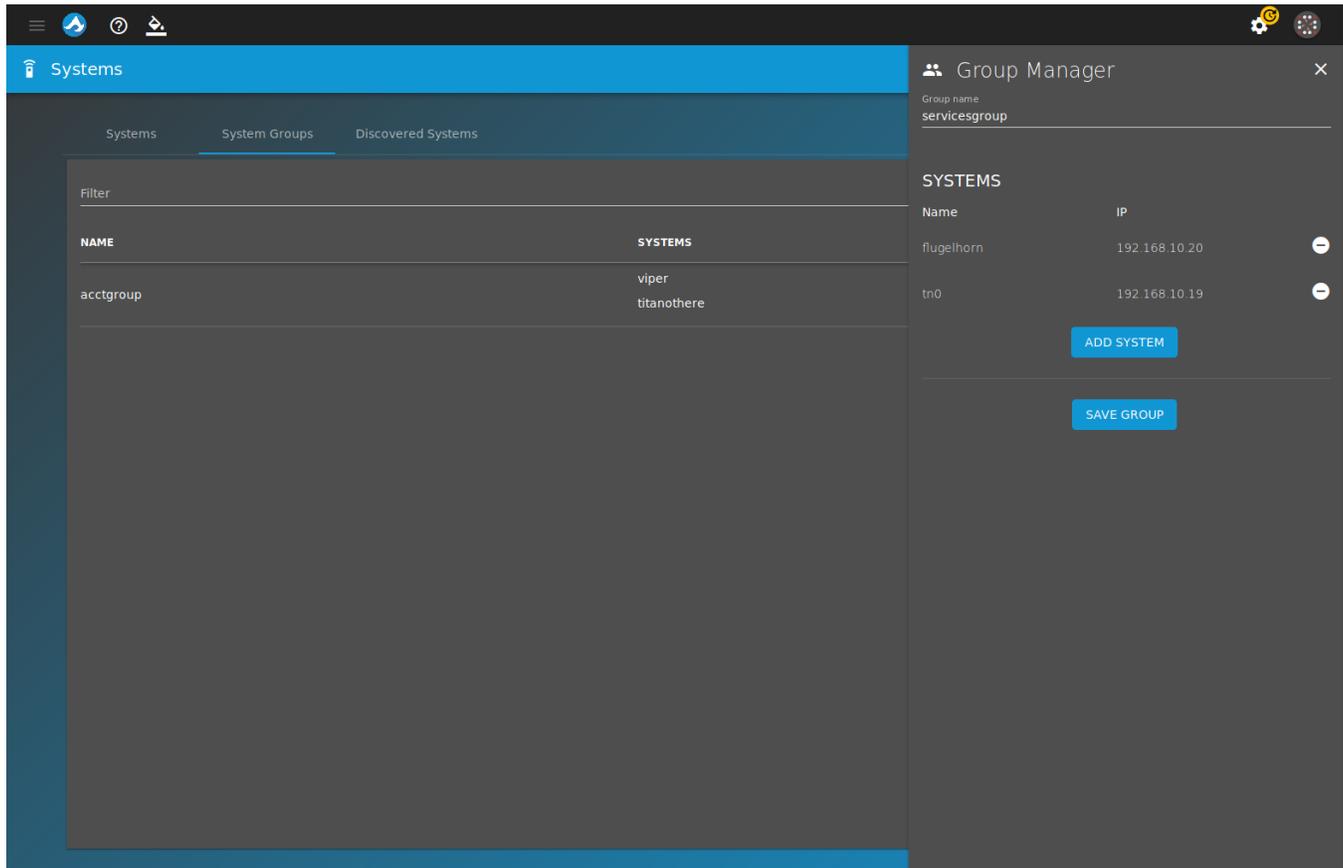


Fig. 5.2: Adding a New Group

Editing a group allows updating the group name or changing which systems are members of that group. To delete a system group, click *delete* (page 4). Confirm the deletion by clicking *YES*.

Discovered Systems

Click *Discovered Systems* to view a list of systems TrueCommand™ has detected on the local network.

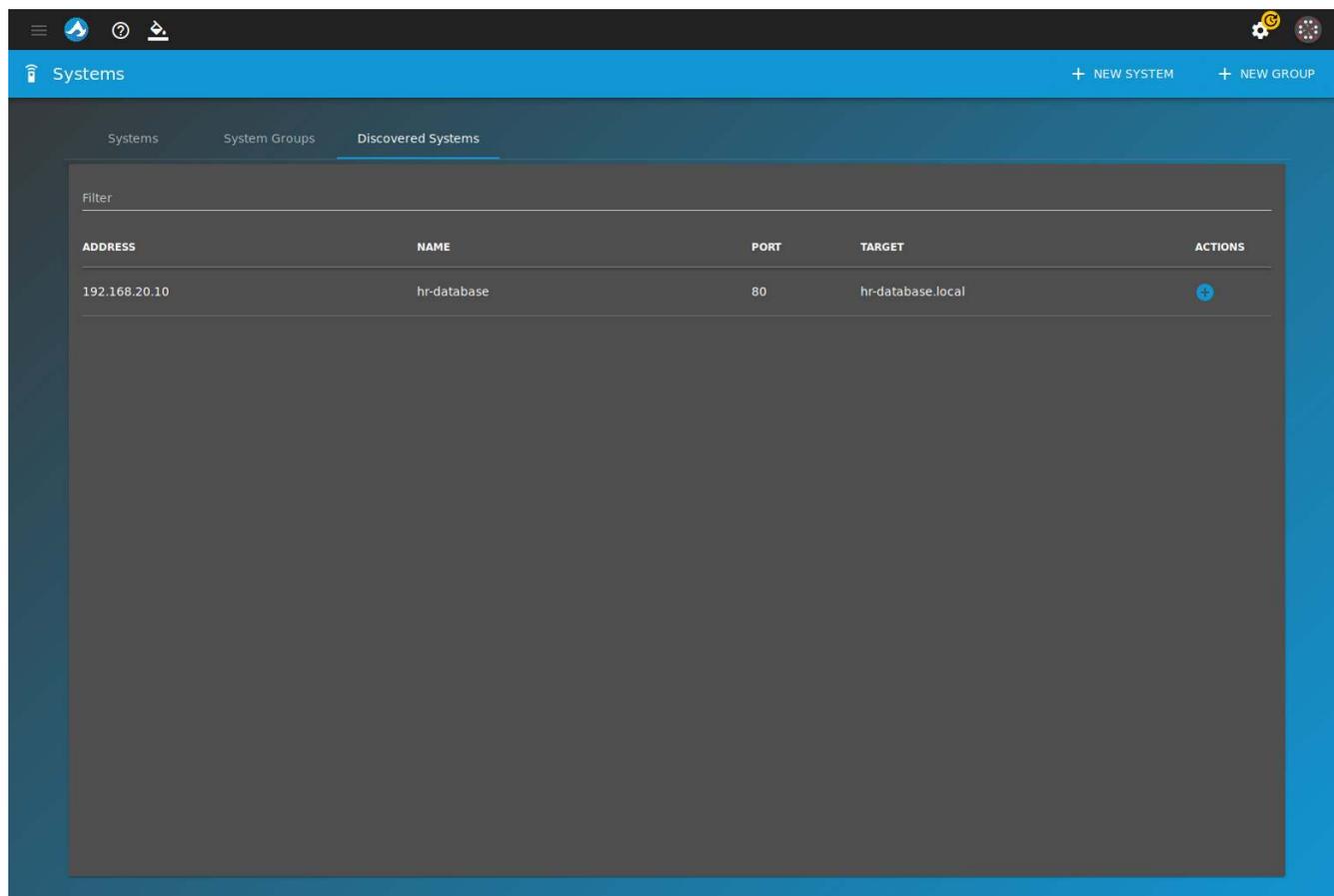


Fig. 5.3: Discovered Systems

A system can be added to TrueCommand™ monitoring by clicking *plus* (page 5). Enter a nickname and the password for the system, then click *ADD SYSTEM*.

TrueCommand™ allows multiple people to connect to the system with personalized settings. Each person has a unique user account.

Add User

Register a new user by clicking *configure* (page 4) → *Users* → *NEW USER*. Enter a descriptive username and an authentication method for the user. The *DEFAULT* authentication method uses the TrueCommand™ web interface to log in. *LDAP/AD* allows for a single sign on experience through [Lightweight Directory Access Protocol \(LDAP\)](https://en.wikipedia.org/wiki/Lightweight_Directory_Access_Protocol) (https://en.wikipedia.org/wiki/Lightweight_Directory_Access_Protocol) or [Active Directory \(AD\)](https://en.wikipedia.org/wiki/Active_Directory) (https://en.wikipedia.org/wiki/Active_Directory). Usernames and passwords are provided through LDAP or AD. This means a user can log in with an LDAP or AD account without creating a 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 if the TrueCommand™ username does not match the LDAP or AD credentials.

After entering the information, click *CREATE USER* to add the user to TrueCommand™. Repeat this process to add multiple users.

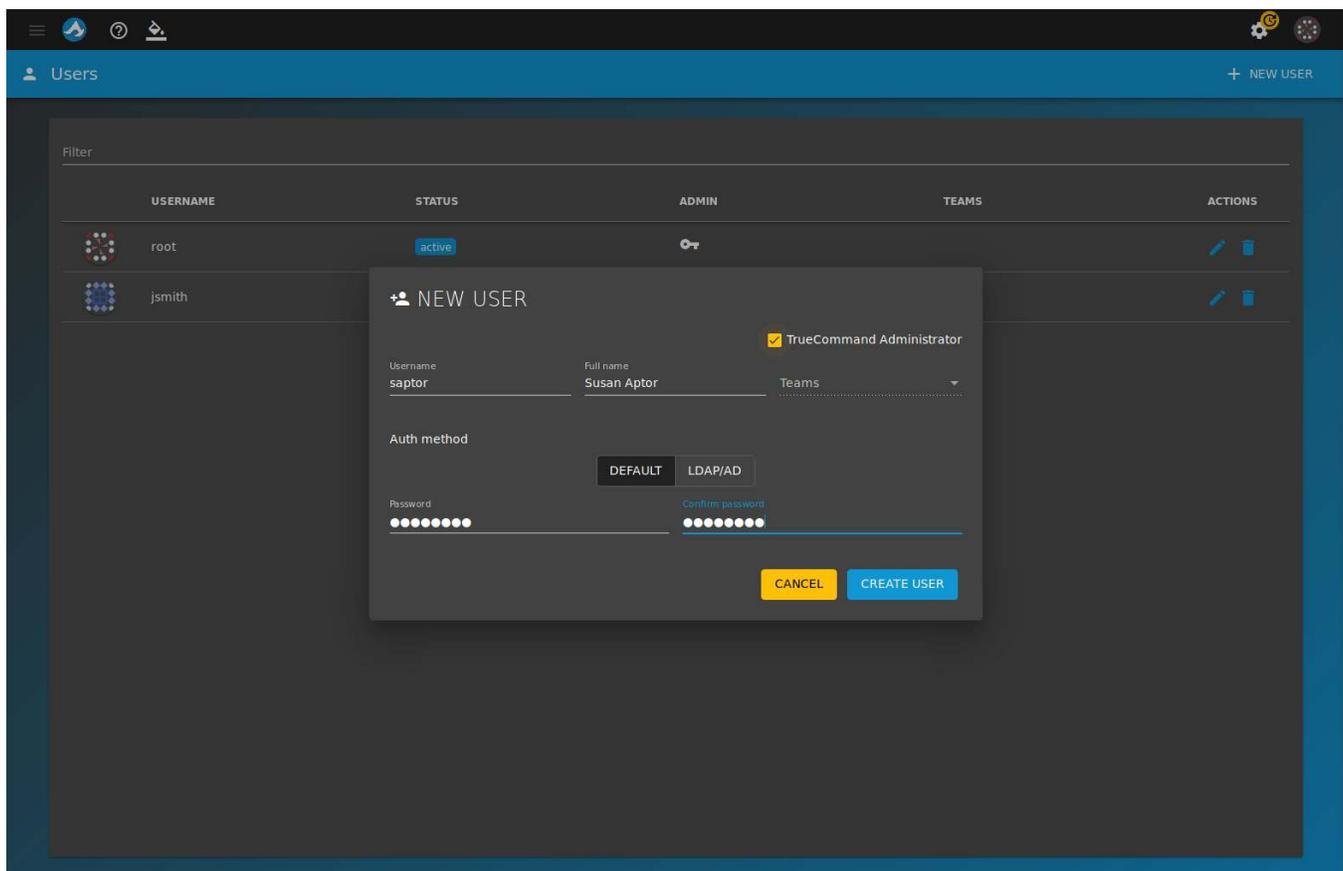


Fig. 6.1: Adding a User

Users can be assigned to [Teams](#) (page 22). When a team is created, select a team from the drop-down to add the user to that team. Users can be members of multiple teams.

Users can be deleted by clicking [delete](#) (page 4).

Warning: Deleting a user permanently removes the user and cannot be undone.

Edit User

Edit users from the [configure](#) (page 4) → [Users](#) → [edit](#) (page 4) menu. Editing a user requires entering the current password for that user. These details can be changed for a user:

- **AVATAR:** Click [edit](#) (page 4) and choose an avatar image. An avatar is a picture associated with the user.
- **USER DETAILS:** A user can be given administrator privileges by clicking the slider. The *Username*, *Full Name*, *Title*, *Email*, *Phone*, and *Auth method* can be changed. The *LDAP server IP address* or *DNS hostname* and *Domain* are required to use *LDAP/AD*. The *LDAP or AD Username (optional)* is required if the TrueCommand™ and LDAP or AD username are different. To go back to the original contents of the fields, click *RESET FORM*.
- **JOINED TEAMS:** The *CREATE A NEW TEAM* button appears if no teams exist. When teams are present, the *JOIN TEAM* button appears. Click *JOIN TEAM* to add the user to a team. Users can be added to multiple teams. Click [minus](#) (page 5) to remove the user from a team.
- **SYSTEM ACCESS:** The *MANAGE SYSTEMS* button appears if a system has not been added to TrueCommand™. When a system has been added, the *ADD SYSTEM* button appears. Click *ADD SYSTEM* and select a system from the drop-down to give the user access to that system. To assign the type of access to the system, choose

read or *read/write* from the *ACCESS* drop-down. To remove a user's access to a particular system, click *minus* (page 5) on the desired system.

- **SYSTEM GROUPS:** A *MANAGE GROUPS* button appears if a group has not been created. When a group has been created 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 the type of access to the group, choose *read* or *read/write* from the *ACCESS* drop-down. To remove a user's access to a particular group, click *minus* (page 5) on the desired group.
- **End User License Agreement (EULA):** The EULA can be viewed by clicking *VIEW THE EULA*.

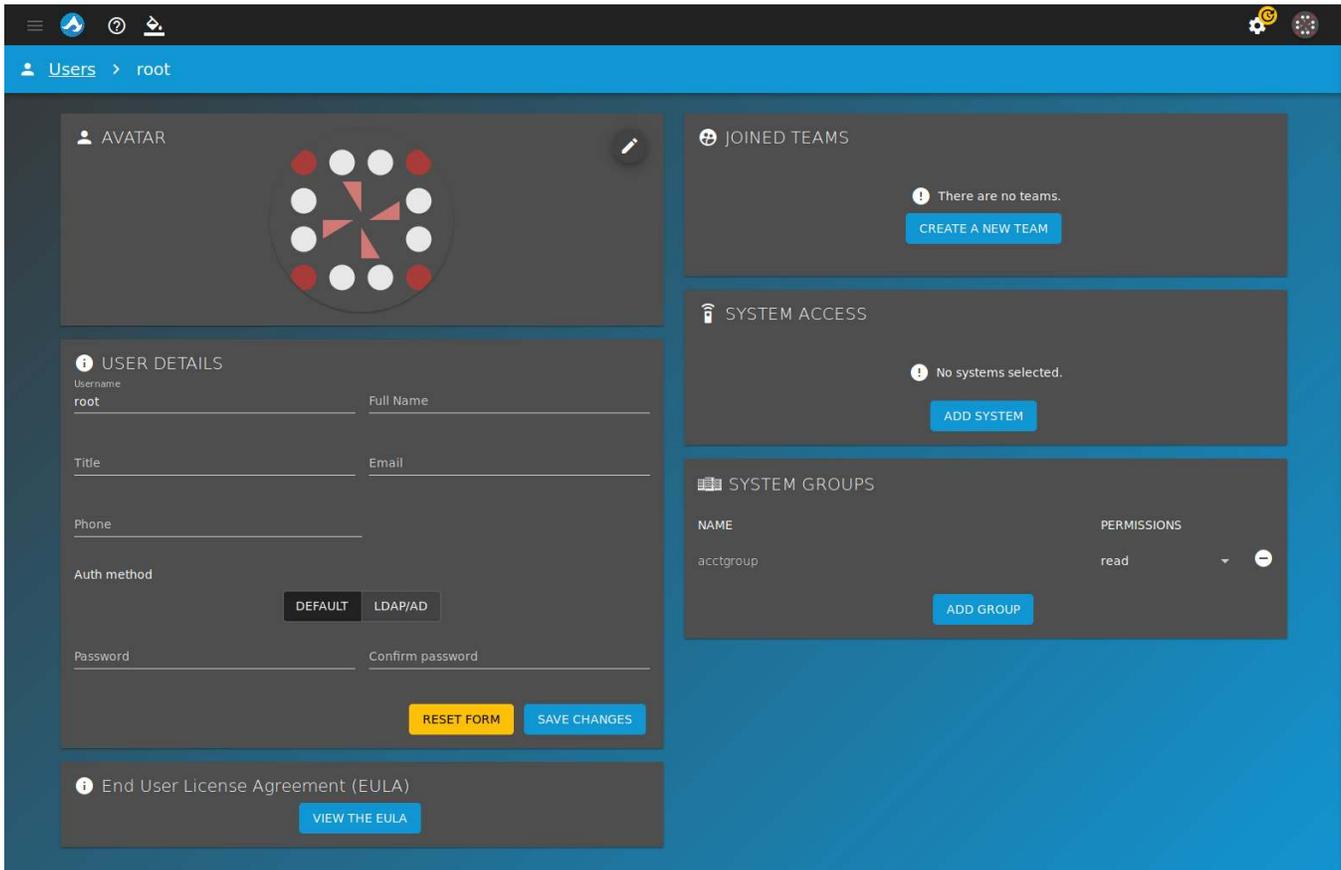


Fig. 6.2: Editing a User

TEAMS

Teams are a collection of users. They provide a more efficient way of managing users. For example, changing the permissions for one team is much faster than changing the permissions for many individual users.

Add Team

A team is created by clicking [configure](#) (page 4) → *TEAMS* → *CREATE TEAM*. Enter a name and select an avatar for the new team. Click *CREATE TEAM* to create the team.

