Tiger SPACES

User's Guide

April 12, 2019

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Software version: Tiger Spaces 4.3
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Manual Revision and Control

Revision Record

Date	Description	Page	Version
01 June 2017	Initial Draft		4.0
08 Aug. 2017	TCP port 85 must not be blocked by a firewall on the Tiger Spaces server.	9	4.0.1
08 Aug. 2017	Restricting users from creating workspaces option added.	48	4.0.1
08 Aug. 2017	Steps for clearing the proxies of a workspace added.	54	4.0.1
06 Oct. 2017	When specifying the credentials of an Active Directory domain account, you must add it without its domain.	33	4.0.1

Revision Record

Date	Description	Page	Version
23 Oct. 2017	Steps for activation using software activation key added.	23, 24	4.0.2
10 Nov. 2017	Steps for uninstalling Tiger Spaces from the client computer added.	13, 14	4.0.2
06 Dec. 2017	Added support for Windows Server 2016 on the Tiger Spaces server.	9	4.0.3
06 Dec. 2017	Added support for Tiger Spaces clients running macOS High Sierra 64-bit and Windows Server 2016.	10, 11	4.0.3
08 Dec. 2017	Tiger Spaces server installation steps updated with steps for downloading and running the Microsoft SQL Server 2016 Express installation configured for work with Tiger Spaces.	12	4.0.3
17 Jan. 2018	TCP port 8080 must not be blocked by a firewall on the Tiger Spaces server.	9	4.1
19 Feb. 2018	Added support for installation of Tiger Spaces on a Tiger Client computer.	8	4.1
19 Feb. 2018	Manage Tiger Bridge replication and tiering for workspaces topic added.	54	4.1
19 Feb. 2018	Monitor connected client computers functionality added.	58	4.1
19 Feb. 2018	Downloading the activity log as a csv file functionality added.	59	4.1
19 Feb. 2018	Downloading the list of workspace as a csv file functionality added.	60	4.1
19 Feb. 2018	Tiger Spaces server auto-discovery option added on client computers.	62	4.1
19 Feb. 2018	Option to search for miscellaneous files only or tags only added.	69	4.1
19 Feb. 2018	Manage workspace comments topic added.	84	4.1
20 Feb. 2018	Added support for Windows® 7 SP 1/Server 2008 R2 SP1 on Tiger Spaces server.	9	4.1
20 Feb. 2018	Added support for Microsoft SQL Server 2014 on the database server.	10	4.1
20 July 2018	Database server requirements added.	10	4.2
20 July 2018	Accessing the web interface through secure http instead of through port 8480.	14	4.2
20 July 2018	Initial Setup topic added.	14	4.2
20 July 2018	Configure the High-Availability Cluster IP Address topic added.	28	4.2

Revision Record

Date	Description	Page	Version
20 July 2018	Control Exclusive Mounts of Workspaces topic added.	48	4.2
20 July 2018	Specify New Workspace Defaults topic added.	49	4.2
20 July 2018	Monitor High-Availability Cluster Synchronization topic added.	56	4.2
31 July 2018	Added support for Microsoft SQL Server 2017.	10	4.2
24 Aug. 2018	TCP port 443 must not be blocked by a firewall on the Tiger Spaces server.	9	4.2
18 Jan. 2019	Resynchronizing Tiger Spaces with Tiger Spaces|MAM steps added.	102	4.2
29 Mar. 2019	Added support for Windows Server 2019 on the Tiger Spaces server.	9	4.3
29 Mar. 2019	Added support for macOS Mojave 64-bit and Windows Server 2019 on Tiger Spaces client computers.	11	4.3
29 Mar. 2019	Added Tiger Bridge statistics field.	55	4.3
29 Mar. 2019	Added Move to archive button.	56	4.3
29 Mar. 2019	View displaying just the workspaces mounted on your computer is added to the web interface.	66	4.3
29 Mar. 2019	Removed option for canceling Tiger Bridge jobs.		4.3

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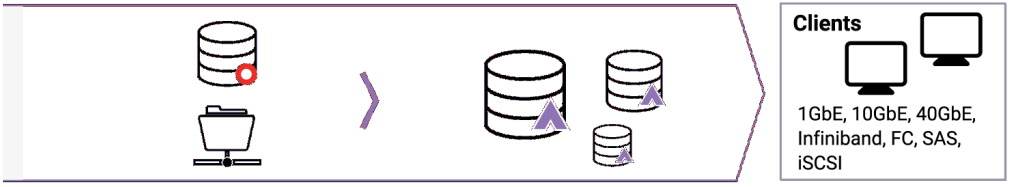
1 Getting Started with Tiger Spaces

Introduction to Tiger Spaces

Congratulations on your purchase of Tiger Spaces, Tiger Technology's complete workflow management solution for shared storage environments. Tiger Spaces turns designated volumes and/or network shares into a shared workspaces depot. Windows and Mac computers on the same network, which run the Tiger Spaces client driver can access the depot through the Tiger Spaces's web interface in order to create new workspaces and mount their own or other users' workspaces. Each workspace is mounted as a separate local drive on the client computer, although it is actually stored on one of the volumes/network shares in the depot. A user can mount any number of workspaces exclusively, with Read and Write permissions or for previewing only. Depending on the type of the respective workspace, it may be mounted for editing by just one user at a time or by multiple users simultaneously (Multi-user write and Avid workspaces).



As long as a client computer sees the volumes/shares comprising the depot, users can create and work with workspaces stored on them. Metadata requests for access to the depot are directly sent to the Tiger Spaces server. Users don't have to authenticate themselves to access the respective file system, but access it with the credentials specified on the Tiger Spaces server. Thus, if Tiger Spaces is deployed without security restrictions, access to a given workspace depends solely on whether it is currently available or in use by another user. For the purposes of your workflow you can utilize workspace permissions. When Tiger Spaces is deployed in Active Directory domain environment, the permissions are specified for domain users and groups of users. When Tiger Spaces is deployed in workgroup environment, you can use locally created Tiger Spaces users and groups.

Tiger Spaces further enhances your workflow with workspace quotas, automatic parsing of data and generation of proxy media, browsing of workspaces without mounting them, setting workspaces as templates and creating workspaces based on templates.

Computers on the same network that don't have the client driver installed, cannot actually work with the workspaces in the depot, although they might be seeing the underlying storage comprising the depot. However, users on such computers can log on to the Tiger Spaces' web interface and preview data in any workspace that is accessible to their account.

You can administrate and work with Tiger Spaces in its web interface.

Note: *Changes to the underlying storage comprising the depot, take up to a minute to get detected in the web interface of Tiger Spaces.*

Concepts Used Throughout the Guide

Workspaces depot — the shared storage backbone comprised of Tiger Store-managed volumes and/or SMB/NFS network shares, on which client computers create workspaces. The depot can consist of as little as just one volume/network share or of multiple volumes and/or shares. Shares part of the depot can be exported by the same or different NAS appliance on the same network. The depot remains accessible to client computers even if just one of the underlying file systems, on which Tiger Spaces support is enabled, is currently available, displaying just the workspaces stored on that file system. Similarly, client computers that don't see one or more of the file systems comprising the depot, can still create and mount workspaces on the remaining volumes/shares in the depot. The workspaces depot and data on it remains inaccessible to computers without the Tiger Spaces client driver although they might see the file systems comprised in the depot.

Workspace — a folder in the Tiger Spaces' depot, which mounts as a local drive on client computers. A workspace has a name, description and tags, which can be edited and facilitate the faster browsing of the depot's contents. Tiger Spaces scans each workspace, after it has been dismounted and parses data in it, to generate proxy media and allow searching by contents' metadata. On Windows client computers you can specify preferred mount point of a workspace. Unless security is disabled, access to each workspace is subject to authentication based on Active Directory or internal Tiger Spaces user accounts. When security is disabled, access to a workspace depends only on the workspaces status - available or in use on another computer.

Tiger Spaces server — the computer running Tiger Spaces server installation, which virtualizes the underlying volumes and network shares, presenting them as one depot to client computers. The Tiger Spaces server takes over processing metadata requests for access to workspaces stored in the depot, controlling file operations and user authentication. It also allows mounting each workspace in the depot as a separate local drive. The Tiger Spaces server optimizes the workflow by automatically parsing each workspace's data and generating proxy media.

Note: *In case you want to deploy Tiger Spaces with high availability, you need to install the server installation on two computers, playing the role of a high availability cluster - one active Tiger Spaces server and one standby Tiger Spaces server. For more information about configuring Tiger Spaces with high availability, refer to* *"Configure the High-Availability Cluster IP Address" on page 28.*

Database server — a computer with Microsoft SQL Server installed, which stores and manages the Tiger Spaces database, containing information about all workspaces and data in them. This can be the Tiger Spaces server computer itself or another computer. Choosing another computer as a database server allows you to deploy Tiger Spaces with high availability. This way, if the active Tiger Spaces server node fails, the standby node automatically connects to the database server and takes over processing requests for access to the workspaces depot. Assigning a separate database server

is useful even without high availability activated, as it allows you to resume work within your Tiger Spaces network as soon as you install and activate Tiger Spaces server on a new computer.

Tiger Spaces web interface — the web interface where you can create and mount your own or other users' workspaces. Users with administrative accounts can also perform the initial Tiger Spaces setup and manage product settings, workspaces and monitor activity in the web interface.

Storage Requirements

Your Tiger Spaces depot can consist of:

- Tiger Store-managed volumes/volume pools.

  Note: *You can use Tiger Store-managed volumes as part of your depot, even if Tiger Spaces is installed on a Tiger Client computer as long as it has mounted the volumes with Read & Write permissions.*

- existing or newly created SMB and NFS shares on the same network.

Currently, Tiger Spaces is certified for work with the following network shares:

protocol:	Windows	CentOS/Ubuntu Linux	Qumulo Core	Isilon OneFS
SMB	✔	✔ *	✔	✔
NFS	✔	✔	✔	-

* Using Samba 3 and Samba 4 protocol.

Volumes managed by a Tiger Store metadata controller are immediately detected in the Tiger Spaces web interface and you can enable Tiger Spaces support on any one of them, as long as it is shared with Tiger Clients. Volumes managed by a Tiger Store metadata controller are accessible through Tiger Spaces with the permissions of each Tiger Client computer.

Network Shares Requirements

For the purposes of its workflow Tiger Spaces has the following requirements for the network shares, which can comprise the shared workspaces depot:

- Each share should have a "psp_" prefix in its name. If allowed, add the "psp_" prefix in front of the share name after it has been exported. If renaming a share once it has been created is not possible, you should rename the volume/folder itself, adding the "psp_" prefix, and then export the volume/folder as a share anew. Thus, if a share that you want to use is named for example "Projects", you should rename it (or the folder) to "psp_Projects".

Note: *The prefix is automatically hidden in the Tiger Spaces interface to allow you to more easily discern between shares on which to enable Tiger Spaces support.*

• Tiger Spaces uses a dedicated account (Active Directory domain or local account on the NAS appliance), which has Full Control (on Windows) or Read & Write permissions (on Linux) over each share, which will be made part of the workspaces depot. This account should be the only one, with permissions to read and write on the share, thus preventing other users from accessing the share. The dedicated account must also have Full Control (on Windows) or Read & Write permissions (on Linux) over the share file system (the folder or the whole volume exported as a share). You must use one and the same dedicated account for each share exported by the same NAS appliance.

Installing and Uninstalling Tiger Spaces

Tiger Spaces can be installed on a Tiger appliance or on a computer, meeting the minimum system requirements (see “Tiger Spaces Server System Requirements” on page 9). In case your Tiger appliance doesn’t have Tiger Spaces installed, you can upload the new installation as a firmware update. For more information, refer to the administration guide of your Tiger appliance.

To be able to work with workspaces, you must also install the Tiger Spaces client driver on each client computer.

To deploy Tiger Spaces with high availability, you must install it on two server nodes, both running Tiger Store software and set up for high availability.

Tiger Spaces Server System Requirements

You can run the server installation of Tiger Spaces on a computer that meets the following minimum system requirements:

• PC with 2.5-GHz 64-bit (x64) processor.

• 8GB of physical RAM at least.

• 500MB of available hard-disk space for installation.

• 64-bit Microsoft Windows® 7 SP 1/Server 2008 R2 SP1/Windows® 8/Server 2012/Server 2012 R2/Windows® 10/Server 2016/Server 2019.

Important: *To be able to benefit from the workspace quota feature, the computer must run a server OS - Microsoft Server 2012/Server 2012 R2/Server 2016.*

• (optional, for high availability only) Tiger Store software installed and set up for high availability on both server nodes.

• Microsoft ODBC Driver 13 for SQL Server.

Note: *You can download the driver from Microsoft’s web site for free.*

• TCP ports 85, 443 and 8080 must not be blocked by a firewall if any.

Database Server Requirements

The computer on which the Tiger Spaces database will be stored and managed must meet the following minimum system requirements:

- Microsoft SQL Server 2014 (if your database server runs on Windows 7/Windows Server 2008 R2) or SQL Server 2016/SQL Server 2017 (if your database server runs on Windows® 8/Server 2012 or later).