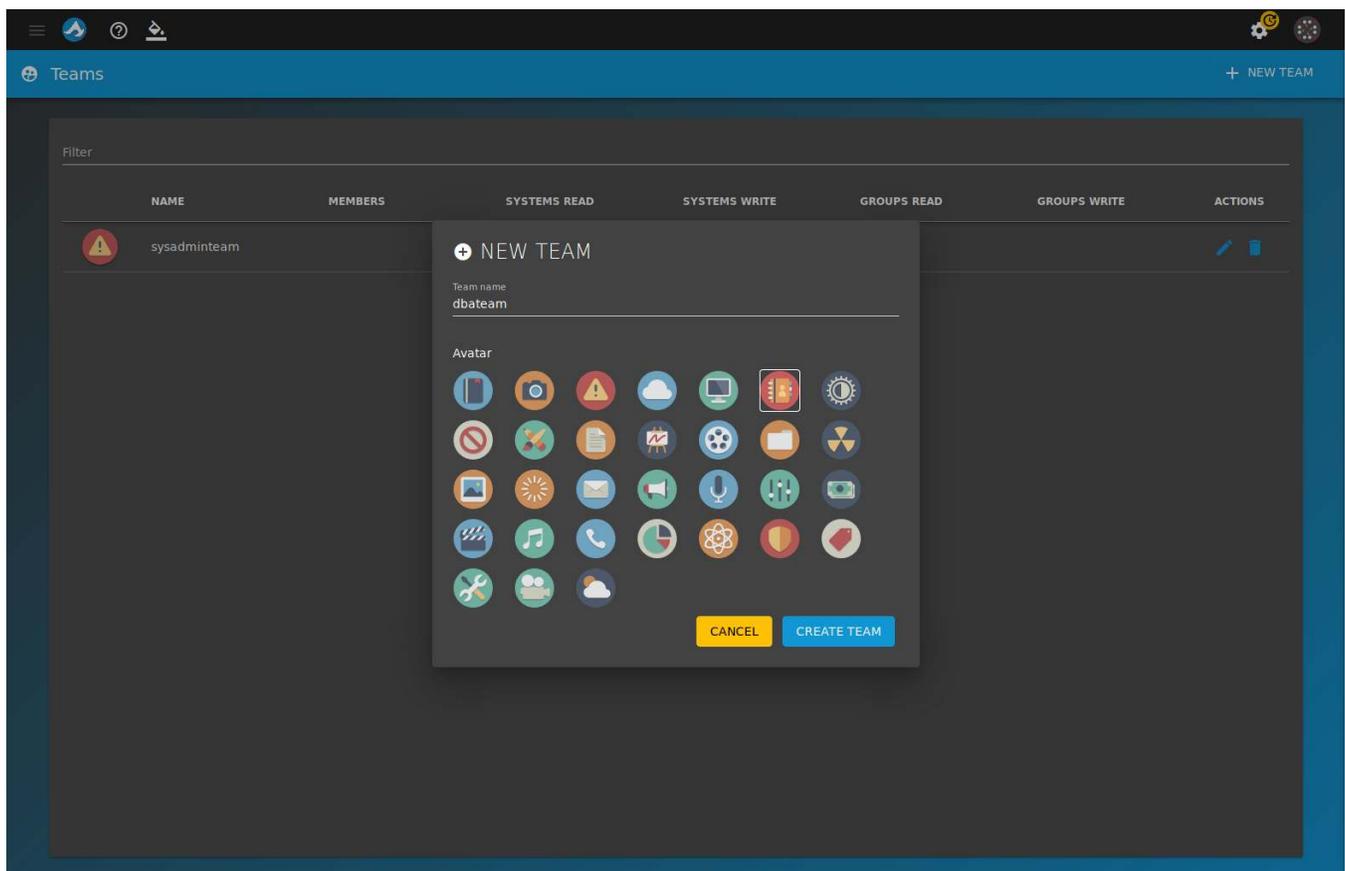


Fig. 7.1: Adding a New Team

Edit Team

Click [configure](#) (page 4) → *Teams* → *edit* (page 4) to edit a team. These options can be changed:

- **TEAM AVATAR:** Click *edit* (page 4) to upload an avatar image or use an existing image.
- **MEMBERS:** To add users to the team, click *ADD USER* and choose them from the drop-down. To remove users from the team, click *minus* (page 5) on the desired user.
- **SYSTEM ACCESS:** Give the team access to specific systems by clicking *ADD SYSTEM* and selecting systems from the drop-down. This gives all users that are a part of the team access to the systems selected. To change the type of access, click *read* or *read/write* from the *ACCESS* drop-down. To remove a system from access by the team, click *minus* (page 5) on the desired system.
- **SYSTEM GROUPS:** Give the team access to *created groups* (page 17) of systems by clicking *ADD GROUP* and selecting groups from the drop-down. This gives all members of the team access to the group of systems selected. To change the type of access, click the *ACCESS* drop-down and select *read* or *read/write*. To remove a group from access of the team, click *minus* (page 5) on the desired group.

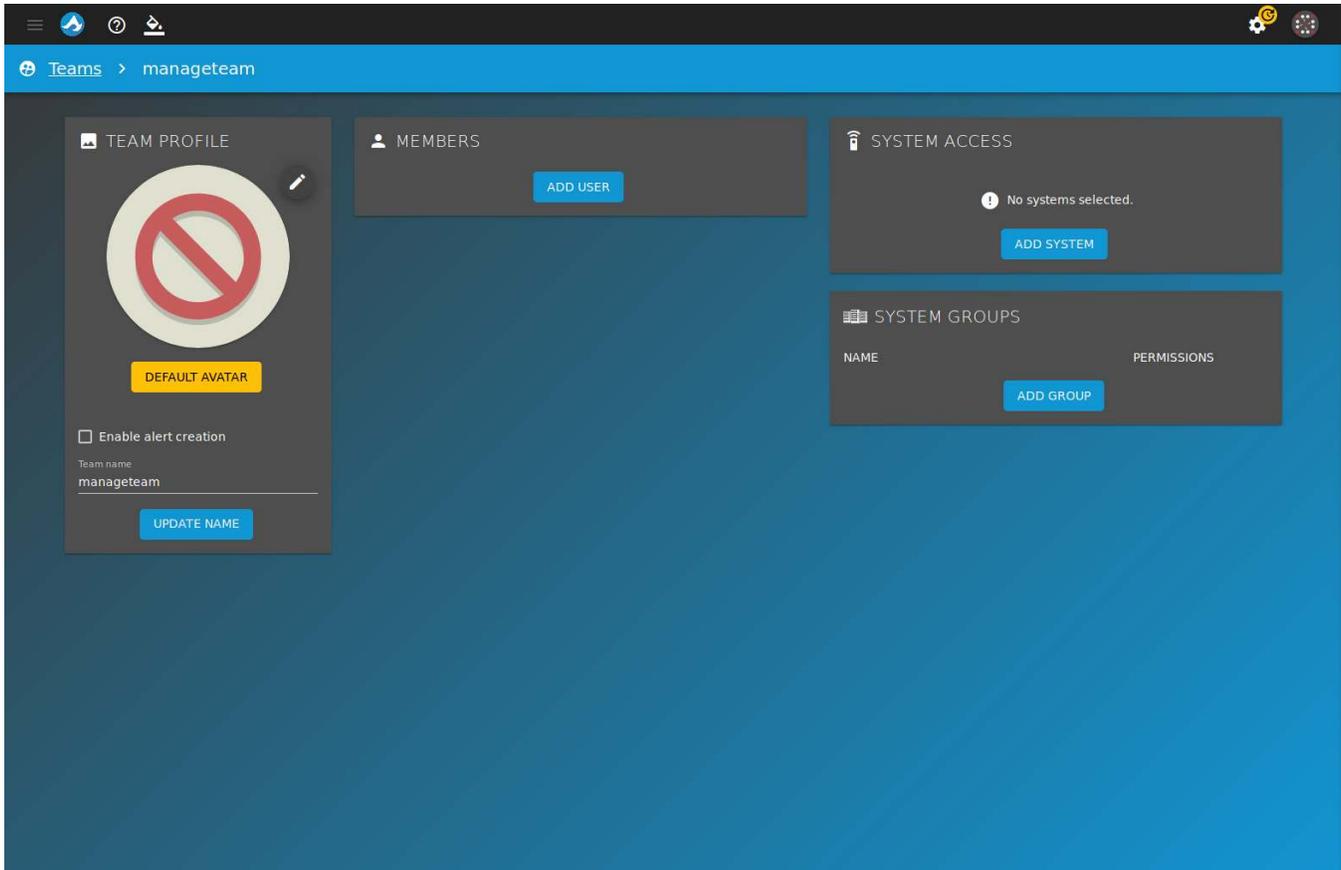


Fig. 7.2: Editing a Team

ALERTS

TrueCommand™ alerts provide visual warnings for monitored systems that require attention. These alerts are either generated by the monitored system or an *alert rule* (page 25) created in TrueCommand™.

To see all alerts that TrueCommand™ has discovered, go to the *User Menu* (page 39) and click *all alerts* (page 5). Administrator accounts can see all generated alerts. A non-administrator account can only view alerts for systems that the individual account has permission to *read*.

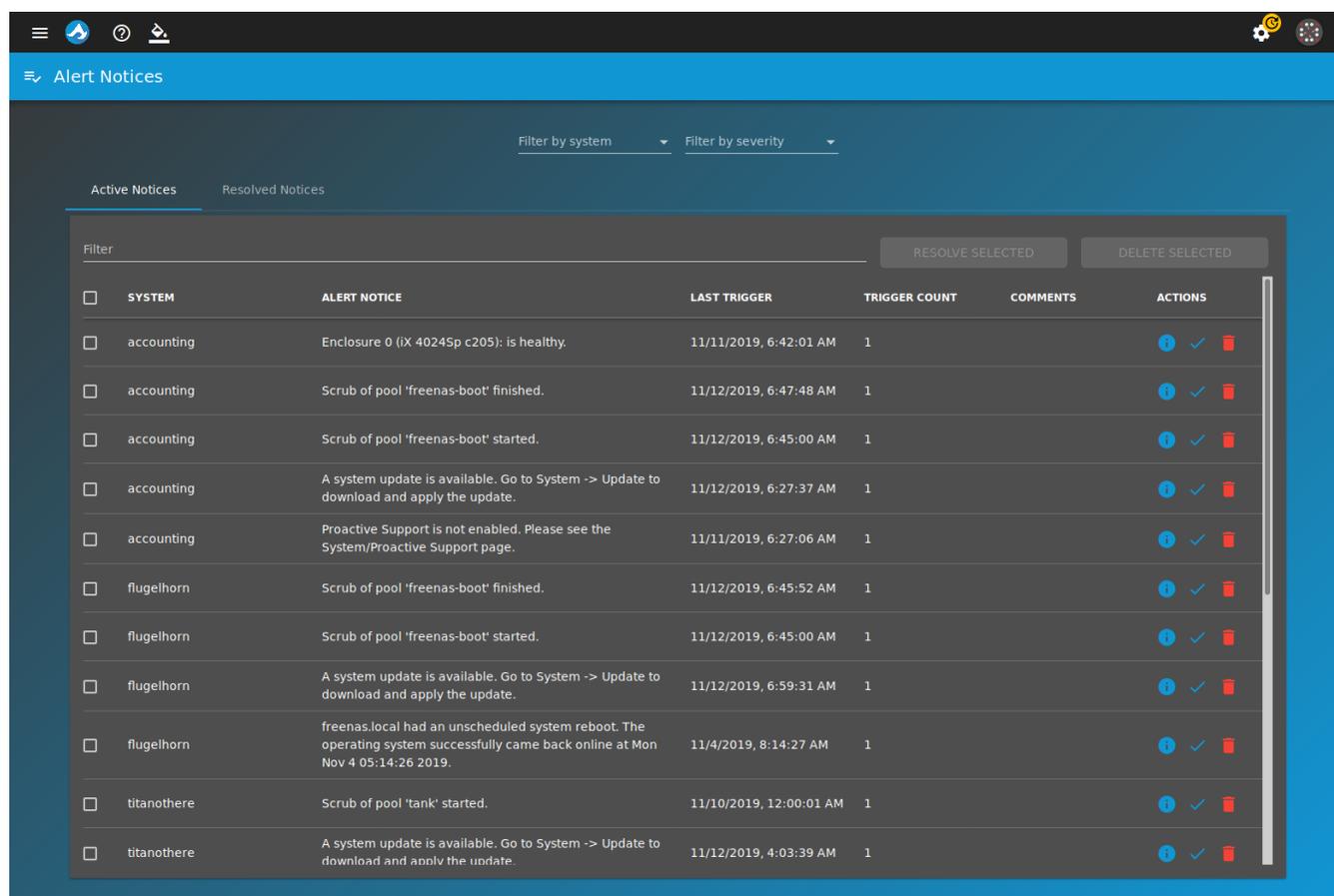


Fig. 8.1: Alert Notices

The *Active Notices* tab shows all unresolved alerts. Alerts are moved to the *Resolved Notices* tab by clicking *alert resolve* (page 4). To resolve multiple alerts, select each alert and click *alert resolve* (page 4).

Click *alert information* (page 4) to view additional comments about an alert. To write notes about an alert, enter information in the *Leave a comment* field and click *ADD COMMENT*.

Administrator accounts can delete an alert by clicking *delete* (page 4). **Deleting an alert cannot be undone.** To delete multiple alerts, select each alert and click *delete* (page 4).

System Alerts

Alerts generated by a monitored system display in both *Systems* (page 16) and the *Dashboard* (page 13) as a number above the system icon. To view all alerts for to a single system, go to the *Dashboard*, select a single system, and click the *Alerts tab* (page 14).

Each active and resolved alert is visible in this tab. Clicking *alert information* (page 4) shows details for that alert, including the option to leave comments about the alert.

To globally configure which system alerts are ignored by TrueCommand™, go to *configure* (page 4) → *administration* (page 4), and select *configure* (page 4). Find *Ignore alerts from a connected NAS* and choose the *Alert Categories*. NAS-generated alerts marked with the selected categories will not be shown by TrueCommand™.

Individual systems can have their own ignored alert categories. This overrides the global value set in *administration* (page 4). To set ignored alerts for a single system, go to *configure* (page 4) → *systems* (page 4), edit a system entry (*edit* (page 4)), and set the *Alert Categories*.

TrueCommand™ Alert Rules

Alerts in TrueCommand™ are generated from alert rules. Several default rules are built into TrueCommand™. TrueCommand™ administrators and *team members* (page 22) with the appropriate permissions can create new alert rules.

To give a team permission to create new alert rules, go to *configure* (page 4) → *teams* (page 4), edit a team, and set *Enable alert creation*. Team members are restricted to creating rules for those systems that the team member has permission to view.

To view all TrueCommand™ alert rules, open the *User Menu* (page 39) and click *alert rules* (page 4).

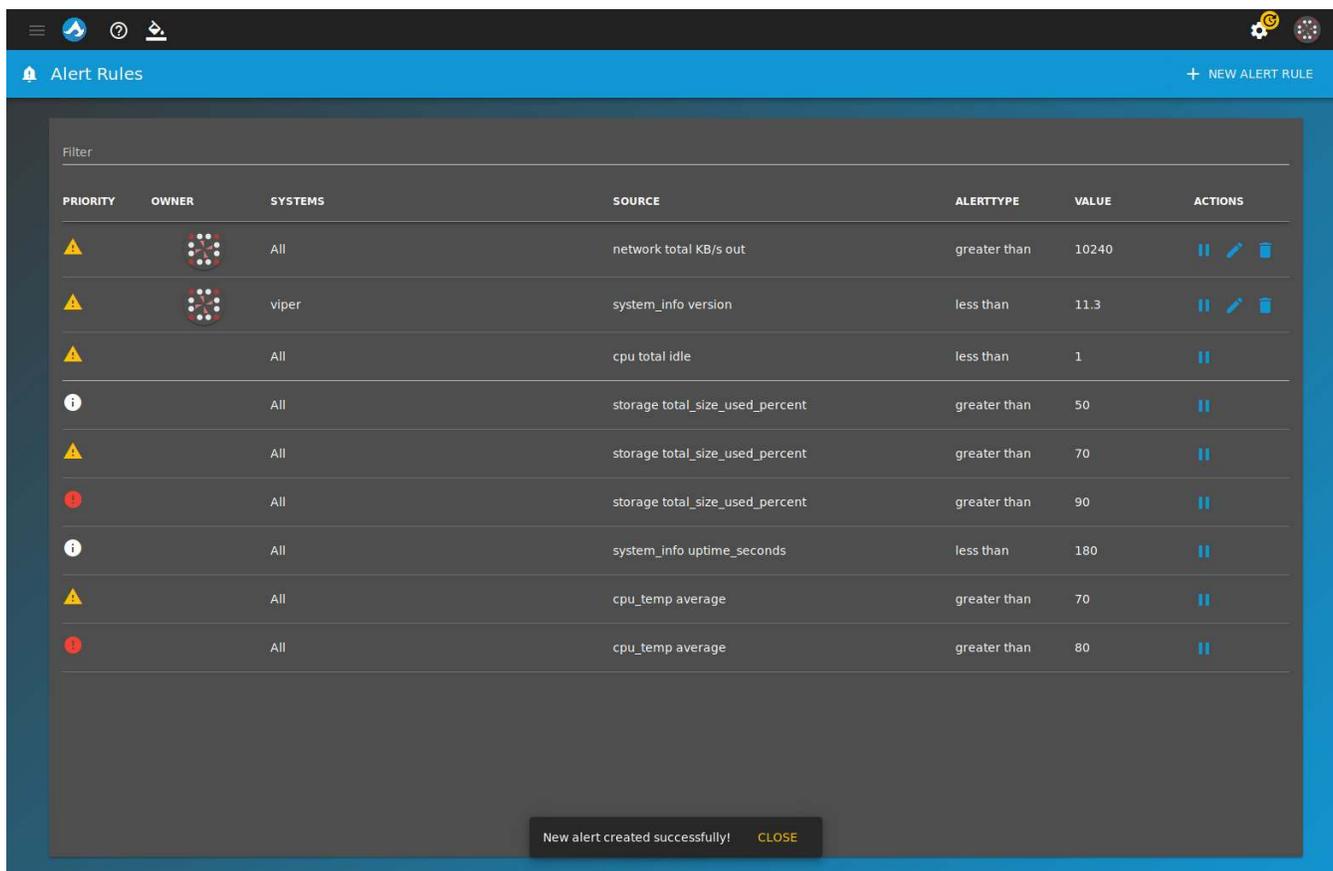


Fig. 8.2: Alert Rules

Details about each TrueCommand™ alert rule are shown on this page, including which user account created the rule. Alert rules can be activated (▶) or suspended (||), edited (✎), or deleted (🗑) by either an administrator account or the account that created the rule.