  Note: *Refer to the Microsoft documentation for hardware and software requirements for installing SQL Server.*

- Microsoft SQL Server is set up for work with Tiger Spaces:
  - The server authentication is set up to use SQL Server and Windows Authentication mode.
  - There is an SQL Server user with sysadmin role, which is using SQL Server authentication, has permissions to connect to the database engine and is set with enabled Login.
  - (for remote database server only) SQL Server is configured for remote connections.

  Note: *For details about configuring SQL Server for work with Tiger Spaces, refer to the documentation of your SQL Server. For sample steps, refer to "Configuring SQL Server for Work with Tiger Spaces" on page 106.*

Note: *Tiger Technology provides a download of Microsoft SQL Server 2014/2016 Express together with an automated script that configures it for work with Tiger Spaces. For more information, refer to the steps for installing Tiger Spaces on the server computer.*

- network connection to the Tiger Spaces server computer, in case the database server is another computer.

Tiger Spaces Client System Requirements

You can install the Tiger Spaces client driver on a computer meeting the following minimum system requirements:

Mac OS X:

- Intel-based Mac with 2.0 GHz CPU.
- Mac OS X Mavericks/Mavericks Server (64-bit), Mac OS X Yosemite/Yosemite Server (64-bit), Mac OS X El Capitan (64-bit), macOS Sierra (64-bit), macOS High Sierra (64-bit), macOS Mojave (64-bit).

Note: *No support for Mac OS X versions below 10.9.*

- 4GB of physical RAM at least.
- 150 MB of available hard-disk space for Tiger Spaces client software installation.
- 4 Gb/8 Gb/16 Gb FC, 10 GbE and/or 1 GbE adapter for connection to the underlying storage.

- Network LAN connection (1 Gb at least) for public communication.
- TCP ports 9120 and 9128 must not be blocked by a firewall if any.
- Tiger Client driver installed, in case you are using Tiger Spaces in conjunction with Tiger Store.

Windows:

- PC with 2.0 GHz processor.
- 32-bit or 64-bit Microsoft Windows® 7/Server 2008 R2, Windows® 8/Server 2012/ Server 2012 R2, Windows® 10/Server 2016/Server 2019.

Important: *Microsoft Windows® 7/Server 2008 R2 computers must run at least Service Pack 1 and have the KB3033929 security update installed.*

Note: *No support for Microsoft Windows® 95, Windows® 98, Windows® NT, Millennium Edition, Windows® 2000, Windows® XP/Server 2003/Server 2003 R2 or Windows® Vista/Server 2008.*

- 4GB of physical RAM at least.
- 150 MB of available hard-disk space for Tiger Spaces client software installation.
- 4 Gb/8 Gb/16 Gb FC, 10 GbE and/or 1 GbE adapter for connection to the underlying storage.
- Network LAN connection (1 Gb at least) for public communication.
- TCP ports 9120 and 9128 must not be blocked by a firewall if any.
- Tiger Client driver installed, in case you are using Tiger Spaces in conjunction with Tiger Store.

Install Tiger Spaces

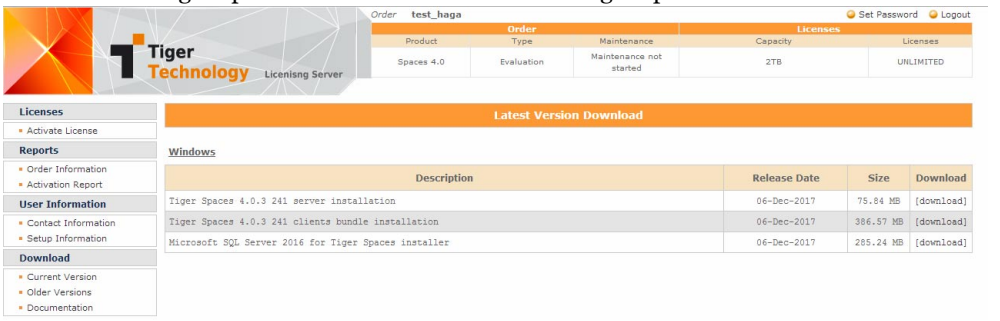
Note: *You can install or update Tiger Spaces on a Tiger appliance as a firmware update. For more information, refer to the administration guide of your Tiger appliance.*

To install Tiger Spaces on a server computer:

1. In a web browser go to:
   https://license.tiger-technology.com
2. Log on to the licensing server with your user name and password and then click Current Version in the left pane.

   Note: *If you're entering the Tiger Technology licensing site for the first time, you must fill the registration form to continue.*

3. Download the Tiger Spaces server installation and the Tiger Spaces clients bundle installation.



Note: *You can also download the SQL Server 2014/2016 Express for Tiger Spaces installer (Tiger_Spaces_SQL_Server_Installer.exe). Use it to install SQL Server 2014/2016 Express on the computer, which will store and manage the Tiger Spaces database - the Tiger Spaces server itself or another computer, in case you want to deploy Tiger Spaces with high availability.*

4. Browse for and double-click the Tiger Spaces server installation file and then click Next.
5. Accept the terms of the software license agreement and click Next.
6. Click Install.
7. When the installation finishes, click Close.
8. Browse for and double-click the Tiger Spaces clients bundle installation.
9. Click Next and then Install.
10. When the installation finishes, click Close.

To install the SQL Server Express configured for Tiger Spaces installer on the database server:

Note: *You can download the installer from the Tiger Technology licensing server. See steps on page 11. Make sure you download and install the custom SQL Server Express installer, which is compatible with the operating system of your database server. For more details, see "Database Server Requirements" on page 10.*

Tip: *In case the computer designated to manage the Tiger Spaces database already runs Microsoft SQL Server, refer to "Configure the Access to the Database Server" on page 16 for steps about configuring it for work with Tiger Spaces.*

1. Right-click Tiger_Spaces_SQL_Server_Installer.exe and in the context menu select to run the installation as administrator.

   The installer extracts the installation files in a temporary folder.
2. When prompted, press any key on your keyboard to proceed with the installation.
3. After the installation finishes, press Y and then Enter, to restart the computer.

To download and install the Tiger Spaces client driver:

1. In a web browser, access the IP address of the computer running Tiger Spaces server through secure https connection (https).

   For example, if the computer running Tiger Spaces server has IP address 10.200.6.29, in the address bar of a web browser enter the following:
   `https://10.200.6.29`

2. On the home page of the Tiger Spaces web interface, click the Downloads button  in the upper right corner.

3. Find the Tiger Spaces Client installation file for your operating system and click Download.

4. When the installation file downloads to your computer, double-click it to start the installation.

5. Follow the on-screen instructions and when prompted, restart your computer.

   Note: *On Apple Mac, if prompted, confirm that you allow the loading of the Tiger Spaces client kernel extensions.*

   The Tiger Spaces client icon appears in the Menu Bar/System Tray of your computer.

   Important: *(Apple Mac) If the Tiger Spaces client icon does not appear in the Menu bar, you should manually allow the Tiger Spaces client software in the General tab of the Security & Privacy window in System Preferences.*

Uninstall Tiger Spaces

Unless Tiger Spaces is running on a Tiger appliance, you can uninstall it from the computer at any time. Once you uninstall Tiger Spaces, the workspaces depot folder and all its contents on the shared storage volumes/network shares becomes visible to anyone having access to it.

To uninstall Tiger Spaces from a Tiger appliance, you should request assistance from Tiger Technology support.

To uninstall Tiger Spaces from the server computer:

1. In Control Panel, double-click Programs and Features.

2. Right-click Tiger Spaces and select Uninstall.

3. When prompted to confirm that you want to remove Tiger Spaces from the computer, click Yes.

4. Click OK.

5. When the deinstallation finishes, click Close.

To uninstall the Tiger Spaces client driver from Windows:

1. In Control Panel, double-click Programs and Features.

2. Right-click Tiger Spaces Client and select Uninstall.

3. When prompted to confirm that you want to remove Tiger Spaces from the computer, click Yes.

   The uninstallation of Tiger Spaces Client warns you that you will have to reboot the computer to complete the uninstallation.

4. Click OK.

5. When prompted, restart the computer.

To uninstall the Tiger Spaces client driver from Apple Mac:

1. Go to Applications | Tiger Spaces Client.

2. Double-click Uninstall.

3. Provide administrator's user name and password.

4. When prompted, confirm that you want to uninstall the Tiger Spaces Client driver.

Access the Web Interface

You can access the Tiger Spaces web interface from any computer, which is on the same network as the computer running the Tiger Spaces server installation. Initially you can log on to the web interface only with the following automatically created administrative account:
user name: **`psadmin`**
password: **`psadmin`**

Note: *The web interface is accessible with most web browsers as long as JavaScript is enabled. If you experience any problems with accessing the web interface, please, contact Tiger Technology support.*

To access the Tiger Spaces web interface:

1. In a web browser, access the IP address of the computer running Tiger Spaces server through secure http connection (https).

   For example, if the computer running Tiger Spaces server has IP address 10.200.6.29, in the address bar of a web browser enter the following:
   `https://10.200.6.29`

   Important: *If high availability is activated, you should access the web interface using the cluster IP (the IP address shared by both server nodes) specified during the initial setup. Until you configure the cluster IP address, you can only access node view of the web interface by entering the IP address of one or the other node. Any changes to the Tiger Spaces settings introduced in node view are valid only for the node, which you are currently accessing.*

2. Enter the credentials of the default administrator's account in the respective fields and then click ➤ .

Initial Setup of Tiger Spaces

The initial setup of Tiger Spaces involves procedures indispensable for the proper operation of the product:

- Configure the access to the Tiger Spaces database.
- Activate the product.
- (optional, if the Tiger Spaces computer is in a domain) Specify the Active Directory domain.
- (optional, if high availability is activated) Configure high availability.

To facilitate you in performing the initial setup, a Configuration Wizard appears immediately when you attempt to access the web interface of Tiger Spaces for the first time.

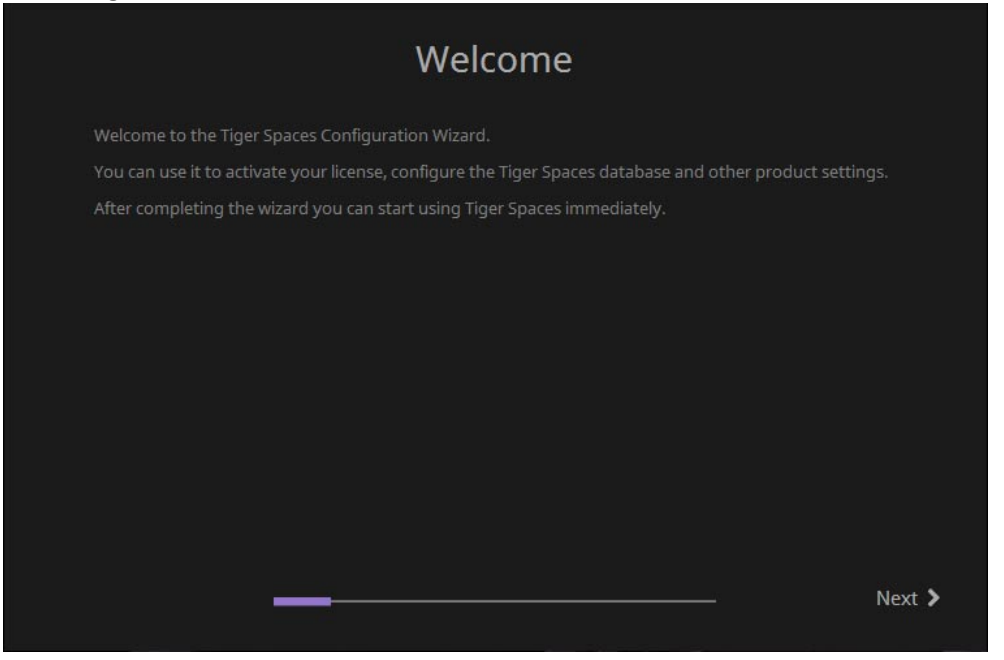
You can also configure most parameters (except the access to the database server) through the Tiger Spaces web interface or by running the Configuration Wizard again.

To start the Tiger Spaces configuration wizard:

1. In a web browser, enter the following:
   `https://[IP address of the computer/node running Tiger Spaces]/config`

   For example, if the computer running Tiger Spaces server has IP address 10.200.6.29, in the address bar of a web browser enter the following:
   `https://10.200.6.29/config`

   The Configuration Wizard starts.



Configure the Access to the Database Server

Tiger Spaces uses a database managed by a computer running Microsoft SQL Server. You can use as a database the Tiger Spaces server computer itself or another computer. Choosing another computer as a database server allows you to deploy Tiger Spaces with high availability. This way, if the active Tiger Spaces server node fails, the standby node automatically connects to the database server and takes over processing requests for access to the workspaces depot. Assigning a separate database server is useful even without high availability activated, as it allows you to resume work within your Tiger Spaces network as soon as you install and activate Tiger Spaces server on a new computer.

Whether you configure the access to a new database server or connect to a previously used database server (after reinstalling Tiger Spaces or installing it on another computer, for example), to configure the access to the database server, you need to specify the following parameters:

- IP address or domain name of the database server.

Note: *If you have installed SQL Server 2014/2016 Express configured for Tiger Spaces on the database server computer, enter the following:*
`[IP address of the database server]\TIGERSPACES`
If you have installed SQL Server 2014/2016 Express configured for Tiger Spaces on the Tiger Spaces server, enter the following:
`localhost\TIGERSPACES`

- user name and password of a user with permissions to manage Microsoft SQL Server databases (create, delete, etc.) on the database server.
- name of the Tiger Spaces database.
- name and password of a user who will be used to access the Tiger Spaces database.

If you have installed SQL Server 2014/2016 Express configured for Tiger Spaces on the database server, you need to provide the following credentials:

SQL administrator: **`sa`**

Password: **`kukukuraju70!`**

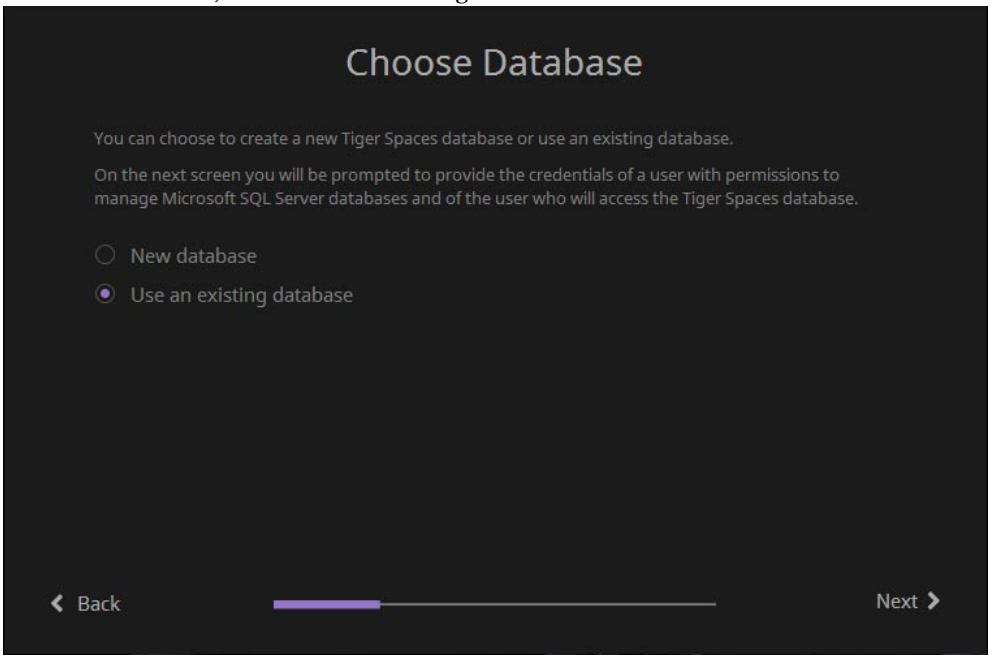
Database name: **`psdb`**

Tiger Spaces database username: **`psdb`**

Password: **`password`**

To configure the access to the database server:

1. Start the Tiger Spaces Configuration Wizard and click Next.
2. In Choose Database, do one of the following:



   • Select "New database" to configure the access to the database server and create a new Tiger Spaces database on it.

   • Select "Use an existing database" to configure the access to the database server managing an already existing Tiger Spaces database.

3. Click Next and follow the on-screen instructions.

   Once you configure the access to the database server, the Configuration Wizard prompts you to activate Tiger Spaces, configure Active Directory domain and the high-availability cluster (if a high availability license is activated). You can choose to skip the configuration of any of these and configure them later on in the Tiger Spaces web interface.

4. Click Finish.

   Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps in the Configuration Wizard on the other server node.*

Activate Tiger Spaces

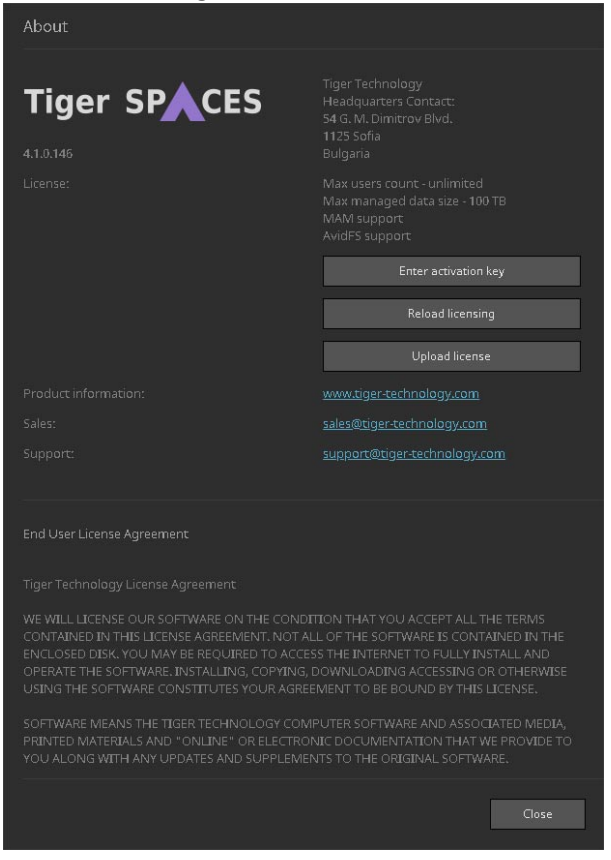
Note: *Your Tiger Spaces license can be pre-activated on a Tiger Store appliance.*

To be able to use the product, you need to activate it on the Tiger Spaces server. There's no need for activation of Tiger Spaces on client computers. For activation Tiger Spaces makes use of a software activation key or a software-protection dongle, if such is detected. You can activate Tiger Spaces during the initial setup of the product in the Configuration Wizard or later on, in the Tiger Spaces web interface.

Important: *Note that each time you configure a setting in the Configuration Wizard, you have to also configure the connection to the database server anew.*

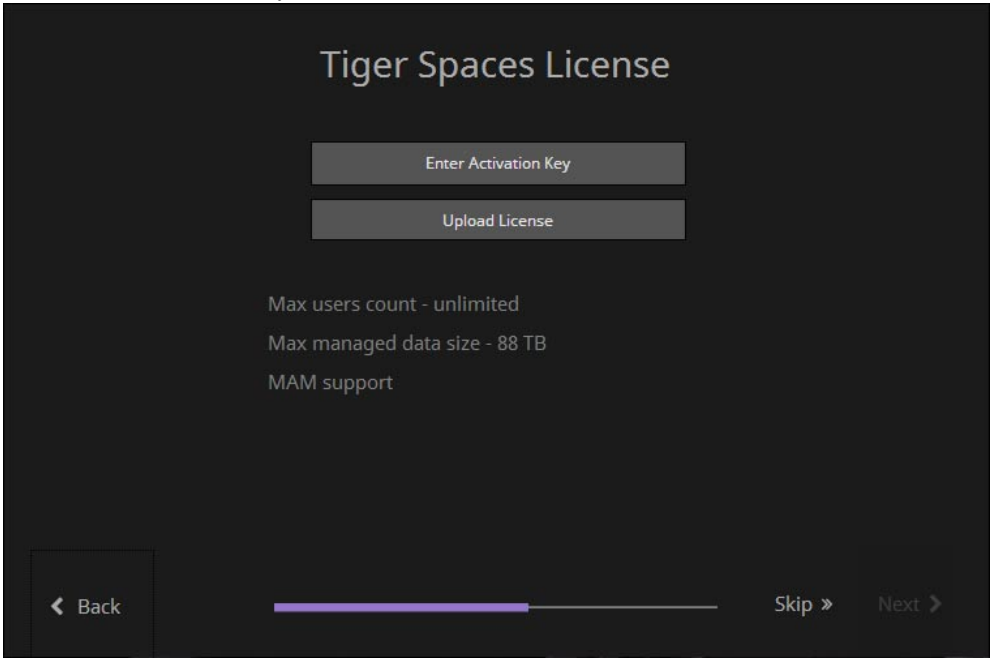
To view the activation status of Tiger Spaces in the web interface:

1. In the taskbar, click the About button .
2. In the About dialog, check the License field.

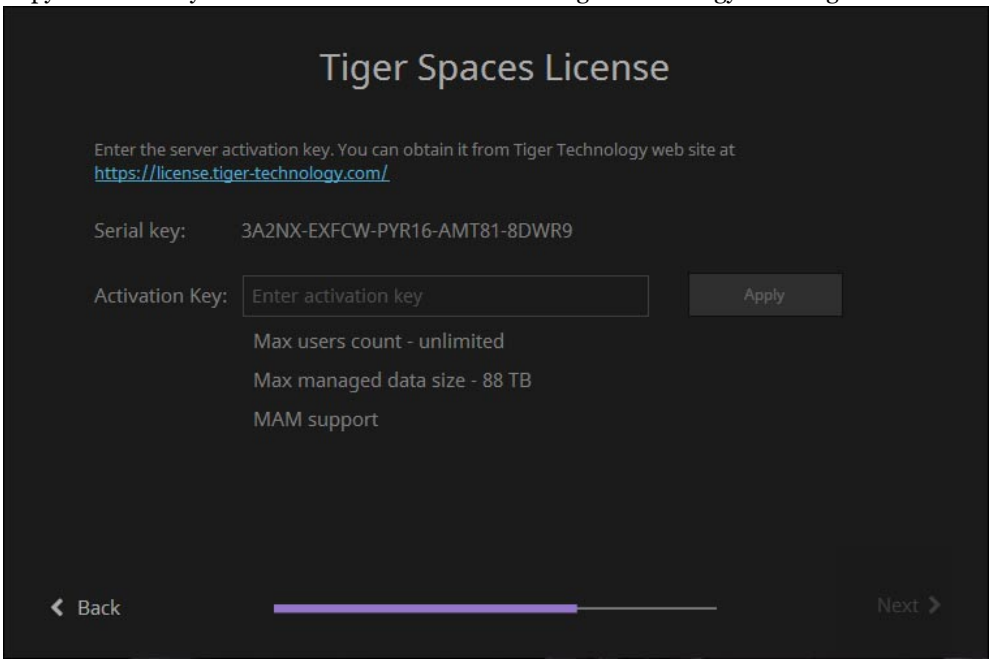


To activate a Tiger Spaces license using software activation key in the Configuration Wizard:

1. Start the Tiger Spaces Configuration Wizard and click Next.
2. If necessary, configure the connection to the database server, following the steps described in “Configure the Access to the Database Server” on page 16 and click Next.
3. Click Enter Activation Key,



4. Copy the serial key and then click the address of the Tiger Technology licensing server.



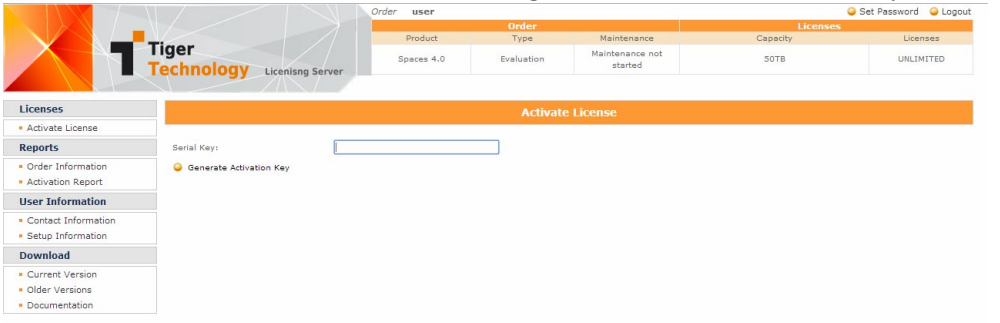
5. In the home page of the licensing server, enter your user name and password in the corresponding fields, and click Log in.

   Note: *If you're entering the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

   Important: *The user name and the password are case sensitive.*

6. In the Licensing Server menu, click Activate License.

7. Paste the serial number from the Activation dialog and click Generate Activation Key.



8. Copy the activation key generated for your license and paste it in the respective field of the Configuration Wizard, then click Next.

   Once you activate the product, the Configuration Wizard prompts you to configure Active Directory domain and the high-availability cluster (if a high availability license is activated). You can choose to skip these steps and configure them later on in the Tiger Spaces web interface.

9. Click Finish.

   Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps in the Configuration Wizard on the other server node as well.*

To activate a Tiger Spaces license using a software protection dongle in the Configuration Wizard:

1. In a web browser go to https://license.tiger-technology.com.
2. In the home page of the licensing server, enter your user name and password in the corresponding fields, and click Log in.