New TrueCommand™ alert rules can be created 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:

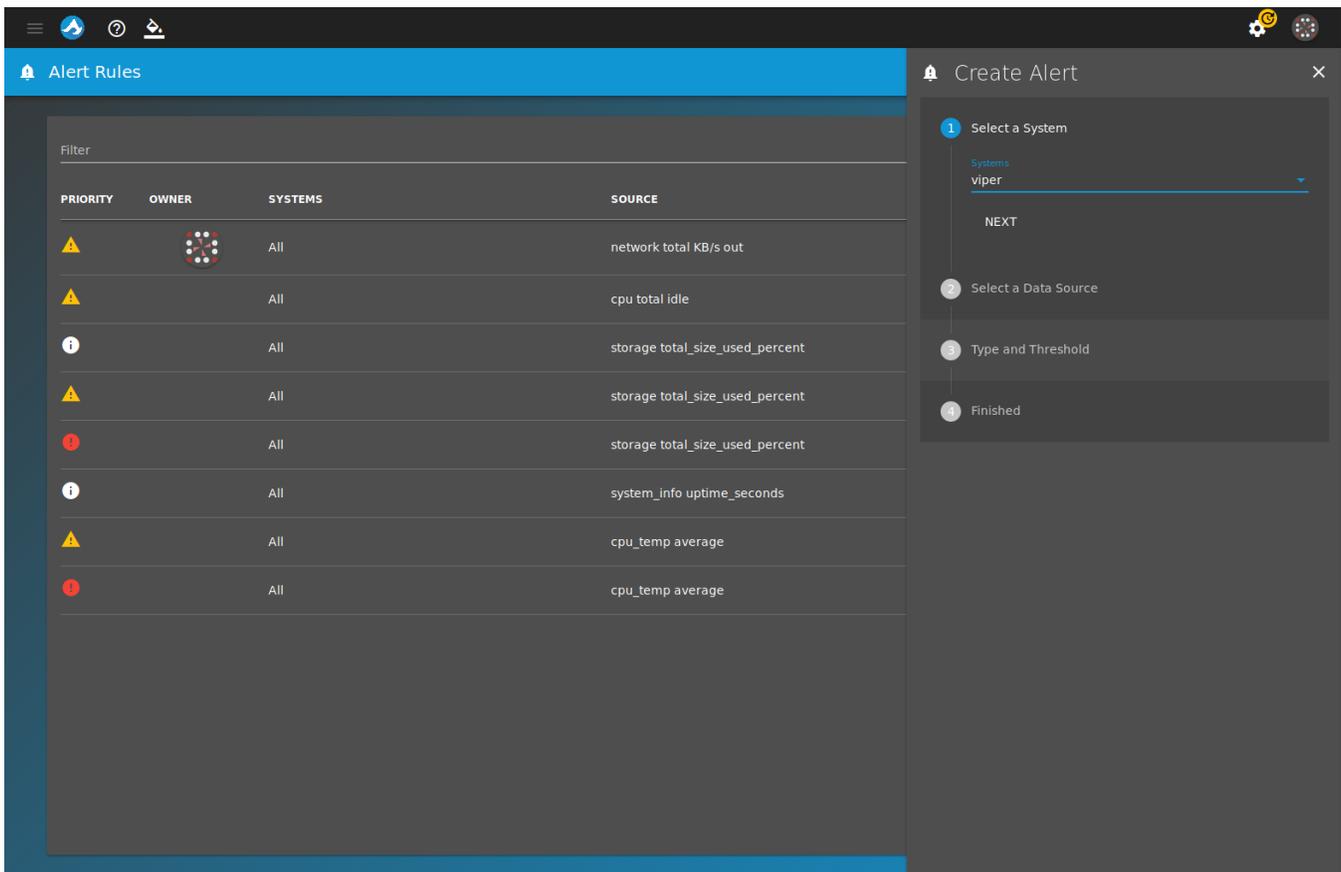


Fig. 8.3: Adding a New Alert Rule

1. *Select a System*: The rule will apply to these systems.
2. *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.
3. *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.
4. *Finished*: To create the new alert, click *CREATE ALERT*. To start over, click *RESET*.

Alert Plugins

TrueCommand™ uses plugins to expand how alerts are communicated to individual users or administrators. TrueCommand™ administrators can install an alert plugin by going to [configure](#) (page 4) → *Alert Plugins*. *Installed* plugins are shown first. Select the *Browse* tab and install the chosen plugin by clicking +.

Individual user accounts can use the installed plugins to manage how that account is notified of an alert. To configure a plugin, open the [User Menu](#) (page 39) and click *Plugins*. Find the desired plugin and click [configure](#) (page 4).

REPORTS

The Reports page provides a list of reports created by and shared with the current user. A default report is already created and is available to all users. The default report shows network traffic, storage percent used, and memory utilization for the chosen systems.

View the Reports page by clicking *User Menu* (page 39) → *Reports*.

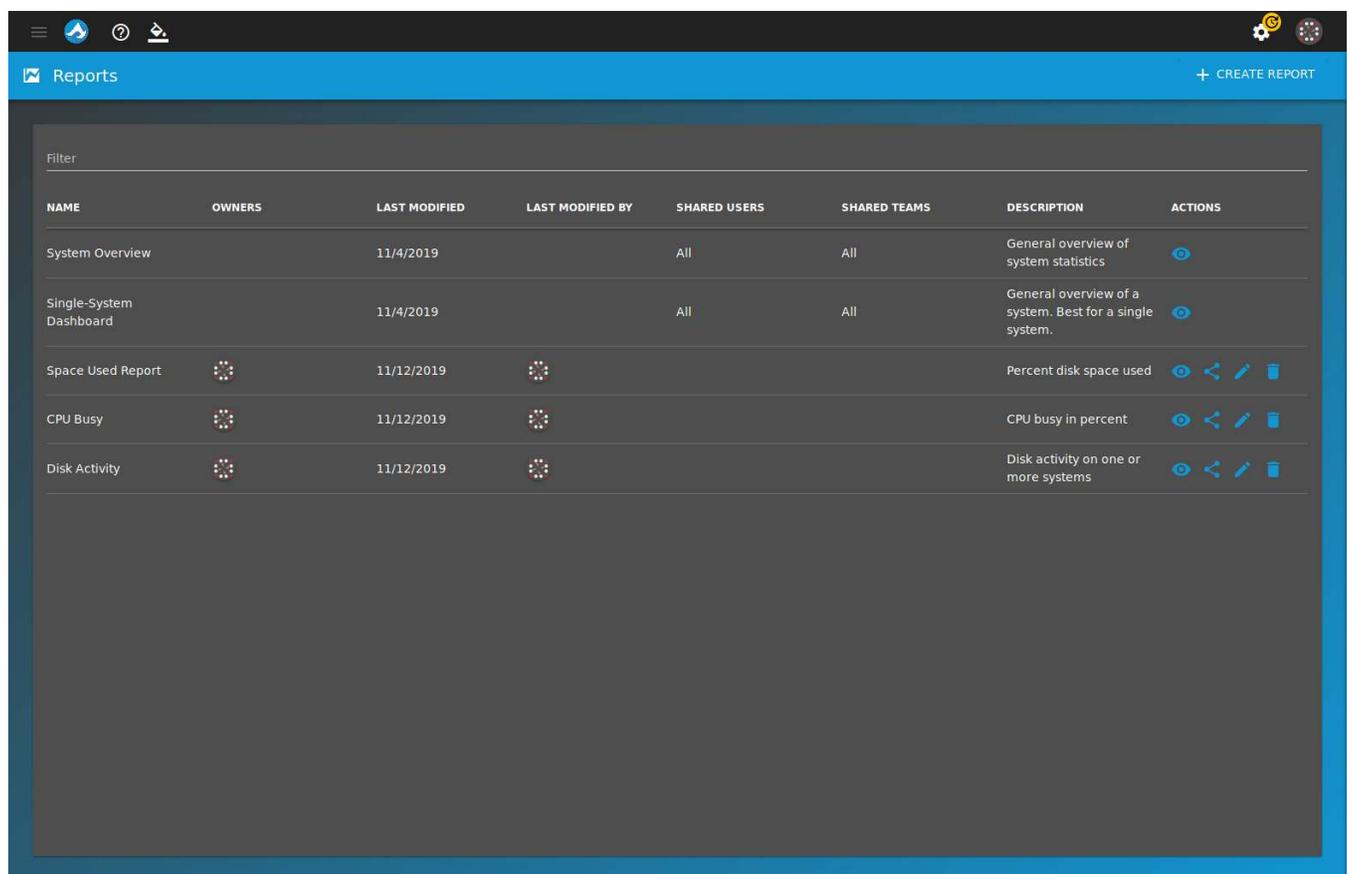


Fig. 9.1: Reports Page

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

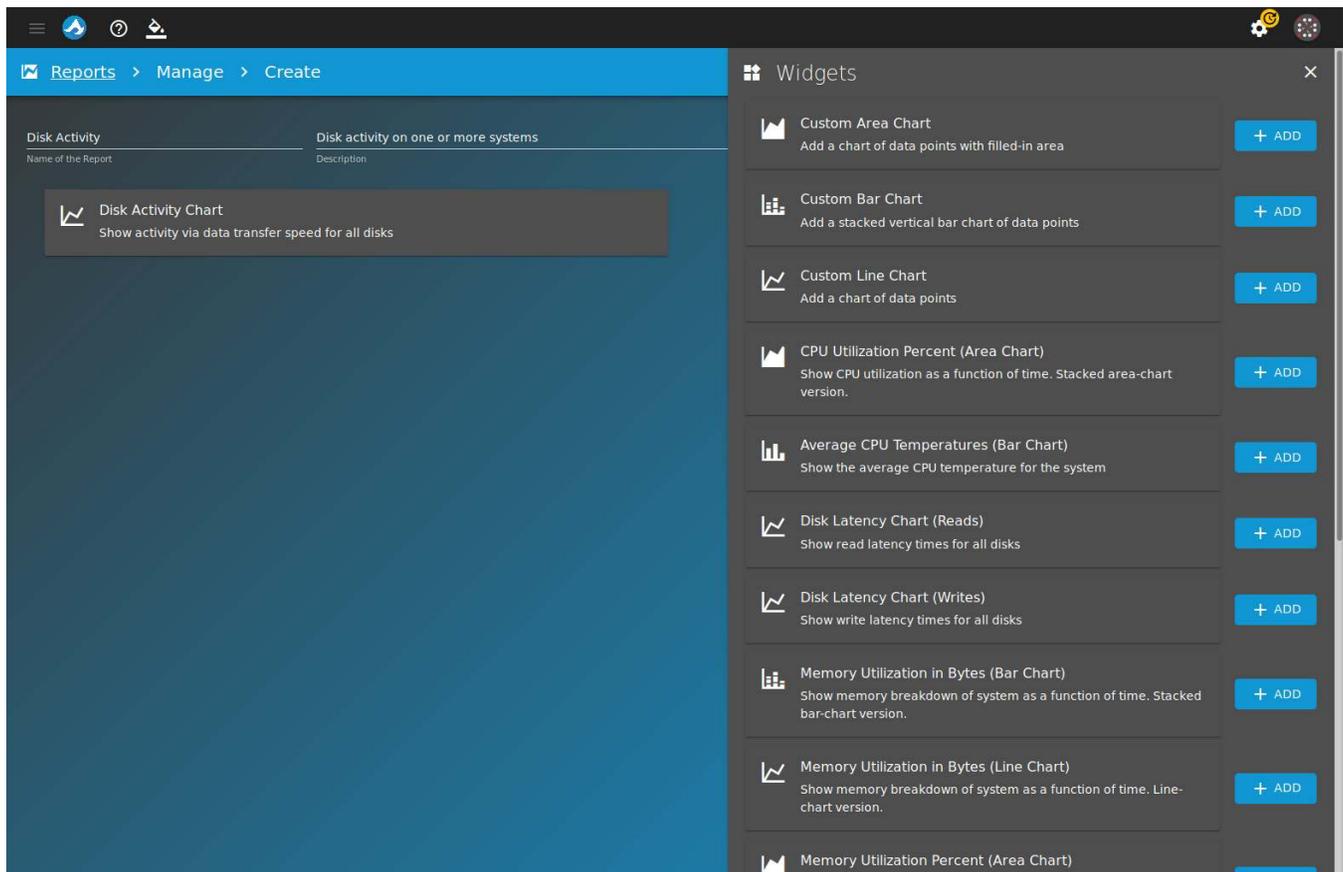


Fig. 9.2: Adding a New Chart

1. **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. Click *NEXT*.
2. **Data sources:** Add data sources to the chart by clicking *expand* (page 4) and selecting appropriate sources. Multiple data sources can be added to one chart. Click *NEXT*.
3. **Summary:** This step shows the values set in **General Settings** and the data sources selected. Click *SAVE* to continue. Click *BACK* to go back and change a setting or data source.

After adding charts to the report, click *SAVE* to create a report specific to that user.

View Report

Go to *User Menu* (page 39) → *Reports* and click *show* (page 4) on the appropriate report. Select the systems to be used for the report. Select the time period for the report. *1D* generates a report with data going back one day, *1W* generates a report with data going back one week, and *1MO* generates a report with data going back one month. Click *GENERATE* to view the report.

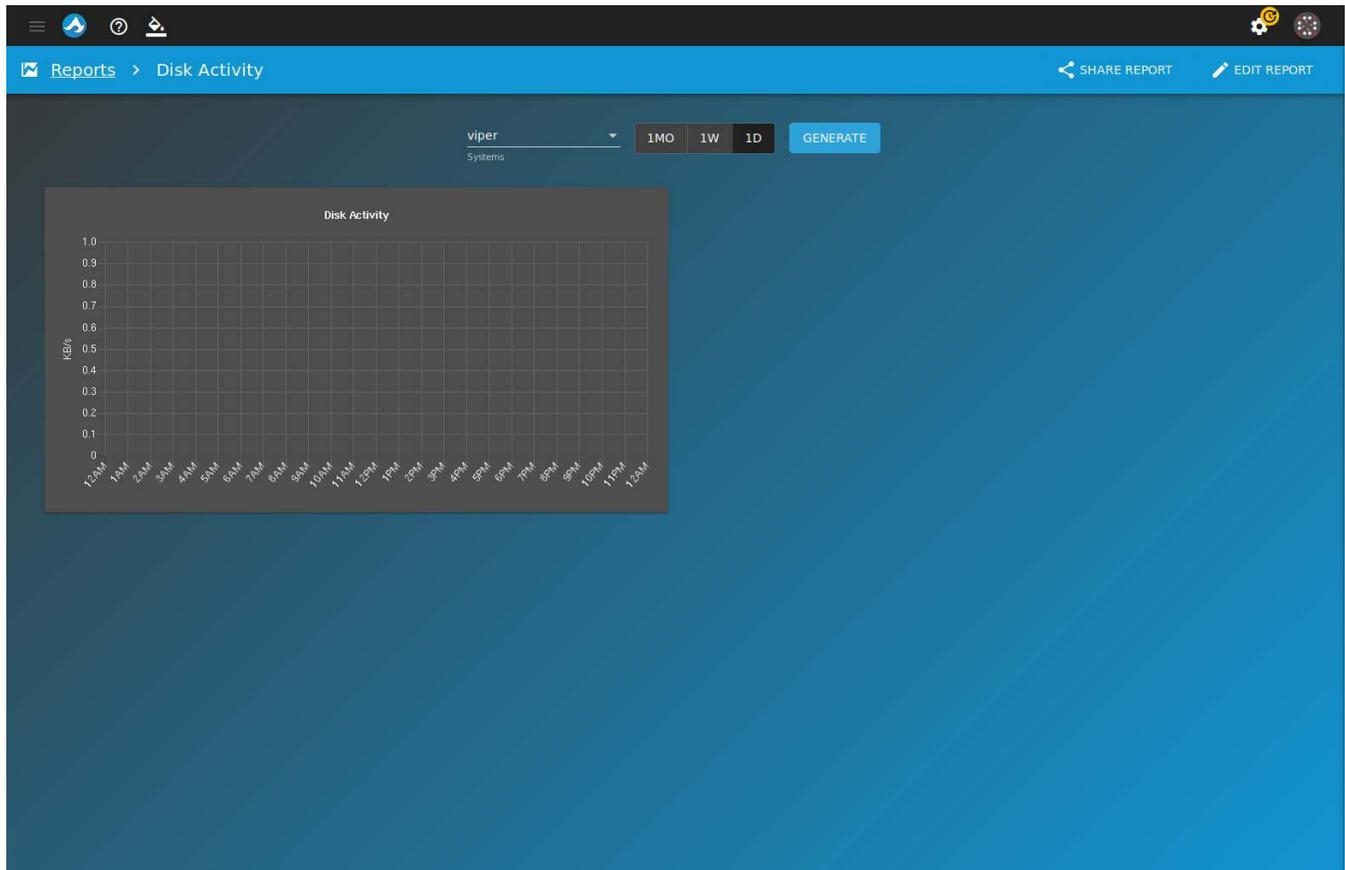


Fig. 9.3: View Custom Report

Share Report

Reports can be shared by going to [User Menu](#) (page 39) → [Reports](#) and clicking [report share](#) (page 4) on the report to be shared. Reports can also be shared by going to [User Menu](#) (page 39) → [Reports](#) → [show](#) (page 4) and clicking [SHARE REPORT](#).

Reports can be shared with individual users or entire teams. Set either *OWNER* or *SHARED WITH* for the desired user. Every user can be by clicking *OWNER* or *SHARED WITH*. Users with *OWNER* status can edit the report. Users with *SHARED WITH* status can only view the report. Click [SAVE](#) to confirm the sharing settings.

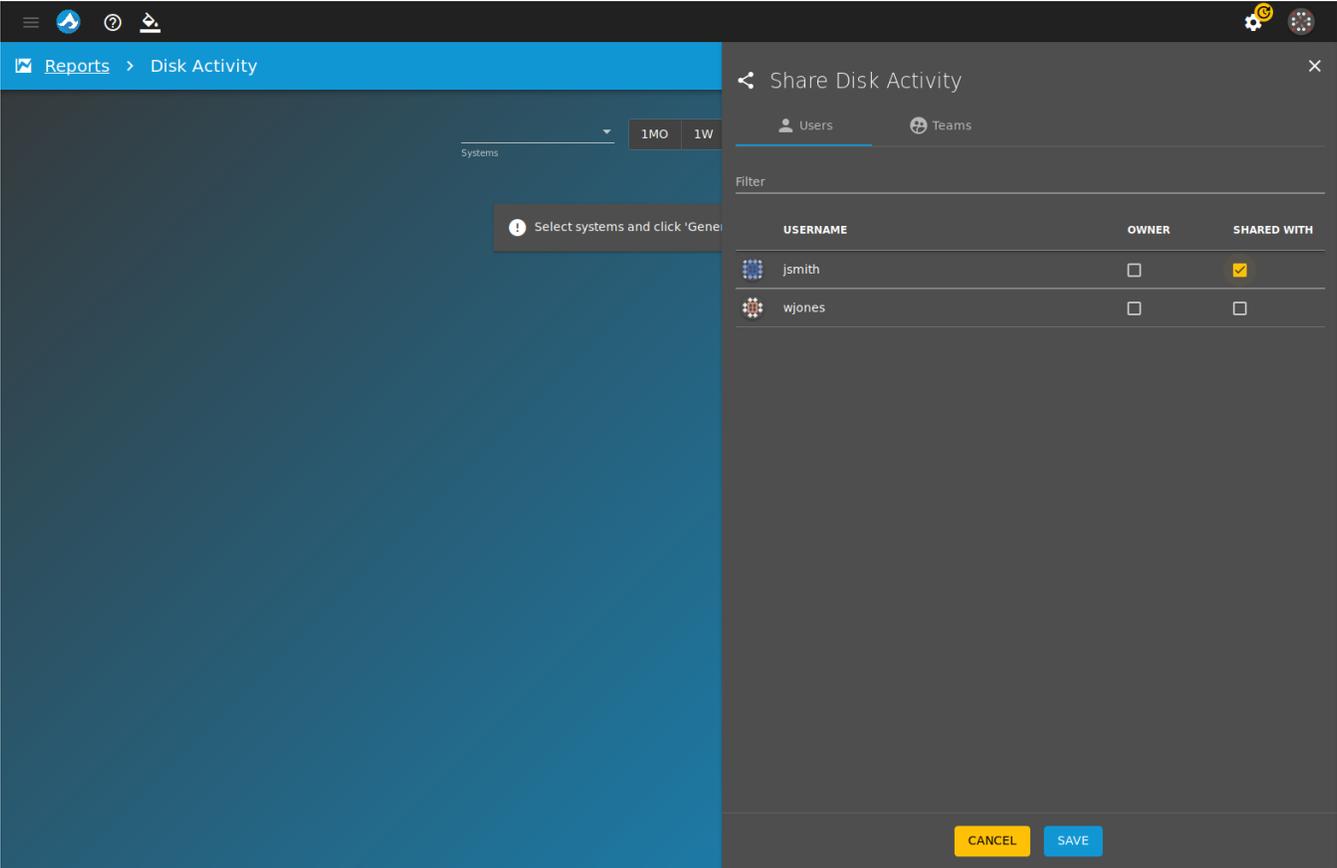


Fig. 9.4: Reports Sharing

Logs track user activity on TrueCommand™. 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. Click an entry in the logs to show more information.