   Note: *If you're entering the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

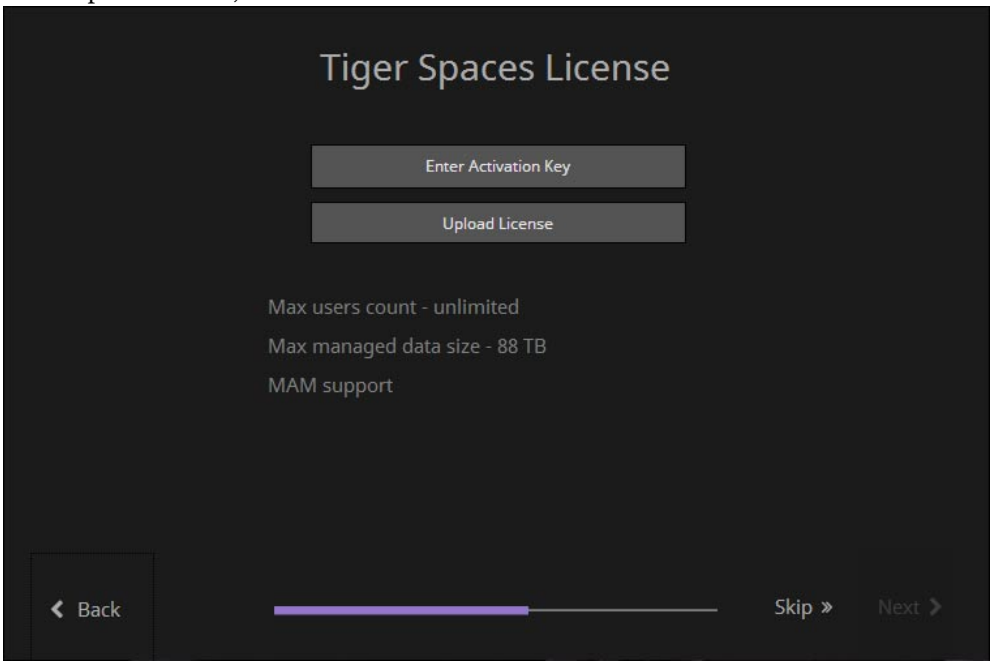
   Important: *The user name and the password are case sensitive.*

3. Next to the dongle name in the list, click "Download lic file".

   Tip: *The dongle name is its number, printed on the dongle itself.*

4. Start the Tiger Spaces Configuration Wizard and click Next.
5. If necessary, configure the connection to the database server, following the steps described in "Configure the Access to the Database Server" on page 16 and click Next.

6. Click Upload License,



7. In the dialog, which opens, browse for and double-click the license file downloaded from the Tiger Technology licensing server.

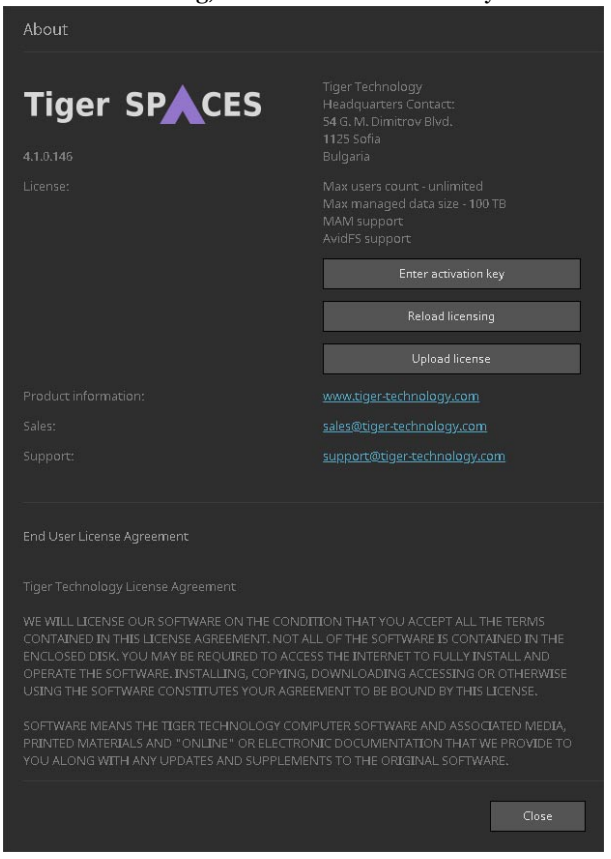
Once you activate the product, the Configuration Wizard prompts you to configure Active Directory domain and the high-availability cluster (if a high availability license is activated). You can choose to skip these steps and configure them later on in the Tiger Spaces web interface.

8. Click Finish.

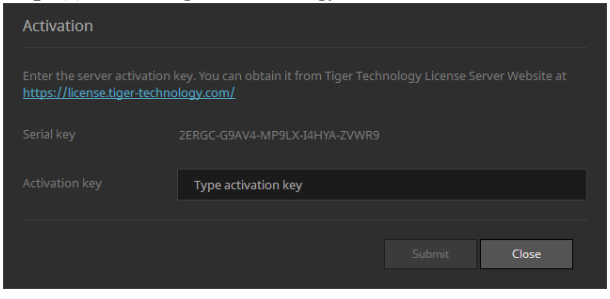
Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps in the Configuration Wizard on the other server node as well.*

To activate a Tiger Spaces license using a software activation key in the web interface:

1. In the taskbar, click the About button .
2. In the About dialog, click "Enter activation key".



3. In the Activation dialog, copy the serial number and in a web browser go to https://license.tiger-technology.com.



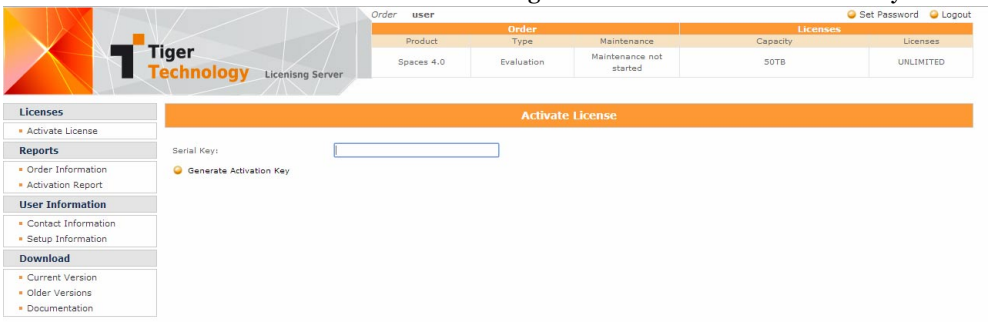
4. In the home page of the licensing server, enter your user name and password in the corresponding fields, and click Log in.

   Note: *If you're entering the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

   Important: *The user name and the password are case sensitive.*

5. In the Licensing Server menu, click Activate License.

6. Paste the serial number from the Activation dialog and click Generate Activation Key.



7. Copy the activation key generated for your license.

8. In the Activation dialog in the Tiger Spaces web interface, paste the activation key in the respective field and click Submit.

   Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps on the other server node as well.*

To activate a Tiger Spaces license using a software-protection dongle in the web interface:

1. In a web browser go to https://license.tiger-technology.com.

2. In the home page of the licensing server, enter your user name and password in the corresponding fields, and click Log in.

   Note: *If you're entering the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

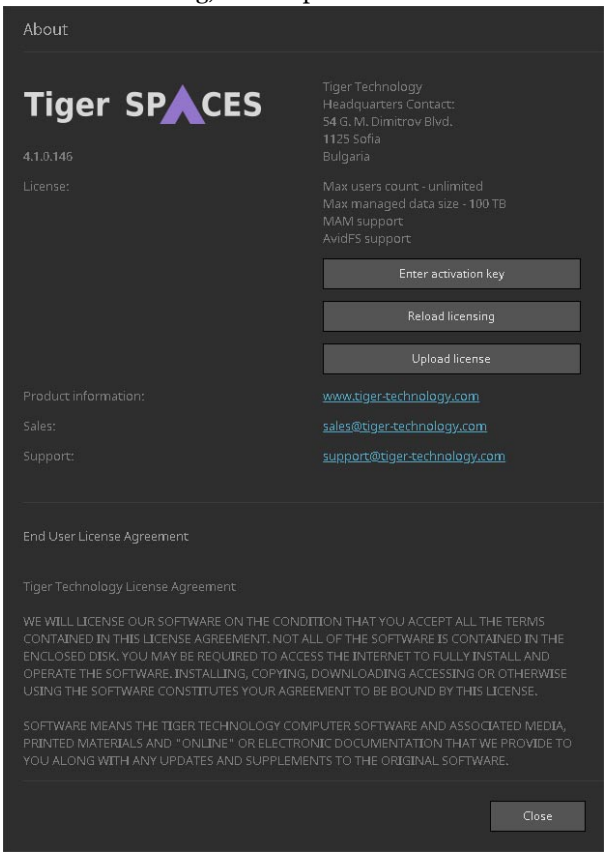
   Important: *The user name and the password are case sensitive.*

3. Next to the dongle name in the list, click "Download lic file".

   Tip: *The dongle name is its number, printed on the dongle itself.*

4. In the taskbar, click the About button .

5. In the About dialog, click "Upload license".



6. In the dialog, which opens, browse for and double-click the license file downloaded from the Tiger Technology licensing server.

   Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps on the other server node as well.*

Specify the Active Directory Domain

Note: *If the computer running Tiger Spaces is not in an Active Directory domain, you can use Tiger Spaces in workgroup environment only. For more details about configuring Tiger Spaces for workgroup environment, refer to "Configure Workgroup Environment" on page 36.*

When the computer running Tiger Spaces is in Active Directory domain, you must create two groups of users on your domain controller:

Tiger Spaces Admins — all users in this group will be able to access the administrative interface of Tiger Spaces and act as Tiger Spaces administrators;

Tiger Spaces Users — all users in this group will be able to work with Tiger Spaces (access the depot and work with workspaces) depending on the access permissions assigned to them;

If a domain user is a member of both "Tiger Spaces Admins" and "Tiger Spaces Users" groups, that user can work with workspaces and also can configure Tiger Spaces settings.

Note: *If you want to use the user accounts in a different group on the domain controller, contact Tiger Technology support for assistance.*

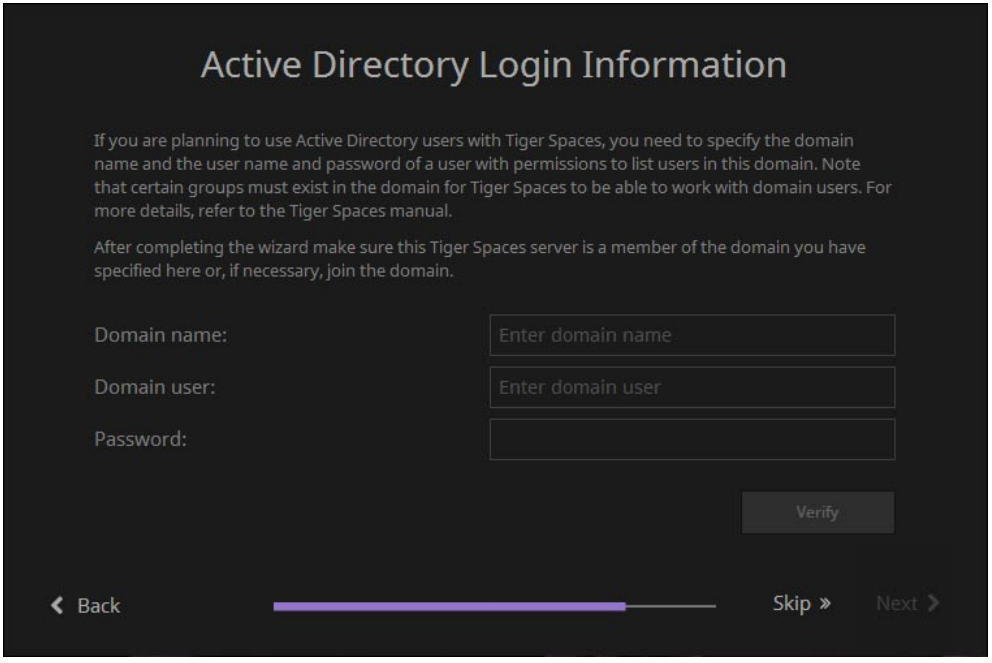
Although Tiger Spaces automatically detects if your Tiger Spaces server is part of an Active Directory domain, to be able to list the domain users in the "Tiger Spaces Users" and "Tiger Spaces Admins" groups on the domain controller, you must provide the credentials of a user that has permissions to list the users in the domain you are using. If security is not disabled in Tiger Spaces, in the web interface you can set the access permissions (owner, write, read, none) of domain users in the respective groups for each workspace. For more information, refer to “Set Workspace Permissions” on page 93.

Important: *Once you configure Tiger Spaces for work in domain environment, you will not be able to use the default administrator’s account "psadmin" and will be able to administrate the product only by logging in with an account in the "Tiger Spaces Admins" group on the domain controller.*

To provide domain credentials in the Configuration Wizard:

1. Start the Tiger Spaces Configuration Wizard and click Next.
2. Configure the connection to the database server, following the steps described in “Configure the Access to the Database Server” on page 16 and click Next.
3. If necessary activate Tiger Spaces, following the steps described in “Activate Tiger Spaces” on page 17 and click Next.

4. Enter the domain name and the user name and password of a user with permissions to list users in this domain, then click Next.



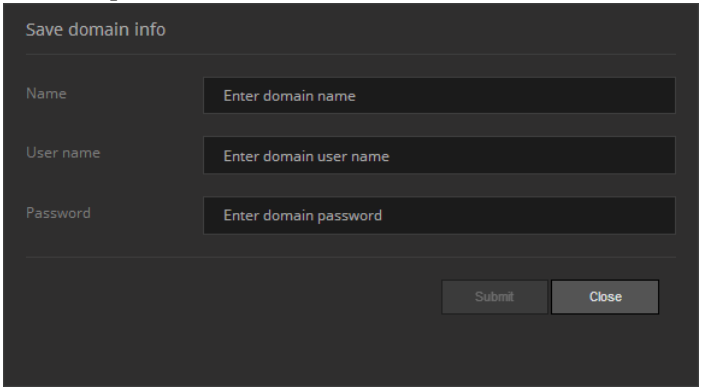
Once you specify the Active Directory login information, the Configuration Wizard prompts you to configure the high-availability cluster (if a high availability license is activated). You can choose to skip this step and configure it later on in the Tiger Spaces web interface.

5. Click Finish.

Important: *If you are deploying Tiger Spaces with high availability, repeat the same steps in the Configuration Wizard on the other server node as well.*

To provide domain credentials in the web interface:

1. In the home page of the Tiger Spaces interface, click the Domain Info button .
2. In the Save Domain Info dialog, enter the domain name and the user name and password of a user with permissions to list users in this domain, then click Submit.



Configure the High-Availability Cluster IP Address

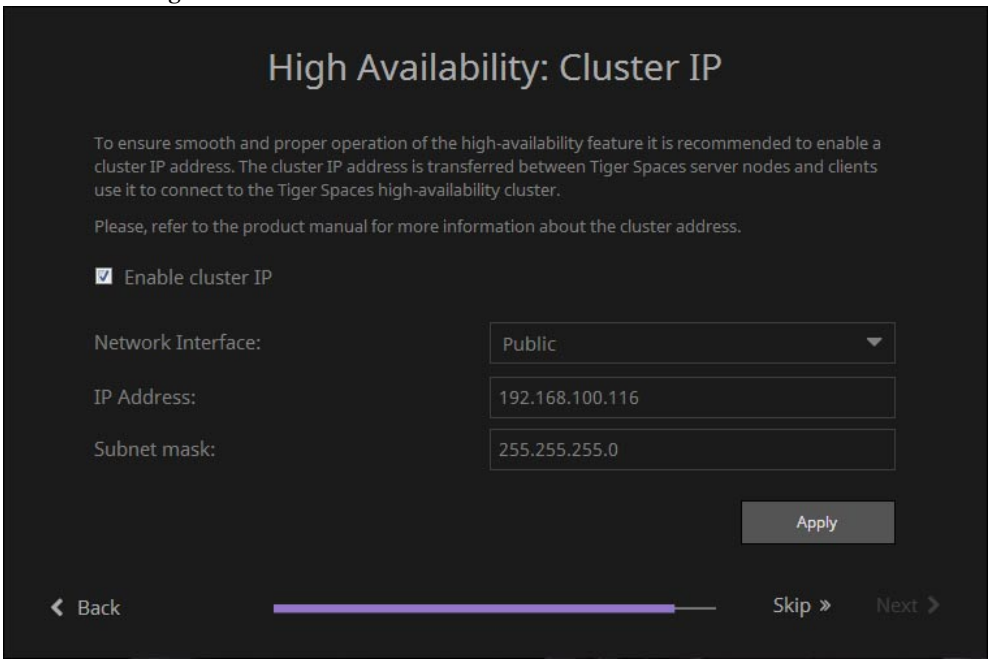
Note: *This option is not available, if you have not activated high availability.*

When you want to deploy Tiger Spaces with high availability, you need to install the product on two server nodes, both running Tiger Store also set up for high availability and configure the database server to be on an independent computer, accessible to both server nodes. Additionally, to allow clients to transparently reconnect to the new Tiger Spaces server in case of failover, you must enable cluster IP address to be used by the two server nodes. The cluster IP address must be on the same network as client computers and you can select the network interface of the server nodes, to which to assign it (the default network port, an additional 1 GbE port or any other 1/10 GbE port available on both server nodes). If you disable the cluster IP address, client computers will be able to connect only to the currently active server node and in case it is shut down, they will lose access to the workspaces depot.

To configure the cluster IP address in the Configuration Wizard:

1. Start the Tiger Spaces Configuration Wizard and click Next.
2. Configure the connection to the database server, following the steps described in “Configure the Access to the Database Server” on page 16 and click Next.
3. If necessary activate Tiger Spaces, following the steps described in “Activate Tiger Spaces” on page 17 and click Next.
4. If necessary configure Active Directory login information, following the steps described in “Specify the Active Directory Domain” on page 25 and click Next.

5. Do the following:



- Select the "Enable cluster IP" check box.

Tip: *To disable the cluster IP address, simply clear the check box and click Apply.*

- In the Network Interface drop-down box, select the network interface to which to assign the cluster IP address.
- Enter the IP address and subnet mask in the respective fields and click Apply.

6. Click Next and then Finish.

Important: *Repeat the same steps in the Configuration Wizard on the other server node as well.*

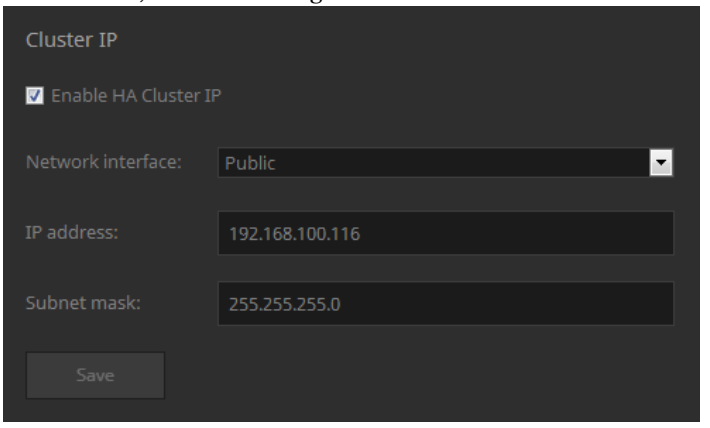
To configure the cluster IP address in the web interface:

1. Log on to the Tiger Spaces web interface as an administrator.

2. In the taskbar, click Settings .

3. In the left pane, click HA Nodes .

4. In Cluster IP, do the following:



- Select the "Enable cluster IP" check box.

Tip: *To disable the cluster IP address, simply clear the check box and click Save.*

- In the Network Interface drop-down box, select the network interface to which to assign the cluster IP address.
- Enter the IP address and subnet mask in the respective fields and click Save.

2 Configure Tiger Spaces

Once you have installed Tiger Spaces and performed the initial setup, you are ready to configure it for work. Tiger Spaces settings can be configured only by a user with an administrative account.

Configure the Workspaces Depot

The workspaces depot can consist of Tiger Store-managed volumes and/or network shares. While Tiger Spaces automatically detects all Tiger Store-managed volumes and lets you enable Tiger Spaces support on them, before you can enable support for Tiger Spaces on a network share, you must first create a list of NAS appliances, whose network shares to use.

Create a List of NAS Appliances

You can add and remove NAS appliances from the list at any time. Even if you add a NAS appliance to the list, but do not enable Tiger Spaces support on the share(s) it exports, its share(s) will not be part of the depot. Similarly, if you remove a NAS appliance from the list, even though Tiger Spaces support might have been enabled on its share(s), the share(s) will automatically be removed from the depot.

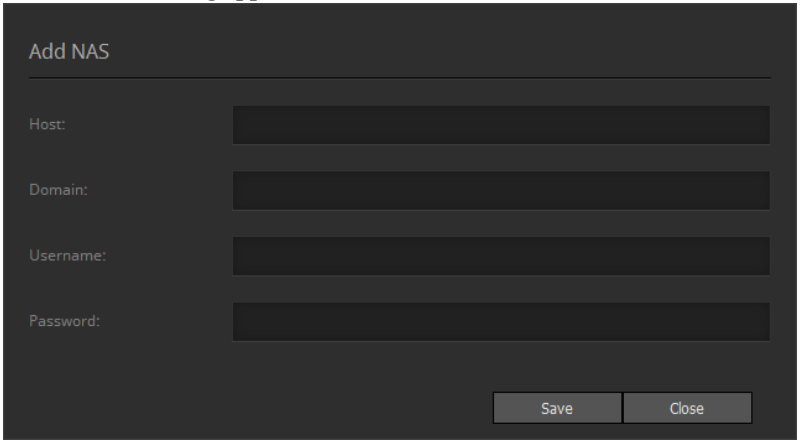
You cannot edit a NAS appliance's details such as credentials for access to its share(s) once you have added it to the list. In this case you will have to remove it from the list and then add it anew with the new details.

To add a NAS appliance to the Tiger Spaces list:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button  .
2. In the left pane of the Settings page, click Storage.

3. In the taskbar, click the Connect Storage button .

   The Add NAS dialog appears.



4. Enter the details of the NAS appliance whose shares you want to add, including the credentials of the dedicated account used for access to the shares.

5. Click Save.

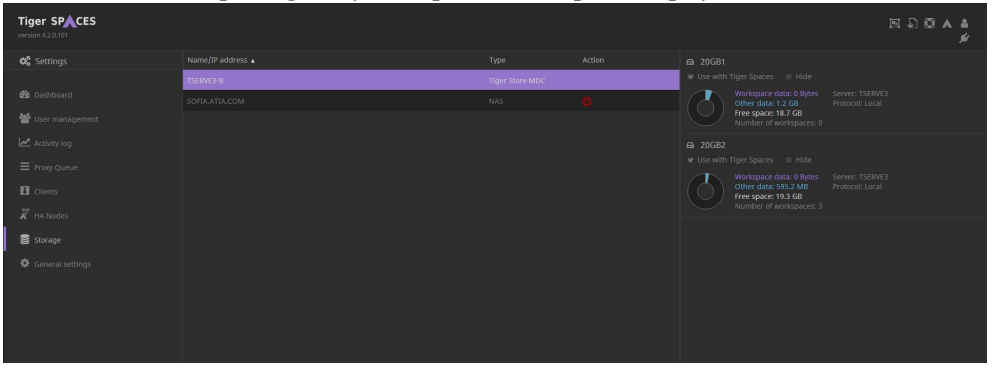
   The NAS appliance is added to the list and you can enable support on each of its shares, following the steps in “Enable/Disable Support for Tiger Spaces” on page 34.

To remove a NAS appliance from the Tiger Spaces list:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .

2. In the left pane of the Settings page, click Storage.

   The list of servers exporting file systems part of the depot is displayed.



3. Next to the IP address of a NAS appliance in the list, click the Delete button .

Tip: *Click the NAS appliance to display detailed information about the shares it exports in the right pane.*

4. When prompted, confirm that you want to remove the selected NAS appliance from the list.

Enable/Disable Support for Tiger Spaces

For Tiger Spaces to create the depot on a volume/network share and allow users to create workspaces and mount them for viewing or editing, you should first enable Tiger Spaces support on one or more volumes/network shares.

You can enable/disable support for Tiger Spaces at any time. When you disable support for Tiger Spaces the contents of each volume/network share's depot automatically becomes visible to any connected computer in the "tws" folder in the root of each volume/network share and access to workspaces in this folder depends only on the security applied to the volume/network share itself.

Important: *If a folder named "tws" already exist in the root of the volume/network share, you cannot disable Tiger Spaces support until you rename that folder.*

When you enable Tiger Spaces support on a Tiger Store-managed volume, you can also specify whether to hide this volume on Tiger Client computers, thus ensuring that the volume is used solely for storing Tiger Spaces workspaces.

Tiger Spaces and Smart Storage Pooling

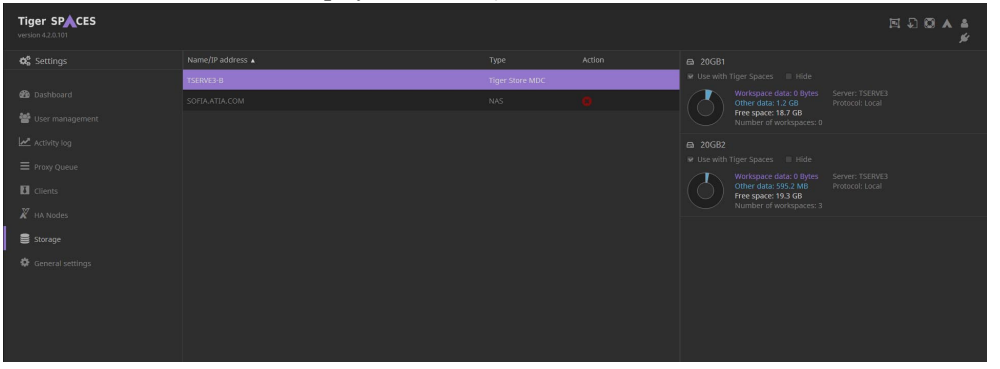
When smart storage pooling is enabled on your Tiger Store storage server, you can enable Tiger Spaces support on the volume pool instead of the individual SAN volumes. In this case a separate depot is created on each of the volumes in the pool. When creating a new workspace, you can choose on which volume in the pool to store it. When you want to import an ambiguous folder (a folder with the same name existing in the same location on two or more volumes in the pool), it contains the merged contents of all ambiguous folders with the same name, but has the attributes of the ambiguous folder that is on the volume first detected by the Tiger Store service at the time you perform the import operation. The same rule applies for ambiguous files in ambiguous folders that are being imported - Tiger Spaces will import just the file in the ambiguous folder first detected by the Tiger Store service.