The **SYSTEMS** panel has options to *HIDE ALL* or *SHOW ALL* actions affecting connected systems.

The **USERS** panel also has *HIDE ALL* and *SHOW ALL* options for user related actions..

Logs can be filtered by date. Change the end and start date by manually entering a specified date or click *calendar* (page 4) to select a date from the calendar. Click *REFRESH* to refresh the list with the latest entries.

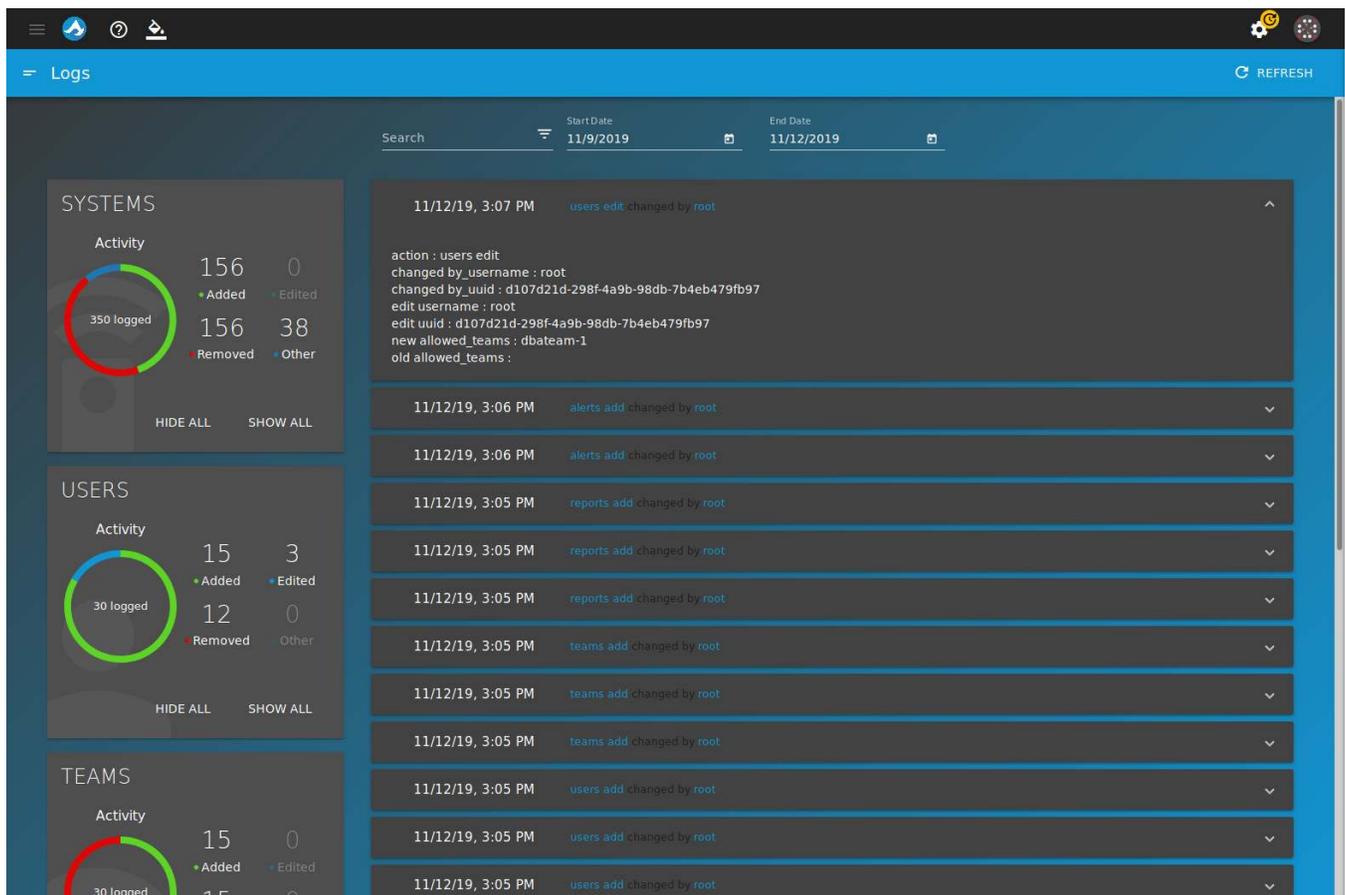


Fig. 10.1: Log Entry

ADMINISTRATION

The ADMINISTRATION page has these tabs: *About*, *Updates*, *Email Setup*, and *Configuration*. The ADMINISTRATION page is accessed from *configure* (page 4) → *Administration*.

Note: The *Administration* option is only available to users with administrator permissions.

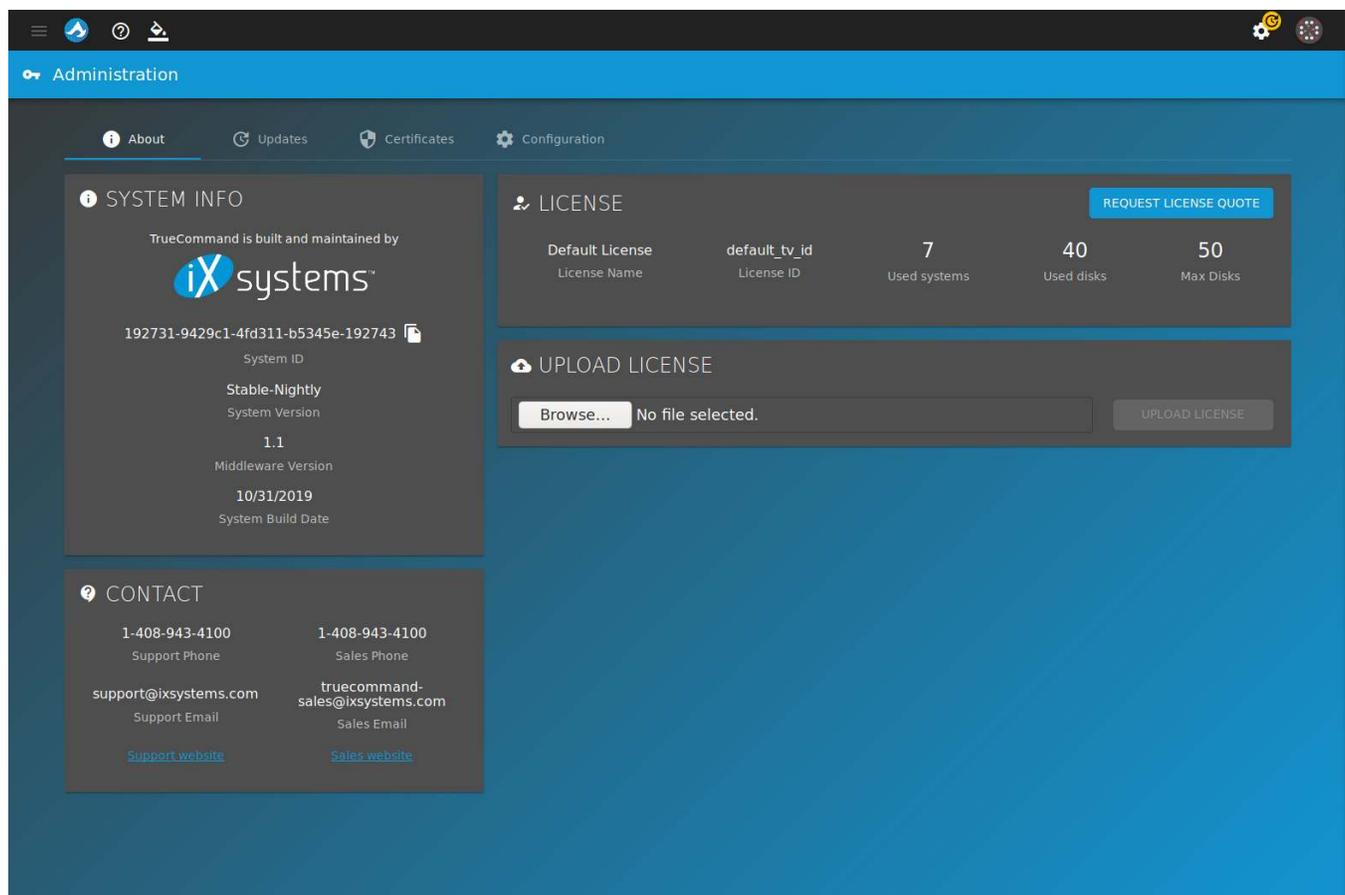


Fig. 11.1: Administration Information

The *About* tab contains:

- **SYSTEM INFO:** Show the current TrueCommand™ system ID and version.
- **LICENSE:** Display details about the current license or request a quote for a TrueCommand™ license.
- **CONTACT:** Show the iXsystems™ Support phone number and email address as well as the Sales phone number and email.

- **UPLOAD LICENSE:** Click *Browse...* to open the file browser. Select the new license file to upload. Click *UPLOAD LICENSE* to apply the new license to TrueCommand™.

Note: Contact iXsystems™ support to upgrade the TrueCommand™ license.

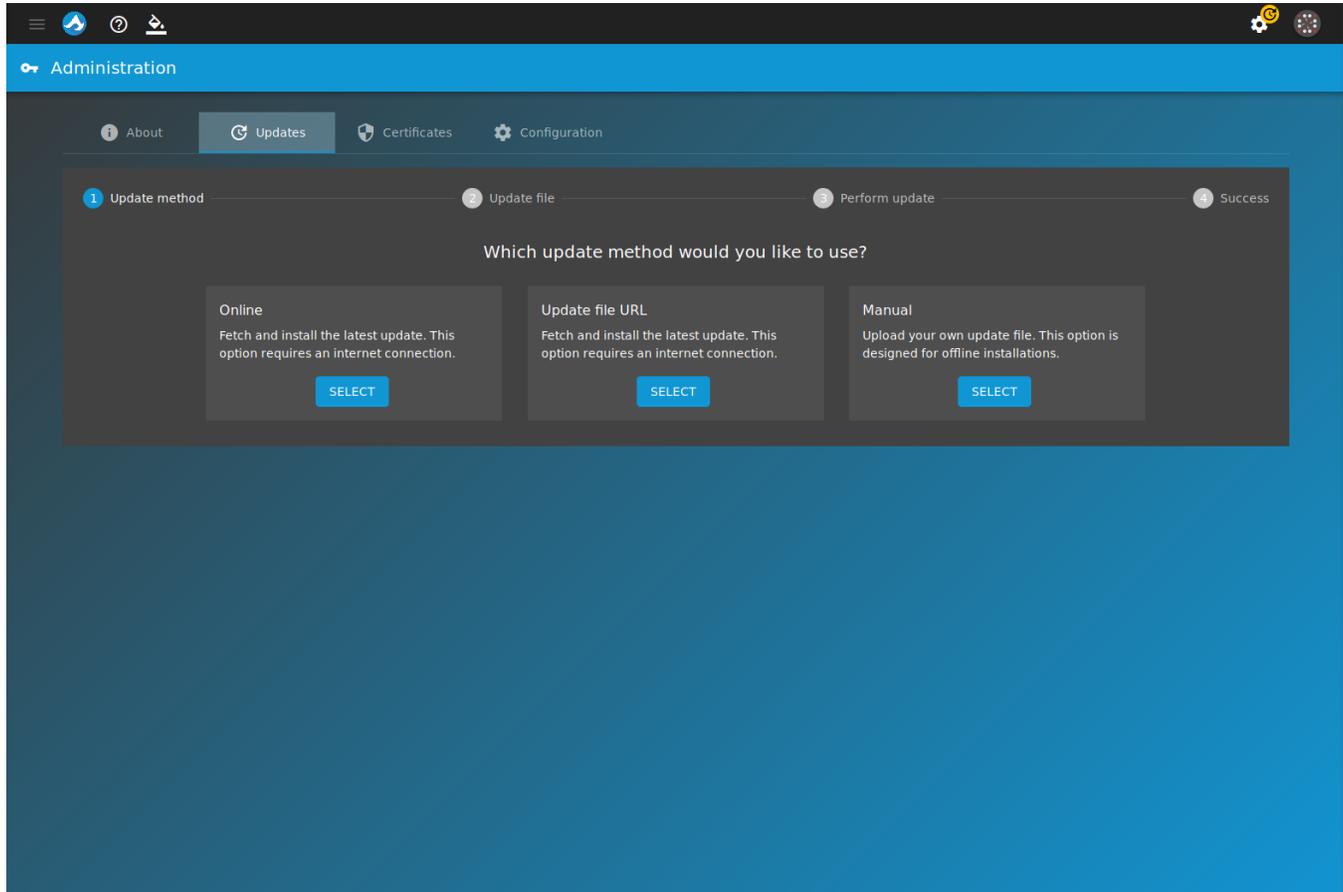


Fig. 11.2: Administration Updates

The *Updates* tab contains an update wizard:

1. **Update method:** Choose the desired update method by clicking *SELECT*. *Online* fetches and installs an available update immediately. *Update file URL* updates TrueCommand™ from the URL provided. *Manual* updates TrueCommand™ from an uploaded file.
2. **Update file:** If *Update file URL* was chosen, enter the URL of an update file. If *Manual* was chosen, upload an update file.
3. **Perform update:** Shows the status of the update.
4. **Success:** Shows if the update succeeded.

The system must be rebooted to complete the update process. The system can be rebooted immediately or a future time can be chosen. Choosing a future time adds a system reboot countdown to the web interface.

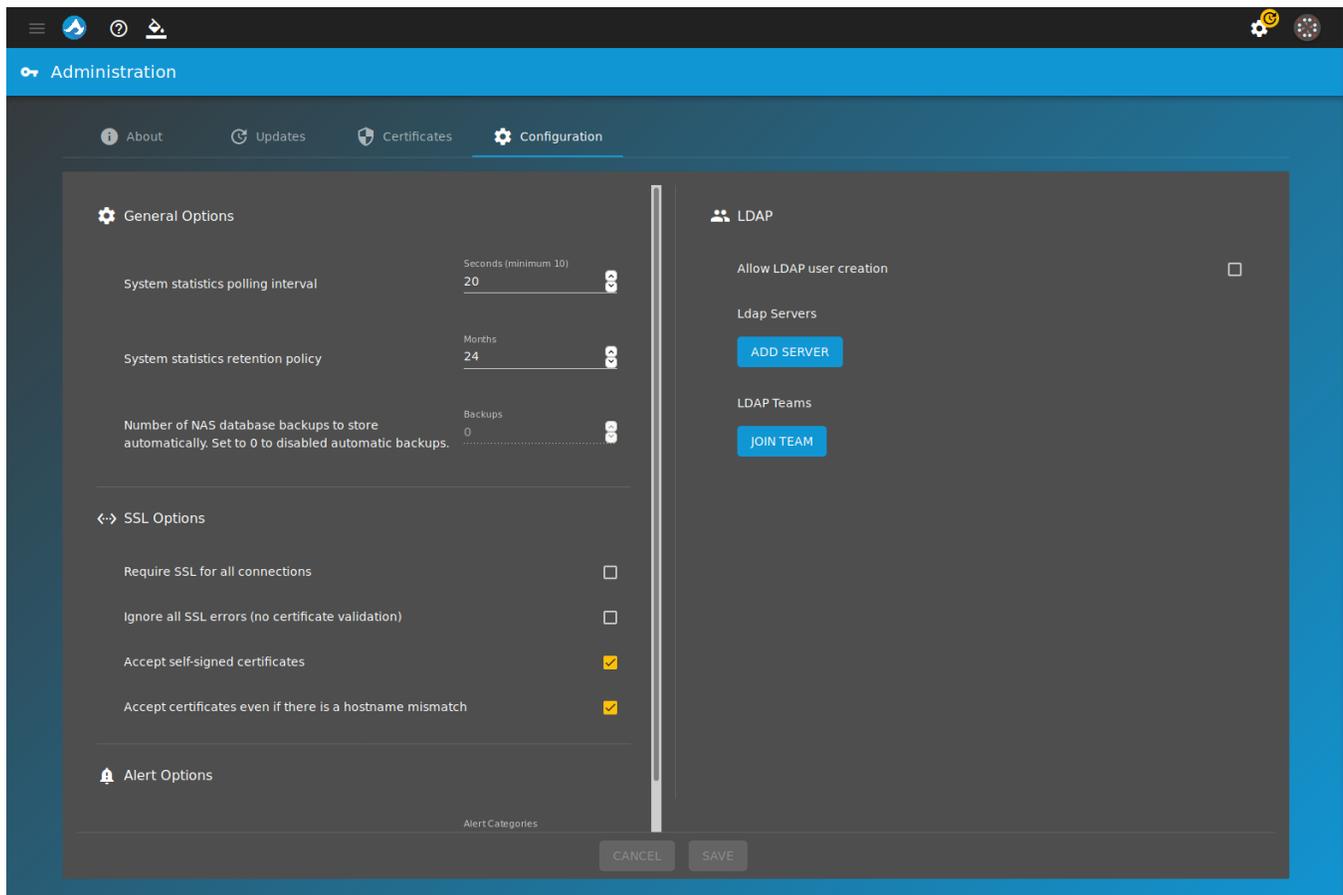


Fig. 11.3: Administration Configuration Options

The *Configuration* tab contains:

- **General Options:**

- *System statistics polling interval*: The amount of time, in seconds, TrueCommand™ pulls statistics from systems being monitored. The minimum is 10 seconds.
- *System statistics retention policy*: The amount of time, in months, TrueCommand™ keeps statistics that were pulled from systems being monitored.
- *Number of NAS database backups to store automatically*: Number of database copies that TrueCommand™ stores for a single attached iXsystems™ NAS system. See [Managing NAS Databases](#) (page 15) for more details.

This feature is only available with a TrueCommand™ license.