If you enable Tiger Spaces support on a volume pool, which is later disbanded on the Tiger Store storage server, Tiger Spaces automatically enables support on each of the volumes that had participated in the pool. Vice versa, when Tiger Spaces support is enabled on multiple volumes, which are later added to a smart storage pool on the Tiger Store storage server, Tiger Spaces automatically enables the support on all volumes in the volume pool, even if it has not been enabled on some of them before. In this case ambiguity can occur, as it is possible folders with identical names to exist in the depot of two or more volumes that now are part of a pool. To avoid problems with ambiguous workspaces, it is advisable to check the list of all workspaces on all volumes and rename one or the other ambiguous workspace before enabling smart storage pooling.

When a volume, on which Tiger Spaces support had been once enabled, but was then disabled (all workspaces became visible in the "tws" folder on the root of the volume) is added to a smart storage pool that contains a volume with enabled Tiger Spaces support, support for Tiger Spaces is automatically enabled on all volumes in the pool and the workspaces from the "tws" folder on the root of that volume are accessible from the depot.

To enable/disable Tiger Spaces support on a volume/share:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click Storage.
3. Select a server in the list to display all volumes/shares for the selected server with their details.



4. Do one of the following:

   • To enable Tiger Spaces support on a volume/share, select the "Use with Tiger Spaces" check box.

   • To disable Tiger Spaces support on a volume/share, clear the "Use with Tiger Spaces" check box.

5. When prompted, confirm that you want to enable/disable Tiger Spaces support on the selected volume/share.
6. (optional, for Tiger Store-managed volumes only) Do one of the following:

   • To hide a volume from Tiger Clients, select the "Hide" check box and then confirm, when prompted.

   • To leave the volume visible to Tiger Clients, clear the "Hide" check box and then confirm, when prompted.

Enable/Disable Security

Whether or not Tiger Spaces is deployed in domain environment or workspace environment, you can configure the access to the workspaces depot without any security restrictions for users. This means that as long as a volume/network share is accessible to any given computer, users can create workspaces on it and there are no restrictions regarding who can view and mount for editing a workspace as long as its status is "Available".

You can switch your Tiger Spaces setup to a deployment with no security at any time. See “Enable and Disable Permissions” on page 50.

Configure Workgroup Environment

Note: *If Tiger Spaces is part of an Active Directory domain, you cannot configure it for work in workgroup environment. For details on configuring Tiger Spaces for work in domain environment, refer to “Specify the Active Directory Domain” on page 25.*

When the computer running the server installation of Tiger Spaces is not in an Active Directory domain, to provide users on client computers with access to the workspaces depot, you should configure Tiger Spaces to operate in workgroup environment, in which accesses depend on the permissions assigned to internally created Tiger Spaces user accounts. Tiger Spaces user accounts are stored in a database common for all client computers. Only users that log on with a valid Tiger Spaces user account can access the depot and create and work with workspaces. Additionally, if security is not disabled in Tiger Spaces, in the web interface you can set the access permissions (owner, edit, view) of each workspace. For more information, refer to “Set Workspace Permissions” on page 93.

For more information about creating the Tiger Spaces users database, refer to “Manage Tiger Spaces User Accounts and Groups” on page 36.

Manage Tiger Spaces User Accounts and Groups

When Tiger Spaces is deployed in an Active Directory domain, the user accounts management is performed the way you would manage domain users – members of the "Tiger Spaces Users" group can create and work with workspaces, while members of the "Tiger Spaces Admins" group on the domain controller can also manage Tiger Spaces settings. The only difference is that you specify the access permissions of domain users to workspaces through the Tiger Spaces interface (see “Set Workspace Permissions” on page 93).

When you deploy Tiger Spaces in workgroup environment, to let users create and work with workspaces and also to benefit from workspace permissions, you need to create and manage an internal database with user accounts. Each user account is defined by a user name, password and account type - User (the user can work with workspaces) or Administrator (the user can work with workspaces and manage Tiger Spaces settings).

To facilitate you in assigning workspace permissions, Tiger Spaces also allows you to unite users into groups and instead of specifying the permissions of each user for a given workspace, assign permissions to the whole group. You can also specify that a given group is a sub-group of another group. The users in a sub-group automatically inherit the permissions set for the group, unless different permissions are explicitly assigned to the sub-group.

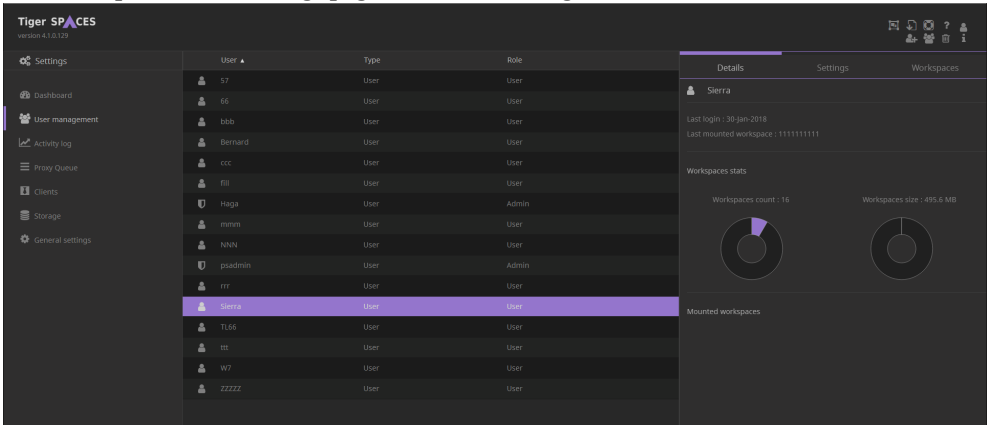
You cannot modify user accounts and groups after you create them. You can change the following parameters of a user account - password, type (User or Administrator) and groups the account is member of. You can change the following parameters of a user group - type (Users or Administrators), members (add or delete users), groups it is a sub-group of.

Note: *You cannot rename Tiger Spaces users or groups. To change the name of a user or group, you have to delete it and then create it anew with the new name.*

In case a user account is member of both a group of Administrators and a group of Users, the user gains administrative rights and can manage Tiger Spaces settings. Should you decide to change the type of an account from Administrator to User, Tiger Spaces automatically removes the user account from all groups of Administrators that it has been part of.

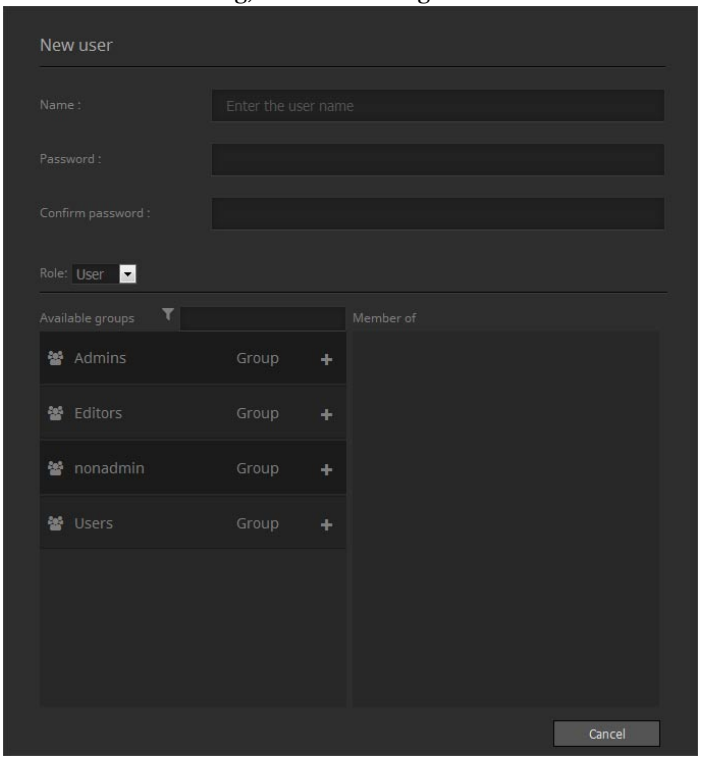
To create a Tiger Spaces user:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.



3. In the taskbar, click the Create User button .

4. In the New User dialog, do the following:



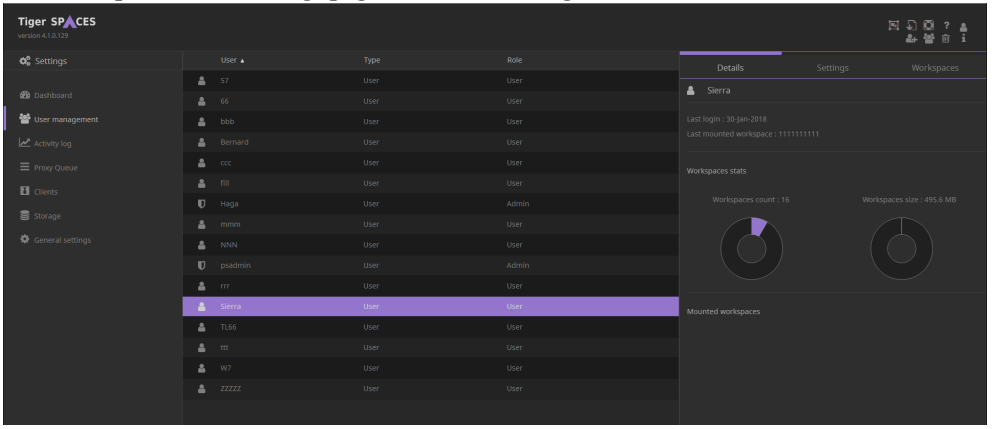
- Enter the user name and password in the corresponding fields.
- In the Role drop-down box, select User or Administrator.
- In Available Groups, click the + button of a group to add it to the list of groups the new user is member of.

Tip: *To remove a group from the list of groups the new user is member of, click the - button in the group badge.*

5. Click Save.

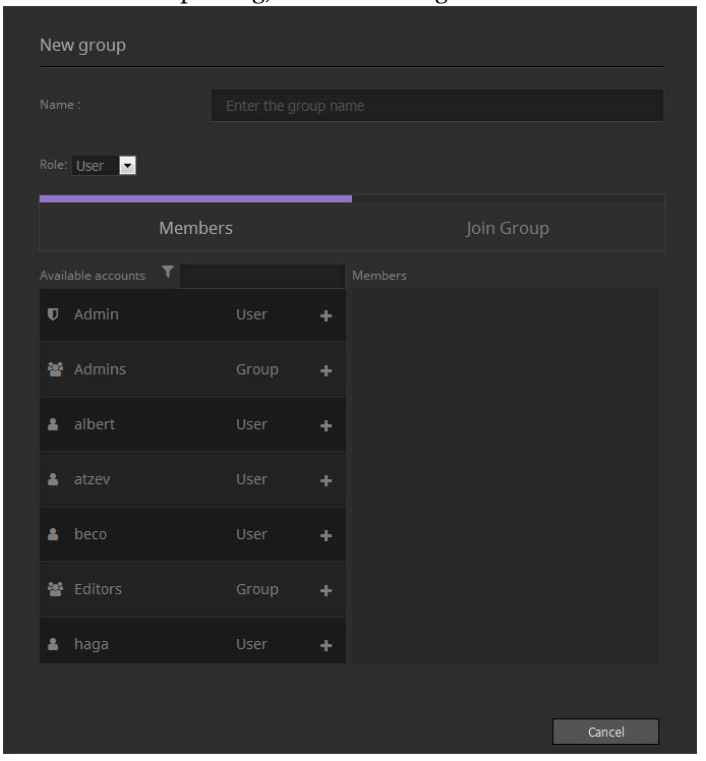
To create a Tiger Spaces user group:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.



3. In the taskbar, click the Create Group button .

4. In the New Group dialog, do the following:



- Enter the group name in the corresponding field.
- In the Role drop-down box, select User or Administrator.
- In the list of existing user account, click the + button of a user to add it as a member of the new group.

Tip: *To remove a user from the group, click the - button in the user badge.*

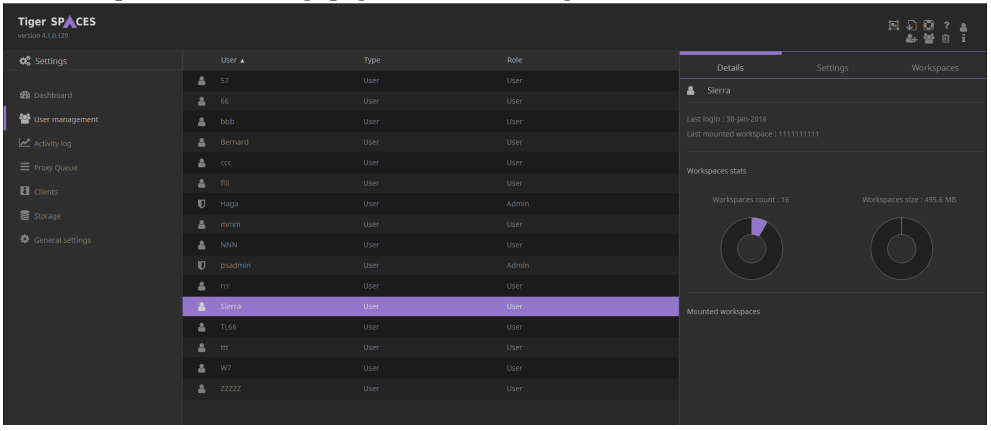
- Click Join Group and then click the + button of an existing group to add the new group as a sub-group of the selected group.

Tip: *To remove the new group from the list of sub-groups, click the - button in the group badge.*

5. Click Save.

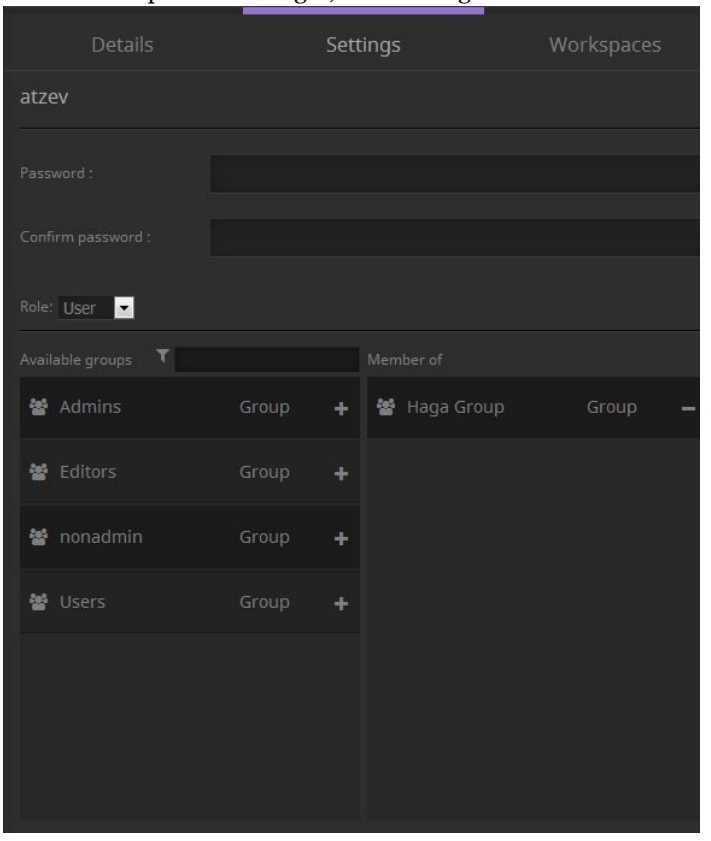
To modify a Tiger Spaces user account:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.



3. In the list of users and groups, click the account you want to modify.

4. In the details pane on the right, click Settings.



- To change the password of the user, enter the new password in the corresponding fields.
- To change the type of the user, select User or Administrator in the Role drop-down box.

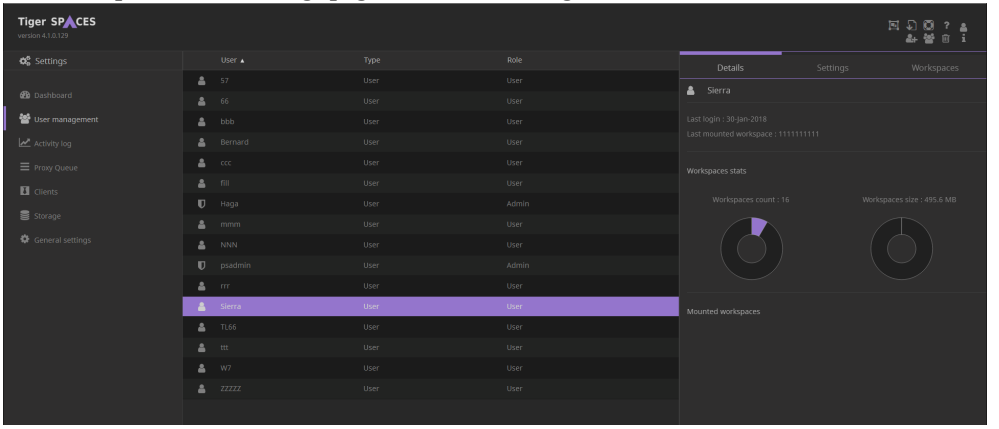
Important: *If you change the type to User, but that account is member of Administrators group(s), Tiger Spaces automatically will remove the account from all groups of Administrators.*

- To add the user to a group, click the + button next to a group name in the list of groups.
- To remove the user from a group, click the - button next to the group name in the "Member of" list.

5. Click Save.

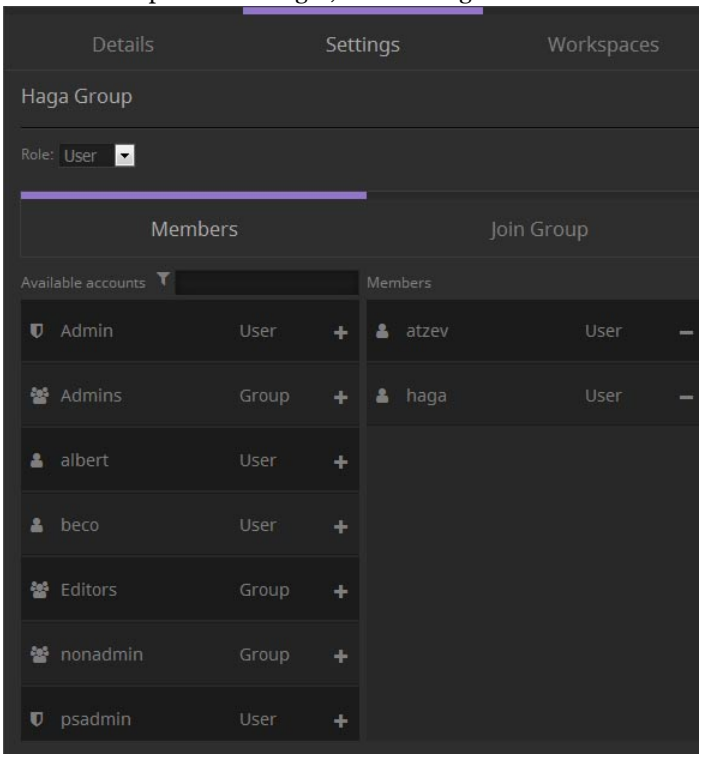
To modify a Tiger Spaces user group:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.



3. In the list of users and groups, click the group you want to modify.

4. In the details pane on the right, click Settings.



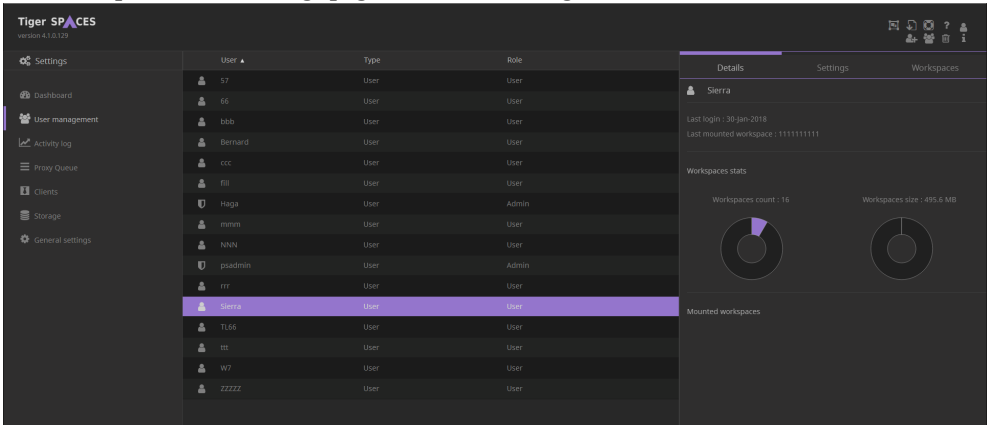
- To change the type of the group, select User or Administrator in the Role drop-down box.
- To add a user to the group, in "Available accounts" click the + button next to a user.
- To remove a user from the members of the group, in "Members" click the - button next a user.
- Click Join Group and then using the +/- buttons add and remove the groups of which the currently modified group is a sub-group.

Important: *Be careful not to create circular dependency by setting the group as a sub-group of a group that is already a sub-group of the currently modified group.*

5. Click Save.

To delete a Tiger Spaces user:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.

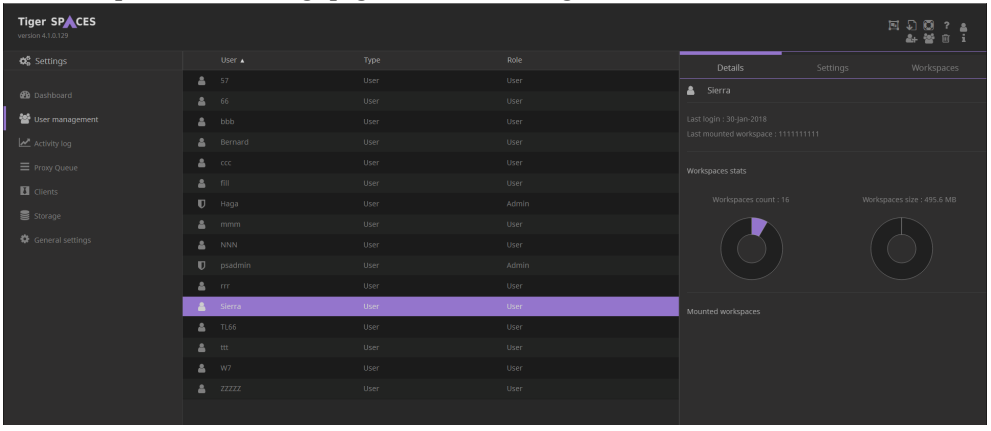


3. In the list of users and groups, click the account you want to remove and click the Delete button .
4. Confirm that you want to delete the user, when prompted.

   The deleted user no longer has access to the depot and to workspaces even if that user is the owner of these workspaces. It is advisable to assign another user as owner of the deleted user's workspaces.

To delete a Tiger Spaces user group:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click User management.



3. In the list of users and groups, click the group you want to remove and click the Delete button .
4. Confirm that you want to delete the group, when prompted.

   The members of the deleted group no longer have access to workspaces, for which permissions have been specified for the deleted group and not for each individual user.

Manage Workspace Settings

Enable/Disable Workspace Quotas

Important: *Workspace quotas are not supported on network shares or when Tiger Spaces support is enabled on a volume pool. To benefit from workspace quotas, Tiger Spaces must be installed on a Tiger appliance or a computer running server OS.*

The workspace quotas setting allows you to specify the maximum size of a workspace on the underlying file system in the depot. The quota you specify does not reserve space on the file system, but serves just as a limit to the size of the workspace. Thus, whenever a user attempts to write new files to a workspace, which has reached its quota, Tiger Spaces displays a message that there is not enough free space, although the underlying volume may have more free space. You can specify a quota that is bigger than both the free space on the volume and its overall size, which will indicate that there's no limit for the size of the specific workspace. Similarly, a workspace without quota setting can take as much space on the volume as possible. Tiger Spaces doesn't calculate the sum

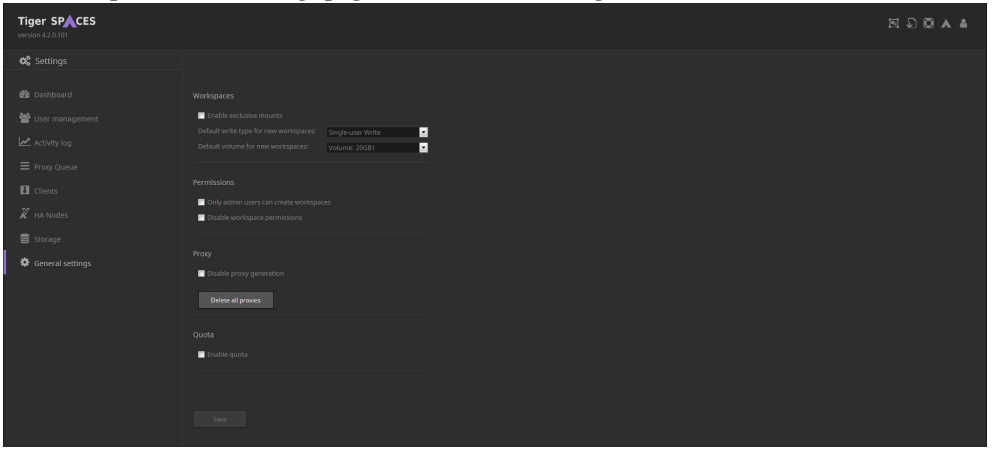
of all quotas you specify - should the underlying volume run out of free space, even if a workspace hasn't reached its quota limit, users will not be able to write new data to it.

Once workspace quotas are enabled, only Tiger Spaces administrators can create new workspaces on SAN volumes, import folders from SAN volumes and move existing workspaces between SAN volumes. Tiger Spaces users can create workspaces and import folders only on the available network shares in the depot, and cannot move a workspace from a network share to a SAN volume.

You can enable and disable workspace quotas at any time. When workspace quotas are enabled after there are workspaces already created or imported in the depot, it is advisable to set a quota for each of them. Once you disable quotas the quota setting is lost and you will have to manually assign a quota to each workspace, should you decide to enable them again.