- **SSL options:**

- *Require SSL for all connections*: Set to require SSL for all connection types. This is useful when a monitored system does not allow SSL-secured access or if the monitored system is using a custom port.
- *Ignore all SSL errors (no certificate validation)*: Set to disable SSL certificate validation.
- *Accept self-signed certificates*: Set by default. Allows TrueCommand™ to connect to systems using self-signed certificates.
- *Accept certificates even if there is a hostname mismatch*: Set by default. Accepts certificates that have the system hostname, but was registered in TrueCommand™ with an IP address or vice-versa.

- **Alert Options:**

- *Ignore alerts from a connected NAS*: Chose an alert category to ignore. Multiple categories can be selected.

- **LDAP:**

- *Allow LDAP user creation*: Set this to enable LDAP users to be dynamically created in TrueCommand™ when logging in with LDAP credentials.
- *LDAP servers*: Enter an *LDAP server* IP address or DNS hostname and *Domain*. Multiple LDAP servers and Domains can be added by clicking *ADD SERVER*. LDAP server credentials can be removed by clicking *delete* (page 4).

- **LDAP Teams:**

- Teams can be selected so that each TrueCommand™ user created through LDAP is automatically assigned to the chosen teams. Teams can be removed from the list by clicking *minus* (page 5).

Click *SAVE* to save the new system configuration. To reset the fields back to the previous values, click *CANCEL*.

UPDATE

When TrueCommand™ detects that an update is available, the TrueCommand™ *update* (page 5) icon appears on the *configure* (page 4) icon and TrueCommand™ *update* (page 5) is added to the *configure* (page 4) menu. Clicking TrueCommand™ *update* (page 5) opens the *configure* (page 4) → *Administration* page at the *Updates tab* (page 34).

TrueCommand™ includes a help text feature that shows additional information when the mouse pointer is held over an element in the web interface.

Click [help](#) (page 4) to enable the help text dialog. When the dialog is enabled it is displayed in the bottom left corner of the web interface. When help text is enabled and the mouse pointer is held over an element, additional text about the element is displayed in the dialog. If help text is disabled and the mouse pointer is held over an element, a small tool tip is displayed.

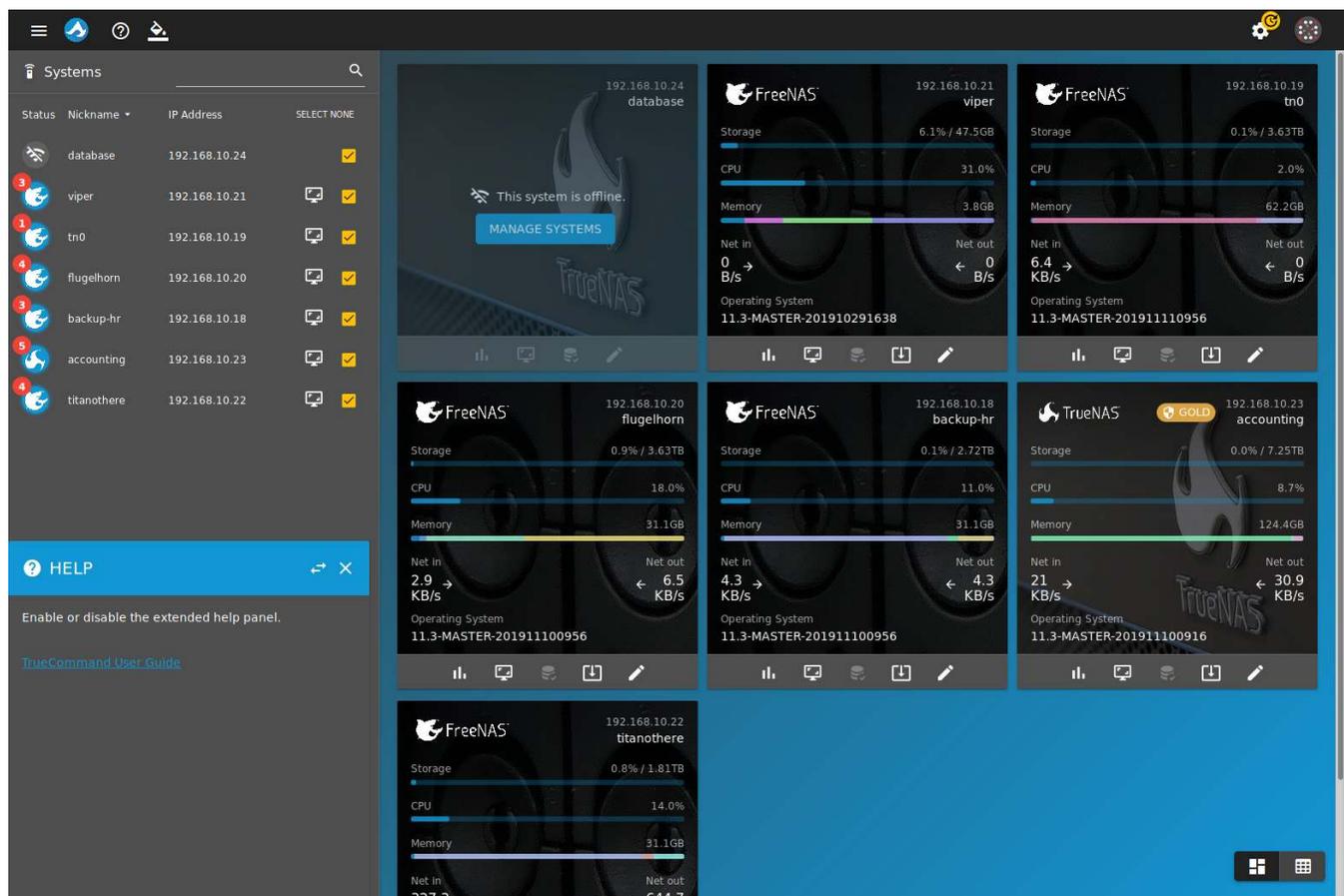


Fig. 13.1: Help Text for *Dashboard* button

USER MENU

The user avatar is displayed in the top right corner of the web interface. Click the avatar to display a list of options that include *Profile*, *API*, *Alerts*, and *Log out*.

- *Profile*: Edit the current user. See [Edit User](#) (page 20) for the available options that can be edited.
- *API*: interface to test API calls to the middleware. Advanced users and developers can use the middleware to program their own monitoring applications. API calls generate a response which is displayed on the page. Click *UI LOG* to download the web interface log.

Click *MW LOG* to view the middleware log.

TrueCommand™ API documentation is available by adding `/docs` to the end of the TrueCommand™ host-name or IP address in the browser address bar.

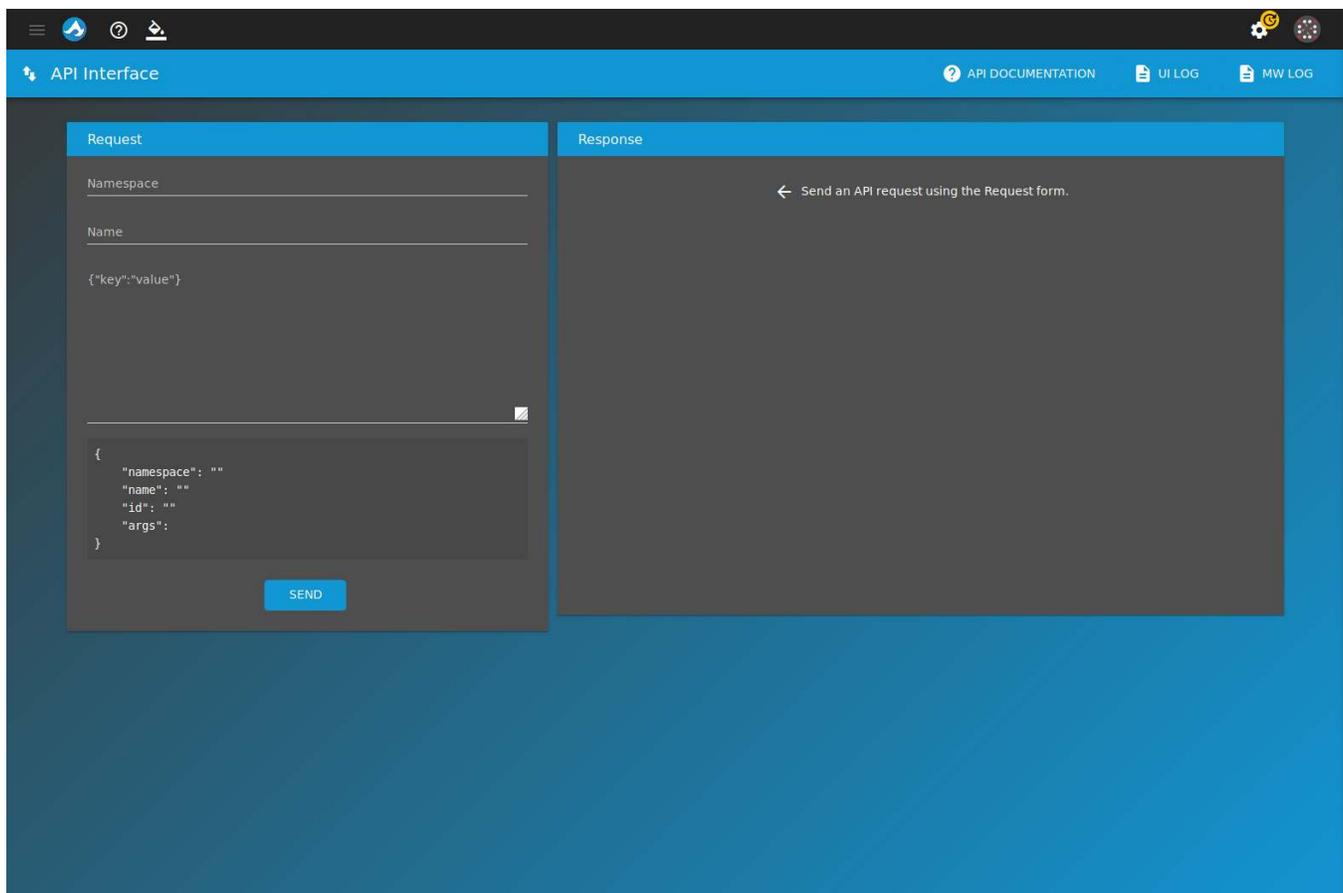


Fig. 14.1: API Interface

- *Log Out*: Log out of the TrueCommand™ web interface.

RESTART OR SHUT DOWN

TrueCommand™ administrators have options to *Restart* or *Shutdown* the system. Clicking one of these options shows a dialog to delay the action for up to 12 hours. Choosing a delay option adds a countdown timer at the top of the TrueCommand™ web interface. This timer is shown to all users that are logged in to TrueCommand™.

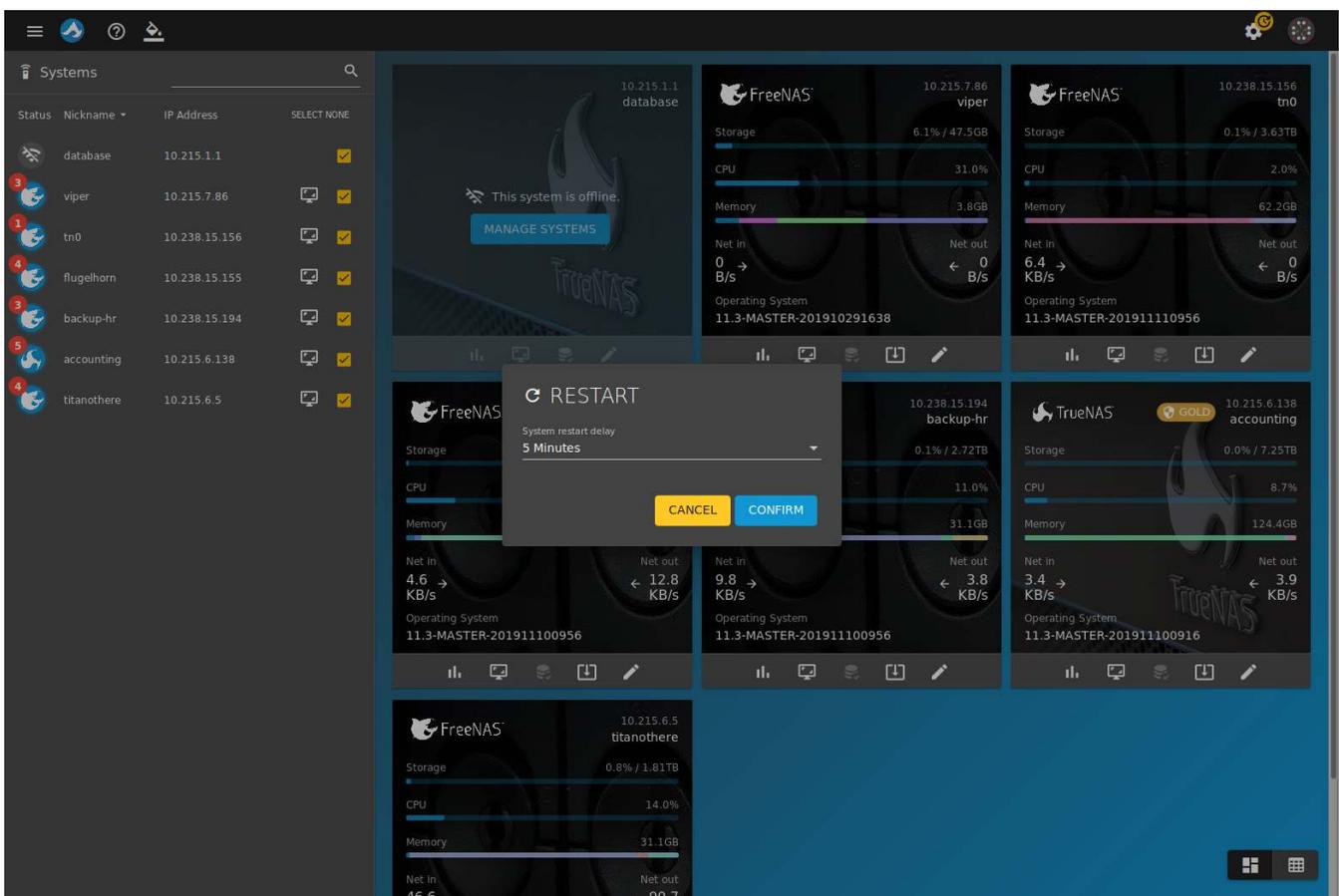


Fig. 15.1: Restart

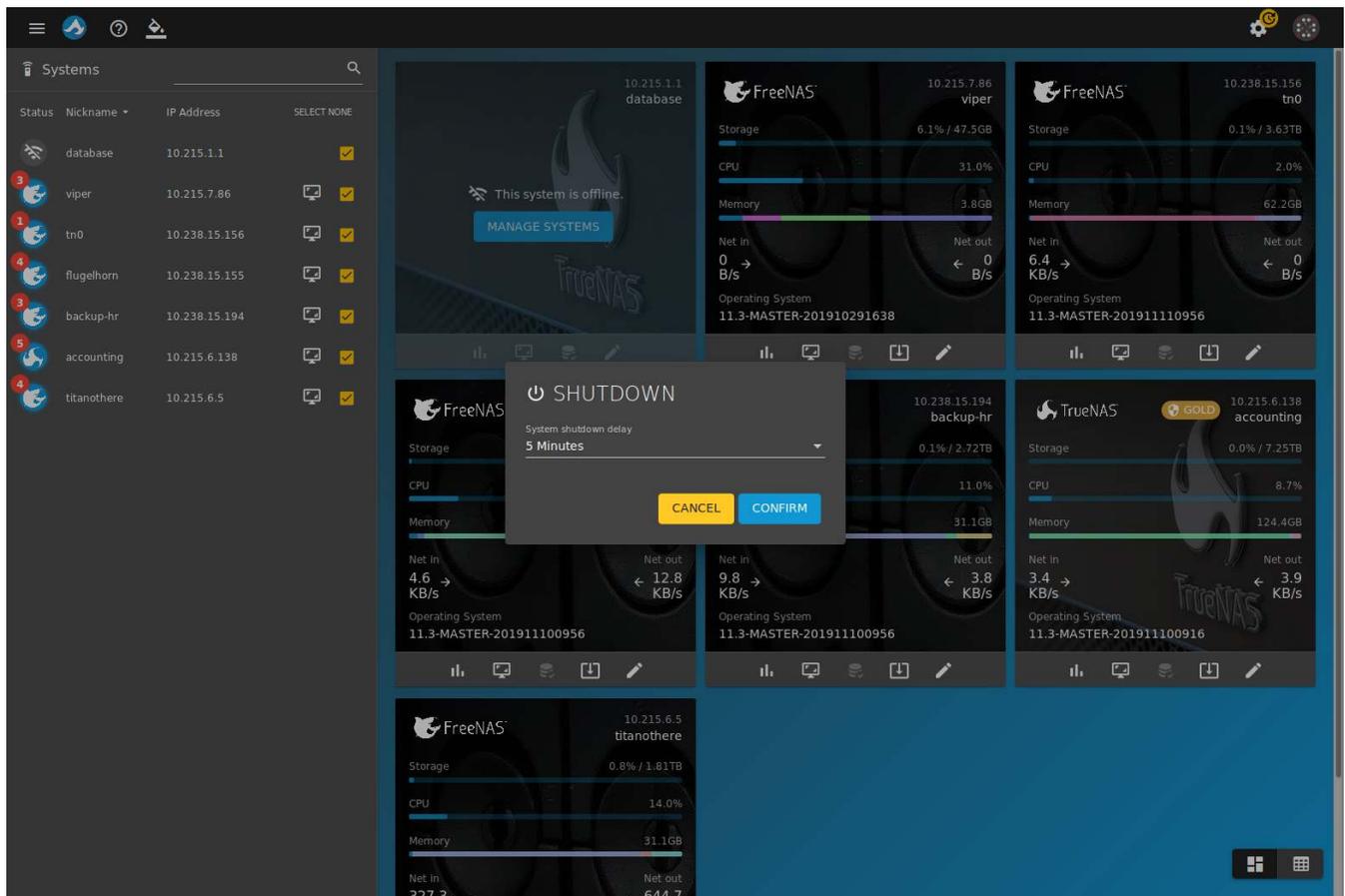


Fig. 15.2: Shut Down

SYSTEM CONFIGURATION UTILITY

TrueCommand™ can be configured with the system configuration utility. To start the utility, press `Enter` at the *Appliance Status* screen.

```
Appliance Status
BETA3 (20190311045346)
(hit 'Enter' to launch setup)
=====
IP Address:  10.0.2.15
Time:       15:15:16 UTC
-----
Database           started
Middleware         started 00:00:32 (0)
WebUI              started
sshd               started
=====
```

Fig. 16.1: Appliance Status

Use the arrow keys to move up and down. Press `Enter` to select an option:



Manage Services

- *Middleware*
 - Display the status of the `ix_middleware`. Display options to *Start*, *Stop*, *Restart*, or *Force Stop* the service.
- *WebUI*
 - Display the status of the `nginx`. Display options to *Start*, *Stop*, *Restart*, or *Force Stop* the service.
- *sshd*
 - Display the status of the `sshd` service. Display options to *Start*, *Stop*, *Restart*, *Force Stop*, or *Enable Root Login/ Disable Root Login* the service.

Manage Networking

- *Custom Gateway NO*
 - Enter a custom gateway number.
- *DNS Settings*
 - Add or remove a DNS nameserver.
- *Network Interface settings*. This option depends on the network device connected. For example, a system with an Intel network card shows up as `em0`.
 - This option contains contains settings to *Enable DHCP*, *Set Static IP*, and *Restart Device*.

Date/Time Settings

- *Set Time Zone*
 - Choose a time zone to set the time.

- *Resync with NTP*
 - Use [Network Time Protocol \(NTP\)](https://en.wikipedia.org/wiki/Network_Time_Protocol) (https://en.wikipedia.org/wiki/Network_Time_Protocol) to dynamically set the time.

Manage Updates

Display the current update train of TrueCommand™.

- *Perform Updates*
 - Only appears when updates are available. Select to download and install the latest update.
- *Force Update All*
 - Force the system to update.

Warning: This reboots the system and interrupts all web interface sessions.

- *Switch Trains*
 - Switch between *Release*, *Stable-Nightly*, and *Nightly* trains.
- *Rollback Update*
 - Choose a different boot environment. The chosen boot environment is activated after a reboot. Rolling back does not delete other boot environments. This screen shows the current boot environment and the boot environment to be used after reboot.
- *Prune Rollback Environments*
 - Choose a different boot environment. The chosen boot environment is activated after a reboot. **All other boot environments are deleted when the system is rebooted.**

Reset UI User Password

- Enter a TrueCommand™ username and a new password for the user. To cancel the password change, leave the password blank and press `Enter`.

Reboot System

- Power off and restart the system.

Shutdown System

- Power off the system.

Root Terminal

- Start a shell as the root user. The root password set during installation is required.

INSTALLATION

TrueCommand™ is usually installed inside a virtual machine. It can also be installed on standalone hardware.

Download TrueCommand™ for free on the [ixsystems website](https://www.ixsystems.com/truecommand/download/) (<https://www.ixsystems.com/truecommand/download/>) to get started.

System Requirements

The system requirements for TrueCommand™ are:

- x86 64-bit CPU
- at least 4 GiB or 4096 MiB of RAM
- at least 80 GiB of disk space

Virtualization

VirtualBox

[VirtualBox](https://www.virtualbox.org/) (<https://www.virtualbox.org/>) is an open source virtualization program originally created by Sun Microsystems. VirtualBox runs on Windows, BSD, Linux, Macintosh, and OpenSolaris.

To install or run TrueCommand™ in VirtualBox, start VirtualBox. Click the *New* button.

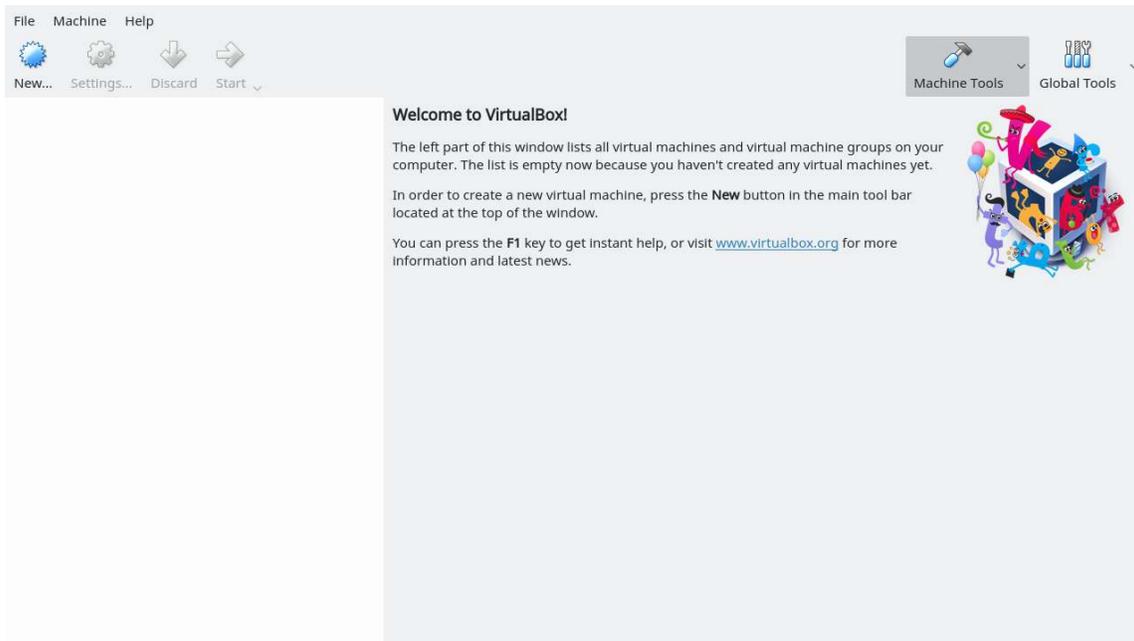


Fig. 17.1: VirtualBox Screen Menu

Enter a name for the virtual machine. Click the *Type* drop-down menu and select *BSD*. Select *FreeBSD (64-bit)* from the *Version* drop-down. Click *Next*.



Fig. 17.2: New Virtual Machine Name and Operating System

Change the base memory size to at least 4 GiB or 4096 MiB (see *System Requirements* (page 46)). Click *Next*.

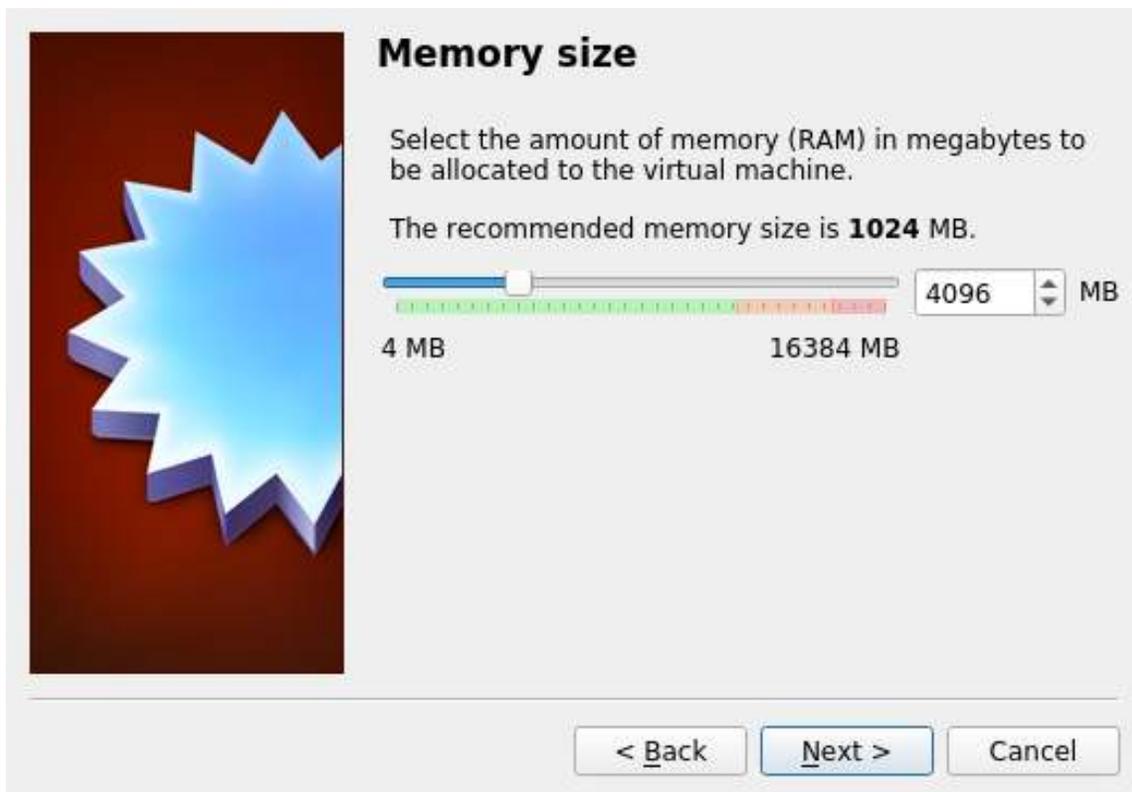


Fig. 17.3: Virtual Machine Reserved Memory

Click *Create*.



Fig. 17.4: Virtual Machine Hard Disk

Select *VDI* and click *Next*.



Fig. 17.5: New Virtual Hard Disk Type

Select *Dynamically allocated*. Click *Next*.



Fig. 17.6: Virtual Disk Storage Type

Set the size of the Virtual Disk. Set the Virtual Disk size to at least 80 GiB (see *System Requirements* (page 46). Click *Create* to create the new VM.

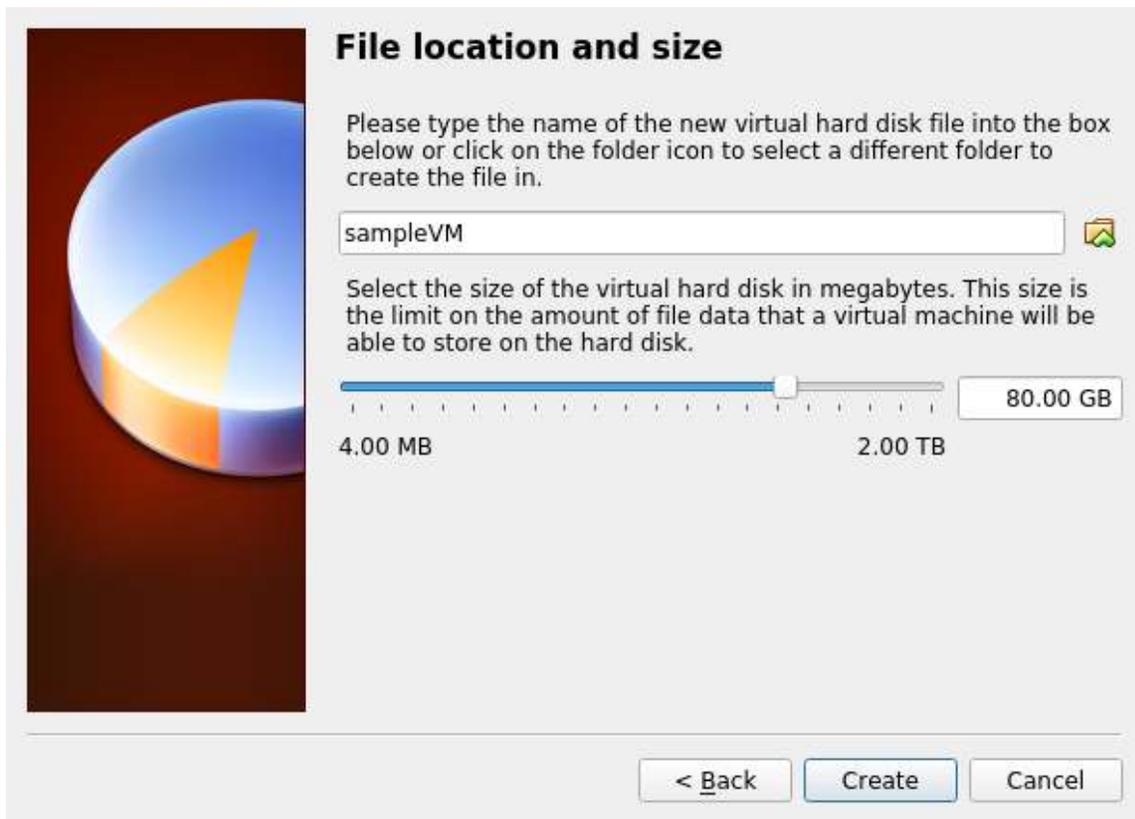


Fig. 17.7: Virtual Disk Location and Size

Highlight the VM and click *Settings* to create a device for the installation media.

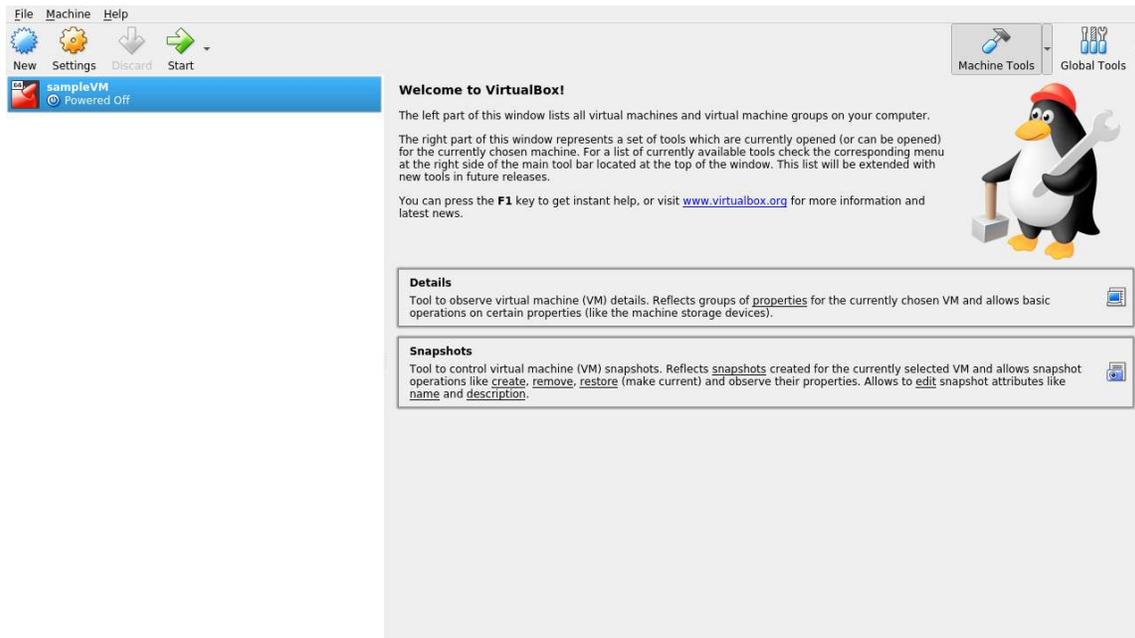


Fig. 17.8: New Virtual Machine

Click *Storage* in the left column to show storage options.

Select *Empty* from the **Storage Devices** frame and click the CD icon in the **Attributes** frame. Click *Choose Virtual Optical Disk File* to browse to the location of the TrueCommand™ .iso file.

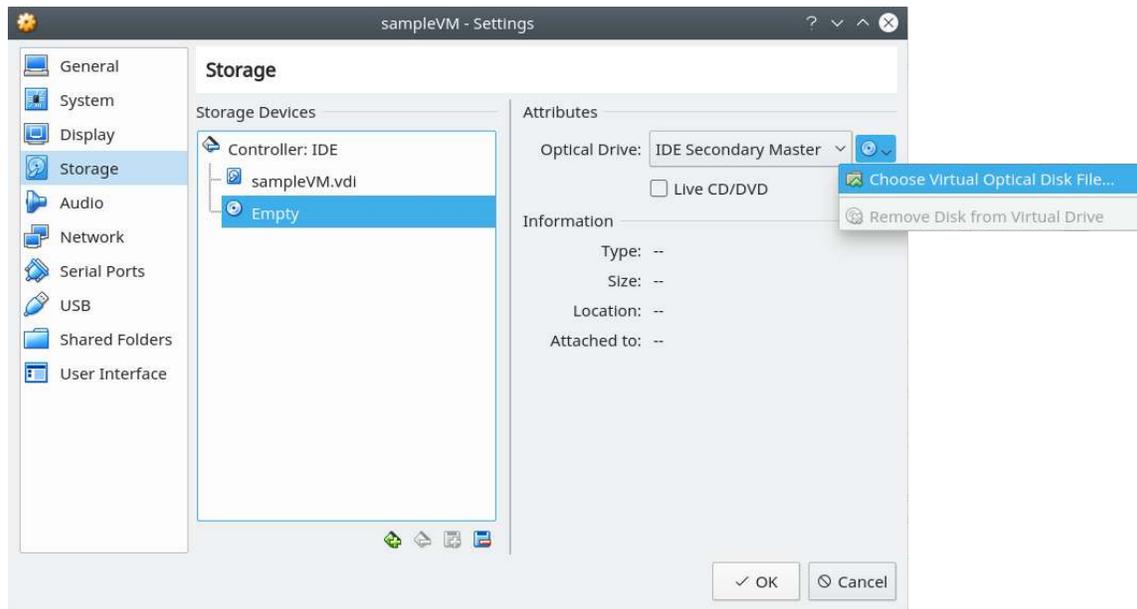


Fig. 17.9: Adding the ISO Installation Media

Configure the network adapter by opening the VM settings and clicking *Network*. Select *Bridged Adapter* in the *Attached To* drop-down menu. Choose the name of the physical interface from the *Name* drop-down menu. Click *Ok* to save the new settings.

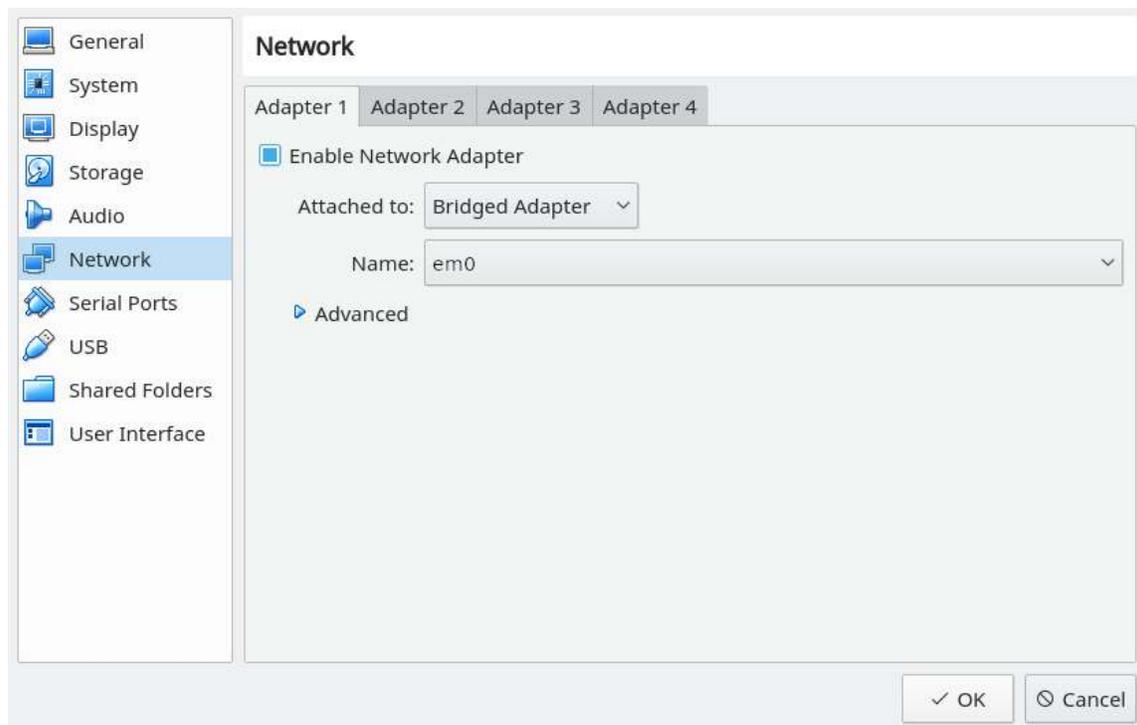


Fig. 17.10: Configuring a Bridged Adapter

Click *Start* to power on the VM and begin the TrueCommand™ *installation* (page 57).

After the installation is complete, shut down the VM. Remove the installation media by right-clicking the *IDE* icon and selecting *Remove Disk from Virtual Drive*.



Fig. 17.11: Remove Installation Media

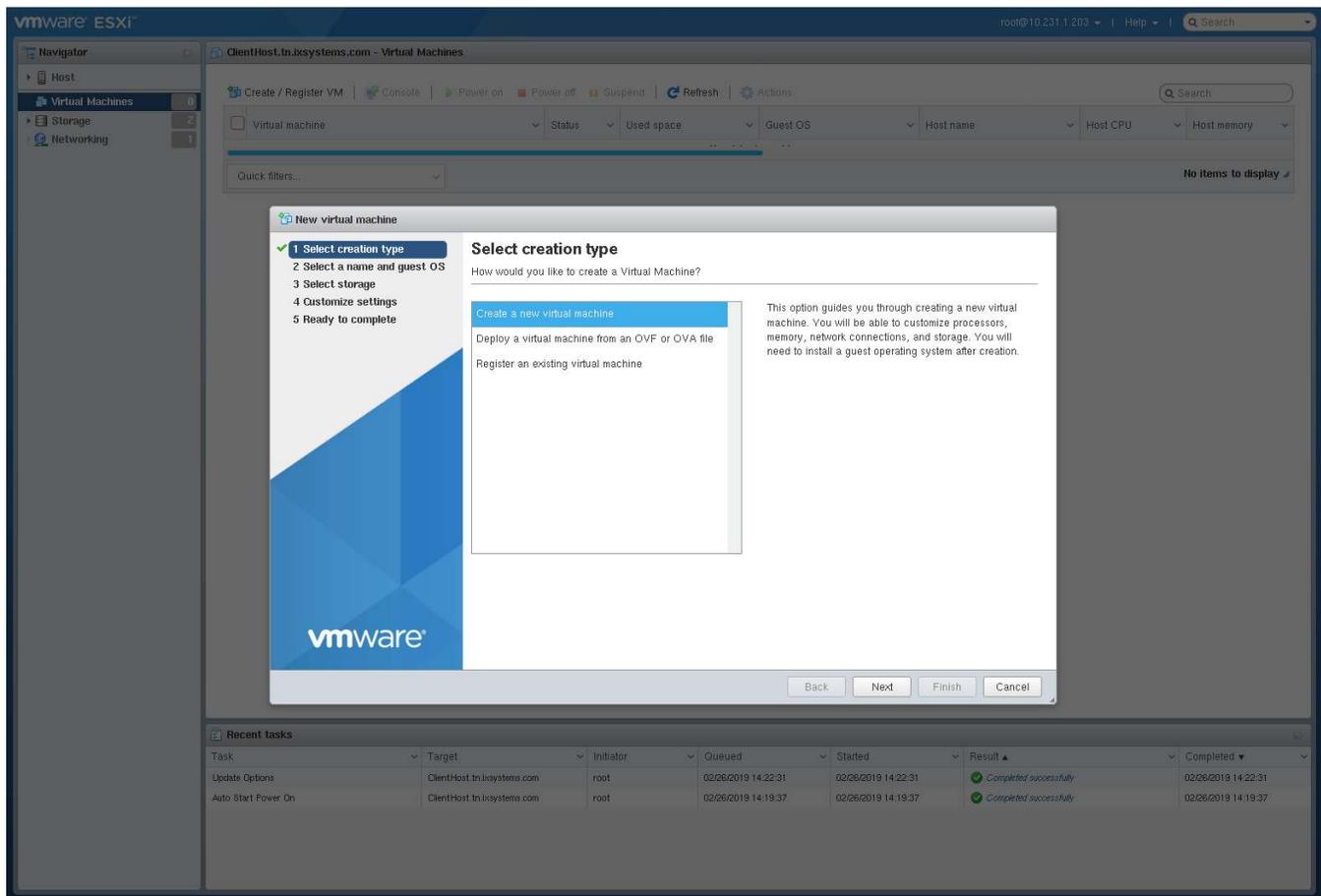
VMware ESXi

ESXi is a bare-metal hypervisor architecture created by VMware Inc. Commercial and free versions of the VMware vSphere Hypervisor operating system (ESXi) are available from the [VMware website](https://www.vmware.com/products/esxi-and-esx.html) (<https://www.vmware.com/products/esxi-and-esx.html>).

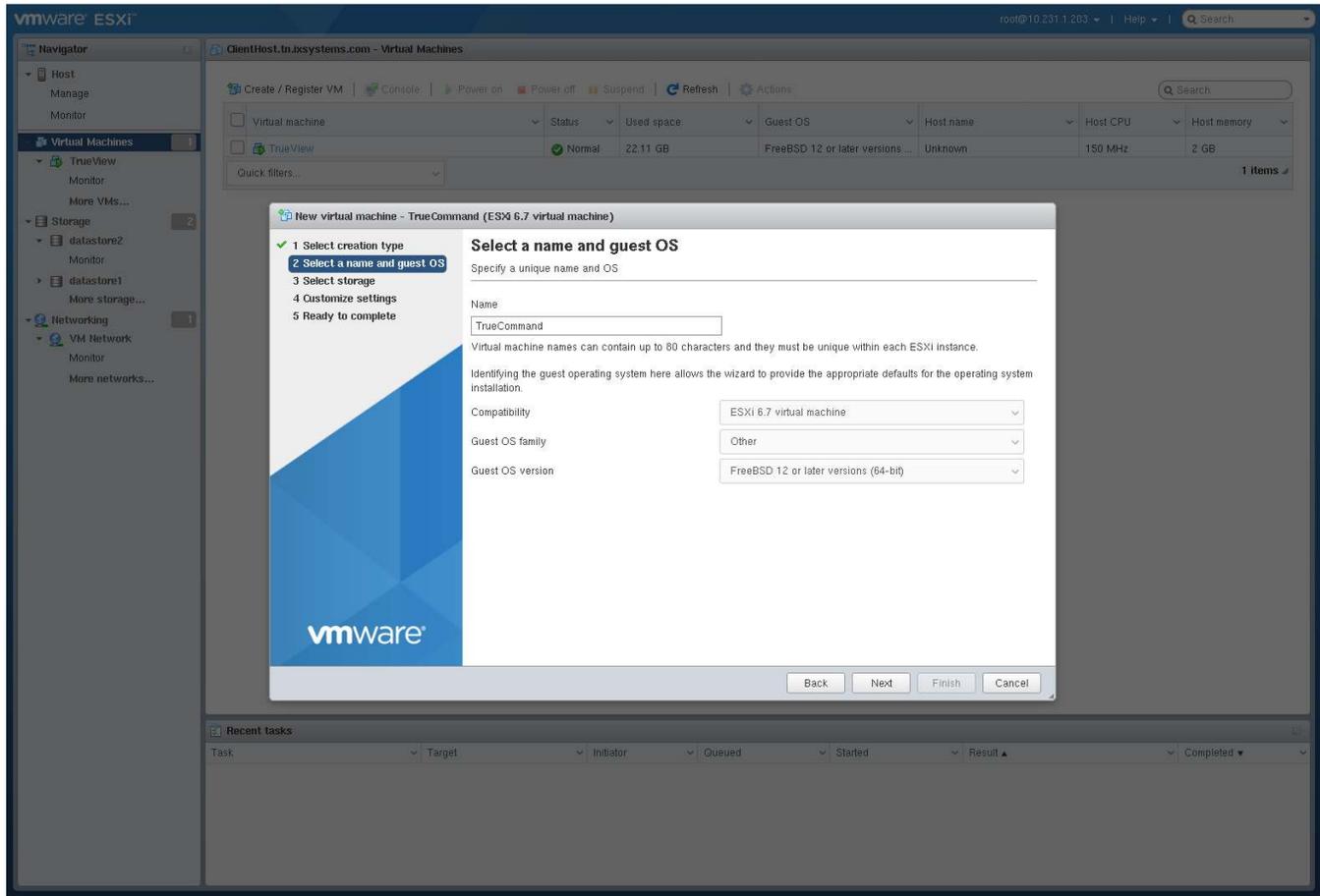
When the VMware vSphere client is installed, use it to connect to the ESXi server. Enter the username and password created when installing ESXi to log into the interface. After logging in, go to *Storage* to upload the TrueCommand™ .iso. Click *Datastore browser* and select a datastore for the TrueCommand™ .iso. Click *Upload*. Use the file dialog to choose the TrueCommand™ .iso from the host system.

Click *Create / Register VM* to create a new VM. The *New virtual machine* wizard opens:

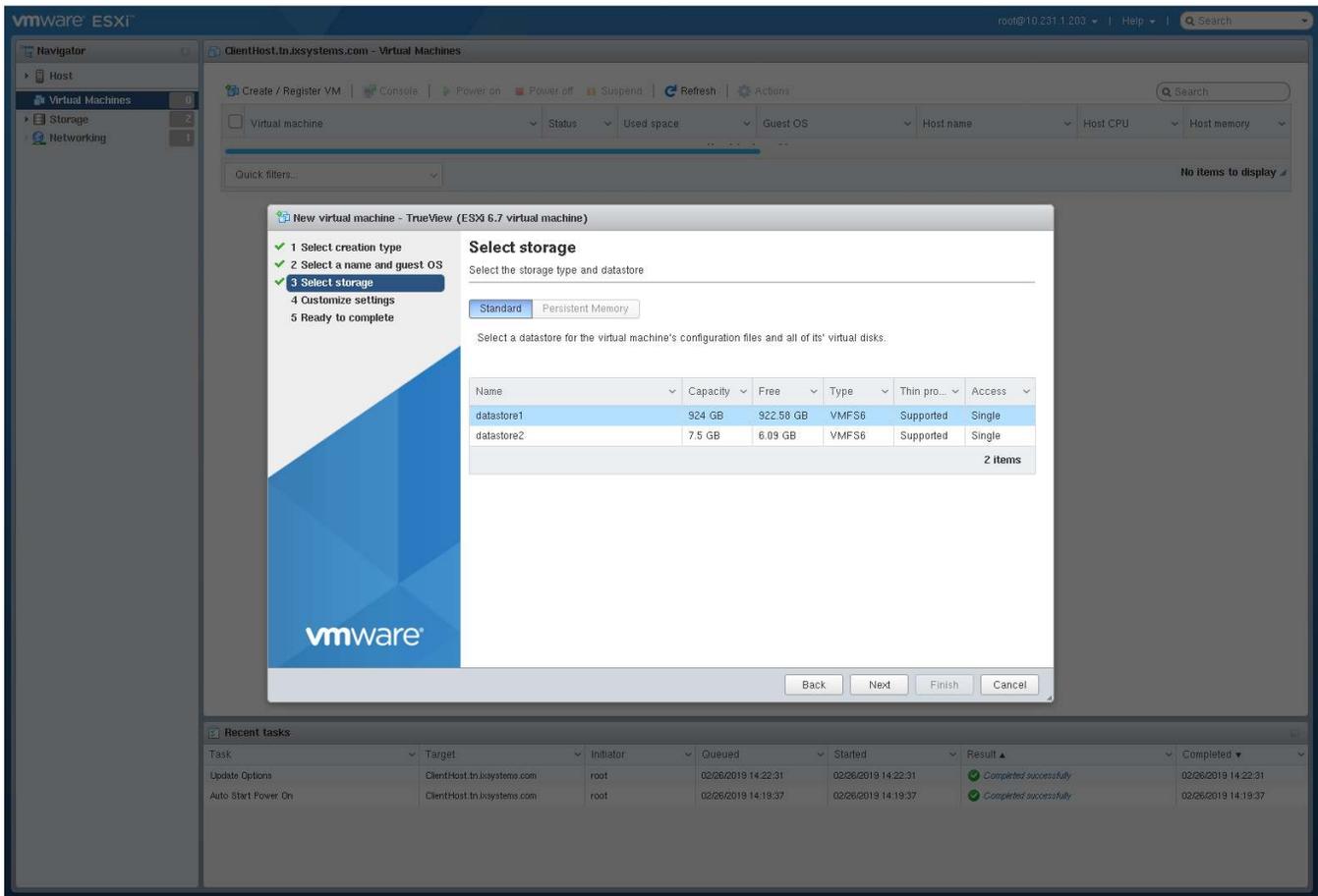
1. **Select creation type:** Select *Create a new virtual machine* and click *Next*.



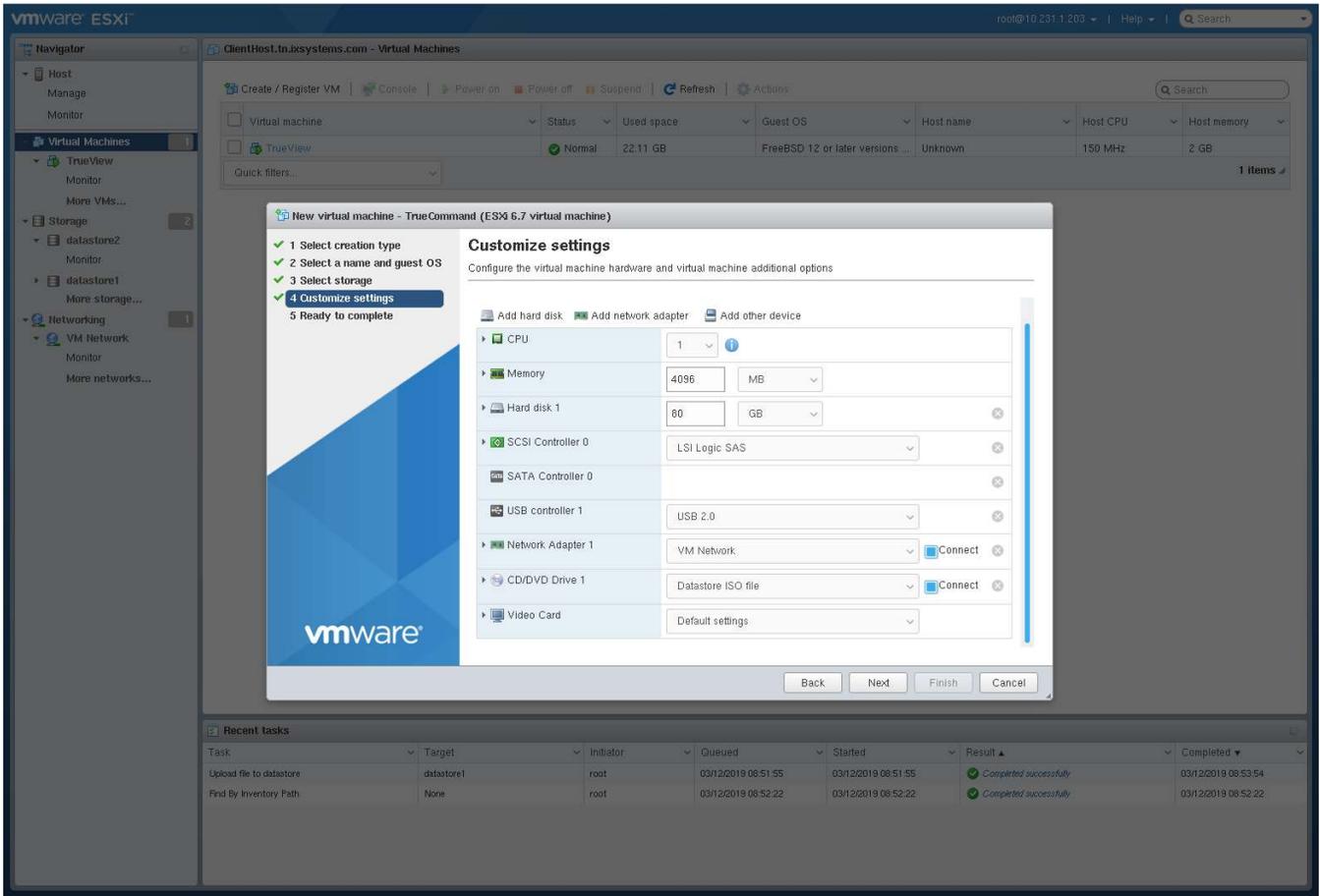
- Select a name and guest OS:** Enter a name for the VM. Leave ESXi compatibility version at the default. Select `Other` as the Guest OS family. Select `FreeBSD12` or later versions (64-bit) as the Guest OS version. Click `Next`.



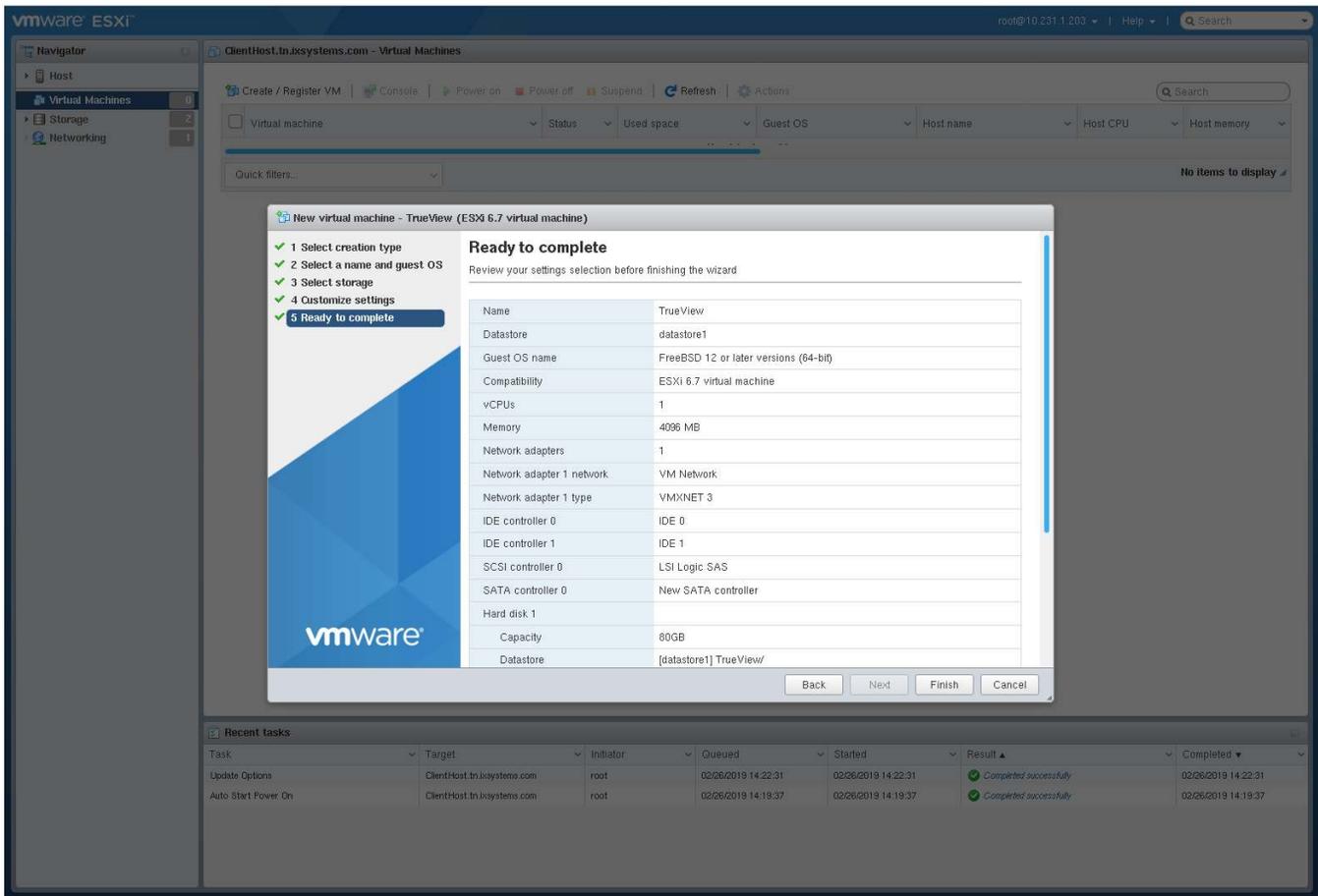
- Select storage:** Select a datastore for the VM. The datastore must be at least 80 GiB (see *System Requirements* (page 46)).



4. **Customize settings:** Enter at least 4 GiB or 4096 MiB of memory and at least 80 GiB of virtual storage (see [System Requirements](#) (page 46)). Select *Datastore ISO file* from the *CD/DVD Drive 1* drop-down. Use the Datastore browser to select the uploaded TrueCommand™ .iso. Click *Next*.



5. **Ready to complete:** Review the VM settings. Click *Finish* to create the new VM.



Click *Virtual Machines* → {VM}, where VM is the TrueCommand VM name. Click *Power on* to start the VM. Click *Console* → *Open browser console* and *install* (page 57) TrueCommand™.

Installing TrueCommand™

The TrueCommand™ installer boot menu appears first. After a short pause, it automatically continues. To boot with one of the options, type the number of the option.



Fig. 17.12: Installer Boot Menu

Press `Enter` to select the default option, *Install*.

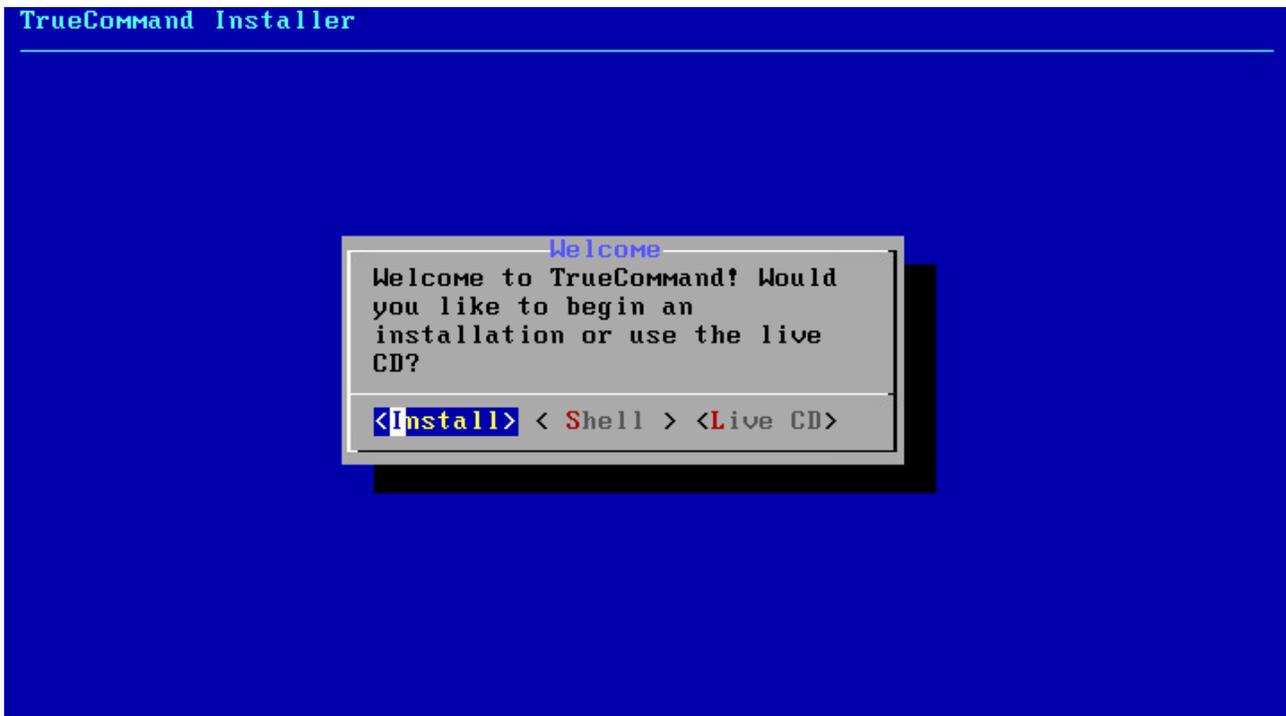


Fig. 17.13: Installer Options

Available disks are shown. Use the arrow keys to choose the target disk. Press `Spacebar` to select the desired disk. Press `Enter` to continue.

Press `Enter` to reserve the entire disk for TrueCommand™.

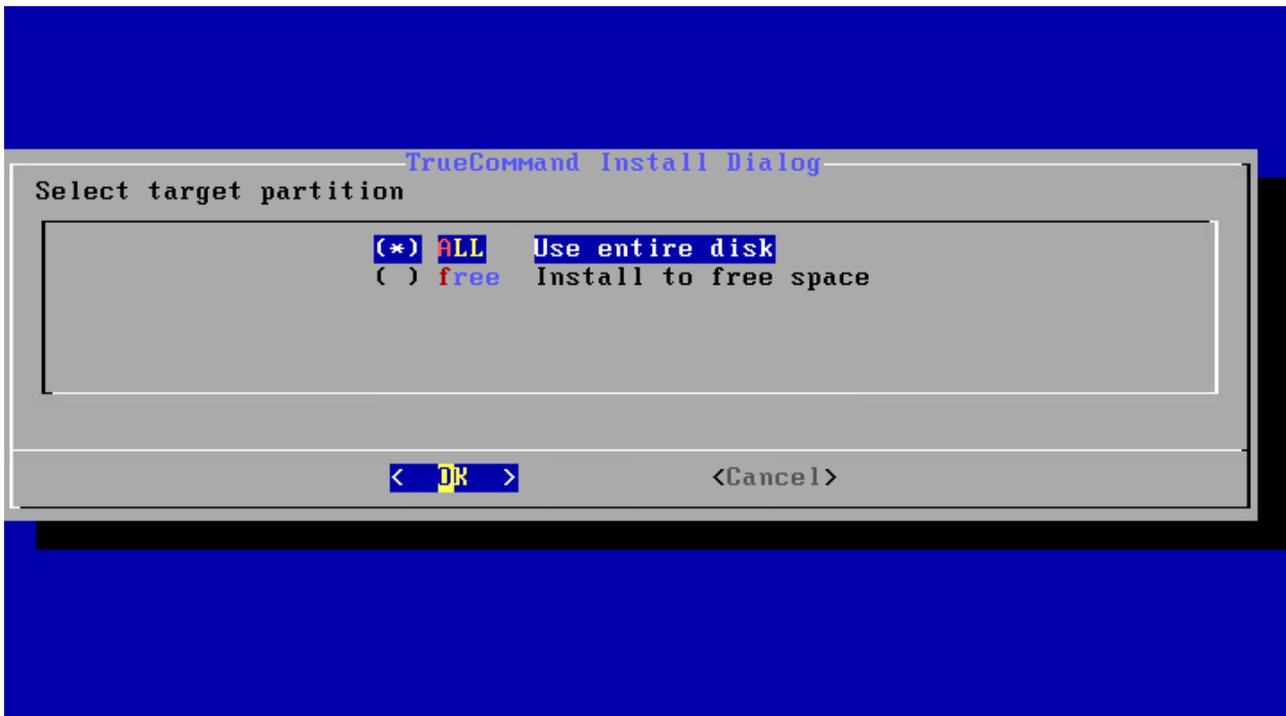


Fig. 17.14: Select Target Partition

Use the arrow keys to select *GPT*. *MBR* should only be used on legacy clients that cannot use *GPT*. Press `Enter`.

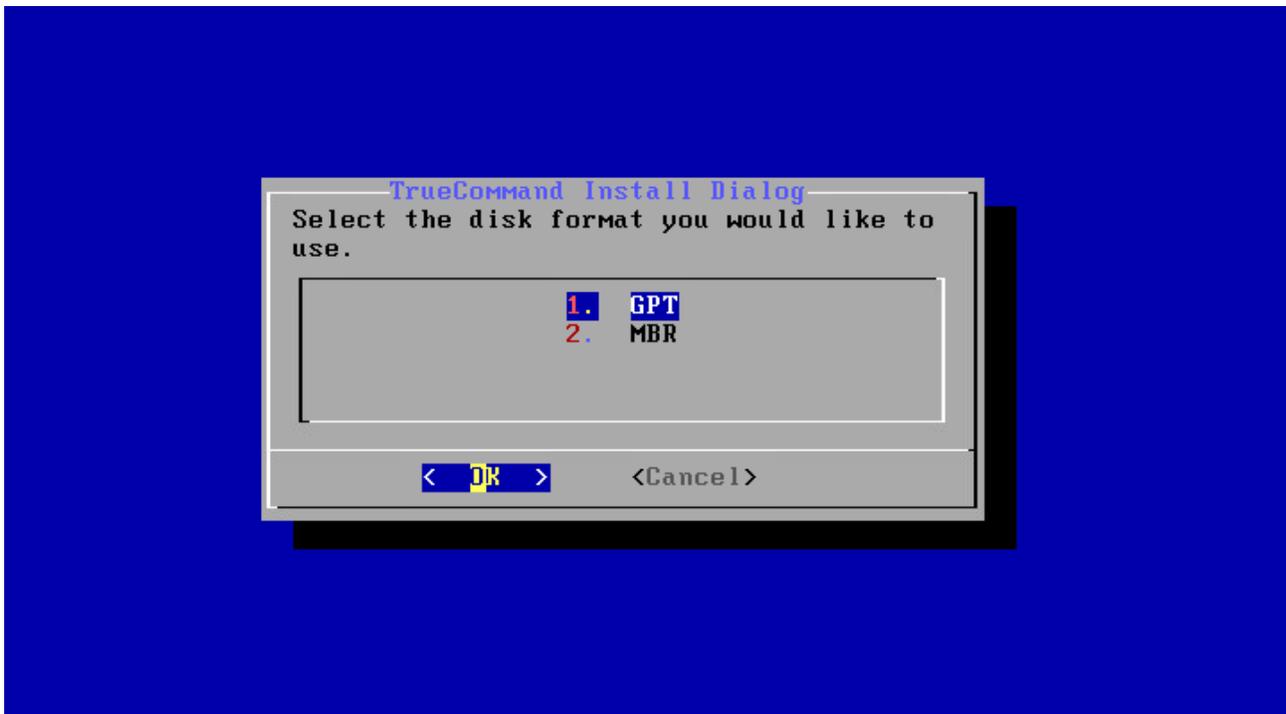


Fig. 17.15: Select Disk Format

Set and confirm the `root` password. **The `root` user is for system maintenance and is not used to access the TrueCommand™ web interface.** TrueCommand™ accounts are created through the web interface after installation.

Press `Enter` to continue.



Fig. 17.16: Set root password

Enter `TrueCommand` as the system hostname and press `Enter`.

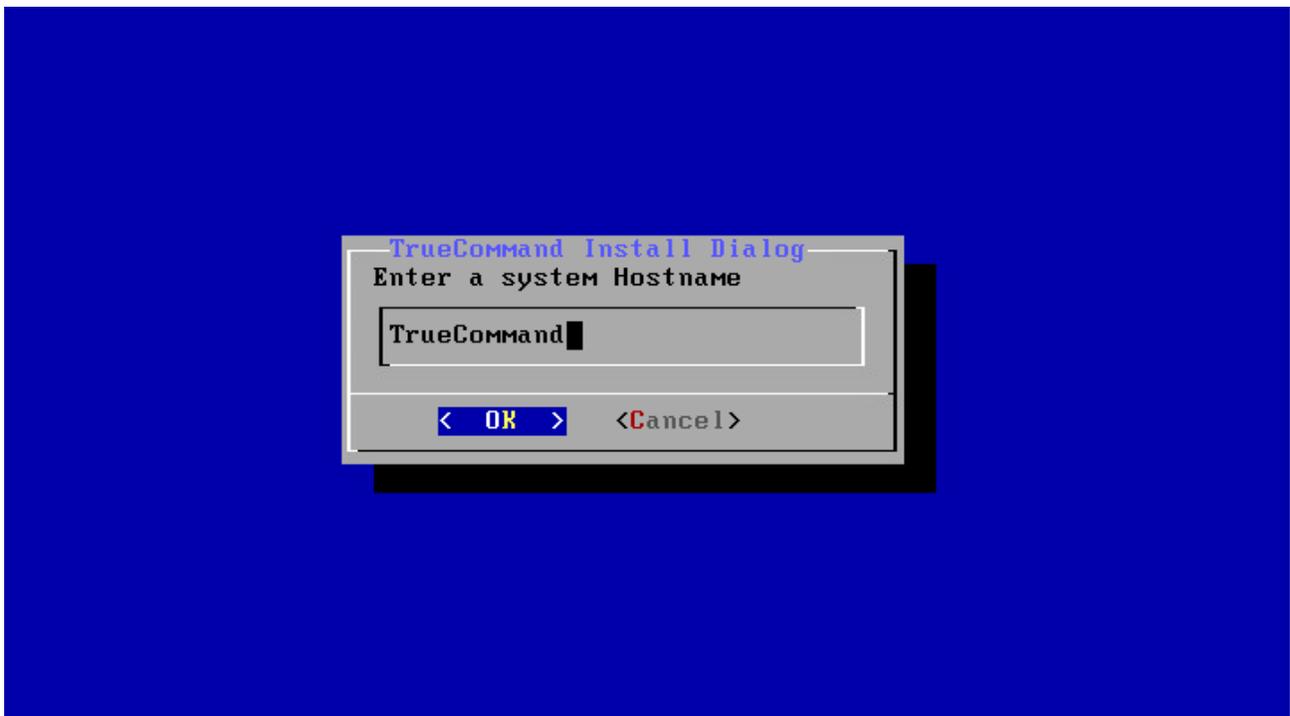


Fig. 17.17: Set Hostname

Press `Enter` to *Enable networking*.



Fig. 17.18: Enable Networking

Use the arrow keys to select the network card. A static IP address is strongly recommended. DHCP can be used, but can result in the system unexpectedly moving to new IP address.

When using a static IP address, the IP address, gateway, and netmask are required. DNS is optional, but recommended for name resolution.

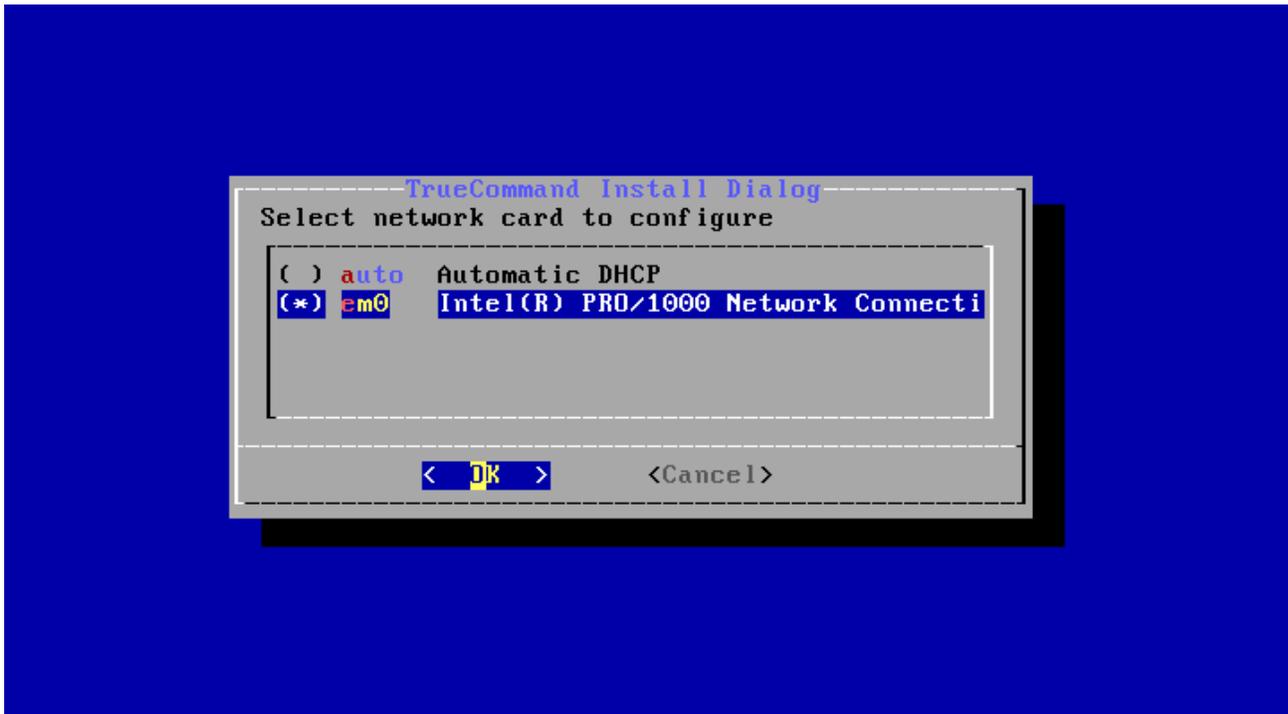


Fig. 17.19: Select Network Card

Press `Enter` to the Enable SSH. Enabling SSH is not required, but recommended.



Fig. 17.20: Enable SSH

Select *install* and press `Enter`.



Fig. 17.21: Start the Installation

Wait for the *Installation finished!* message and press `Enter`.

```

Setting em0 to DHCP on the system.
Running chroot command: cat /.tmpPass | pw useradd -n TrueView -c "Sam" -h 0 -s
"/bin/sh" -m -d "/home/TrueView" -G "wheel,operator"
Setting hostname: sam.local
Setting root password
Running chroot command: cat /.rootpw | pw usermod root -h 0
Running chroot command: newaliases
newaliases: Aliases are not used in sSMTP
Running chroot command: rc-update add sshd default
* service sshd added to runlevel default
ZFS Unmount: tank/var/tmp
ZFS Unmount: tank/var/mail
ZFS Unmount: tank/var/log
ZFS Unmount: tank/var/audit
ZFS Unmount: tank/usr/src
ZFS Unmount: tank/usr/ports
ZFS Unmount: tank/usr/obj
ZFS Unmount: tank/usr/jails
ZFS Unmount: tank/usr/home
ZFS Unmount: tank/tmp
ZFS Unmount: tank/root
Unmounting: /mnt
Installation finished!
Press ENTER to continue

```

Fig. 17.22: Finish Installation

Use the down arrow to select *quit*. Press Enter.



Fig. 17.23: Quit Install Wizard

Restart the TrueCommand™ system. Remove the TrueCommand™ install media so the system boots from the hard drive.