To enable/disable workspace quotas:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. In the General Settings page, do one of the following:
   - To enable workspace quotas, select the "Enable quota" check box.

   Important: *You cannot enable workspace quotas if Tiger Spaces support is enabled on a volume pool.*

   - To disable workspace quotas, clear the "Enable quota" check box.
4. Click Save.

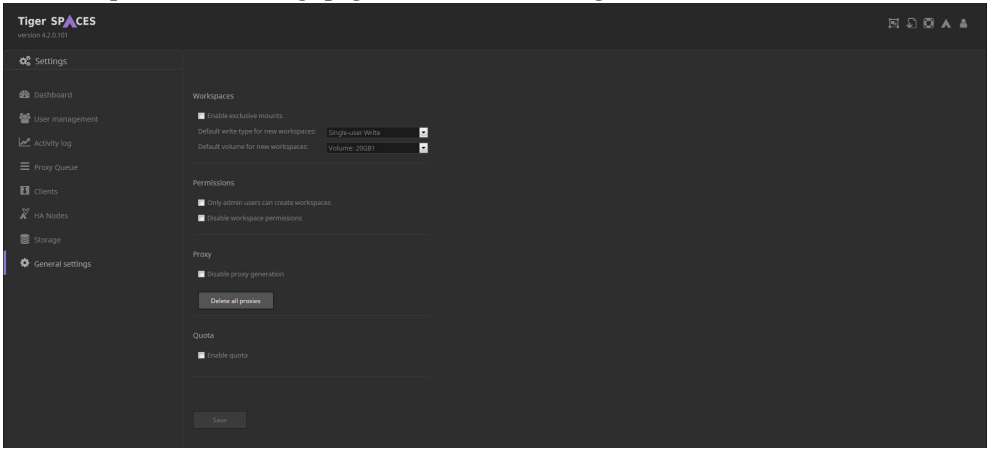
   Tiger Spaces administrators can assign quota of newly created or already existing workspaces on volumes, managed by Tiger Store.

Restrict Users from Creating Workspaces

By default, both users and administrators can create new workspaces in the Tiger Spaces depot. When workspace quotas are enabled, only administrators can create new workspaces on SAN volumes, while users can create workspaces only on network shares. To restrict users from creating new workspaces on both SAN volumes and network shares even if workspace quotas are disabled, you can set Tiger Spaces to allow only administrators to create workspaces.

To specify who can create new workspaces:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. In the General Settings page, do one of the following:

   • To restrict users from creating new workspaces, select the "Only admin users can create workspaces" check box.

   • To allow users to create new workspaces, clear the "Only admin users can create workspaces" check box.

   Note: *When workspace quotas are enabled, users will not be able to create new workspaces on SAN volumes, even if this check box is cleared.*

4. Click Save.

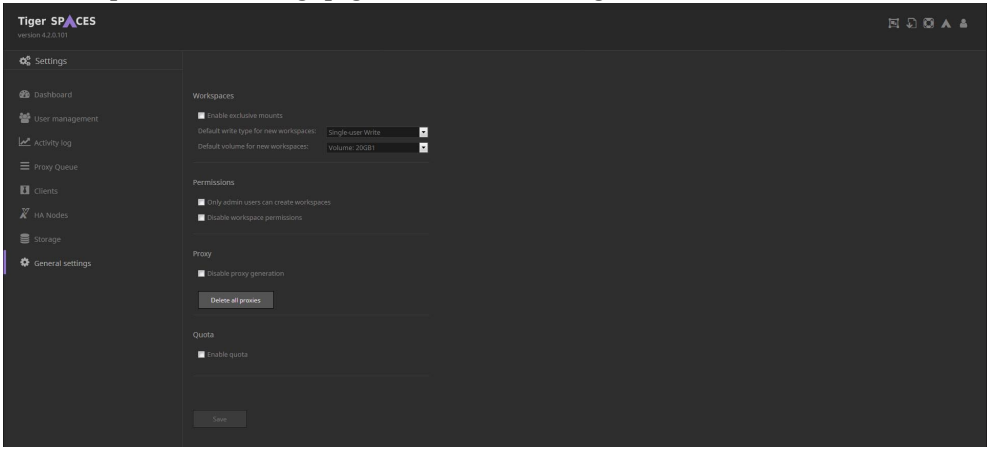
Control Exclusive Mounts of Workspaces

Tiger Spaces provides users with the option to mount a workspace for editing with Exclusive permissions i.e. not letting any other computer mount it for editing or viewing until the workspace

is again with Available status, regardless of the type of the workspace. As a Tiger Spaces administrator you can control whether this option should be available to users or not.

To enable/disable Exclusive mount of workspaces:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



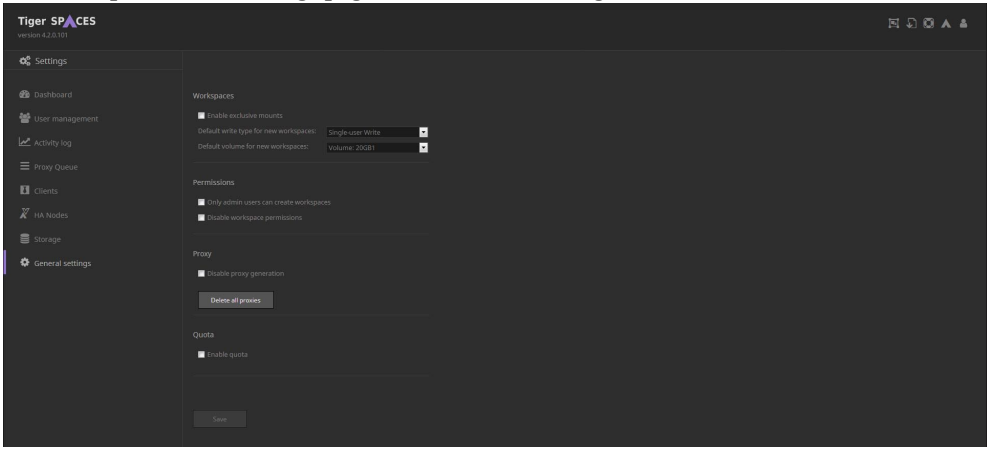
3. In the General Settings page, do one of the following:
   - To enable Exclusive mount of workspaces, select the "Enable exclusive mounts" check box.
   - To disable Exclusive mount of workspaces, clear the "Enable exclusive mounts" check box.
4. Click Save.

Specify New Workspace Defaults

By default, when you create a new workspace, unless you specify the type of the new workspace it is set to Single-user Write and is created on the first volume (a Tiger Store-managed volume or a network share) detected by Tiger Spaces. As a Tiger Spaces administrator you can change these default parameters.

To specify new workspace defaults:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. In the "Default write type for new workspaces" drop-down box, select the desired type.
4. In the "Default volume for new workspaces" drop-down box, select the volume/network share from the list.
5. Click Save.

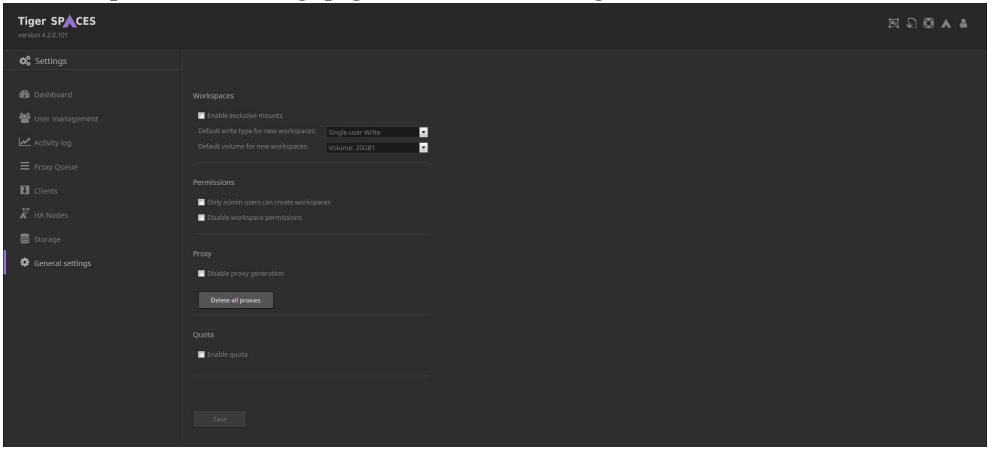
Enable and Disable Permissions

Regardless of the environment in which you deploy Tiger Spaces, you can select whether to use permissions (owner, edit, view) for access to the workspaces or not. If permissions are disabled, the access to workspaces depends only on the current status of the workspace – Available (you can mount the workspace for editing or viewing) or In Use (you can mount the workspace for viewing only).

When permissions are enabled in domain environment, you must specify the access permissions for each workspace of domain user accounts. When permissions are enabled in workgroup environment, you must specify the access permissions for each workspace of internal Tiger Spaces user accounts.

To enable/disable permissions:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. In the General Settings page, do one of the following:
   - To disable permissions, select the "Disable workspace permissions" check box.
   - To enable permissions, clear the "Disable workspace permissions" check box.
4. Click Save.

Manage Proxies

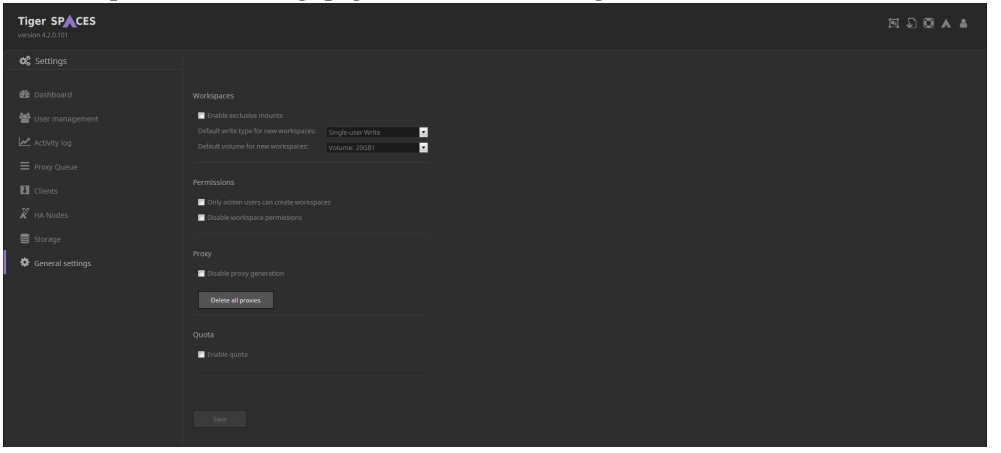
Managing the proxies means to enable or disable the generation of proxy media. By default, Tiger Spaces generates proxy media for all media files in the workspaces in order to facilitate previewing workspaces' contents without having to mount them. Proxies are generated by the pre-installed parsers for most media files.

When proxies generation is enabled, Tiger Spaces scans for media without proxies in a workspace each time that workspace is unmounted from the last computer that has mounted it for editing. You can force the generation of proxies for a workspace with no proxy media generated so far, by rescanning it (see “Rescan a Workspace” on page 99).

Tiger Spaces also allows you to manually manage proxies by monitoring the progress of the queue and of individual proxy files, by pausing and starting the processing of the proxies queue. You can also delete all generated proxies or just the proxies associated with a specific workspace.

To enable/disable proxies generation:

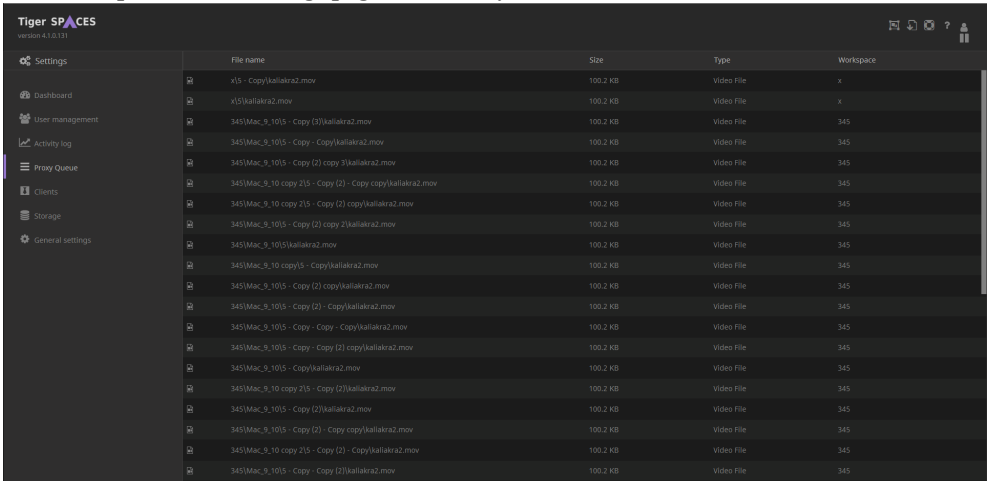
1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. In the General Settings page, do one of the following:
   - To enable proxies generation, clear the "Disable proxy generation" check box.
   - To disable proxies generation, select the "Disable proxy generation" check box.
4. Click Save.

To pause/resume the proxies queue:

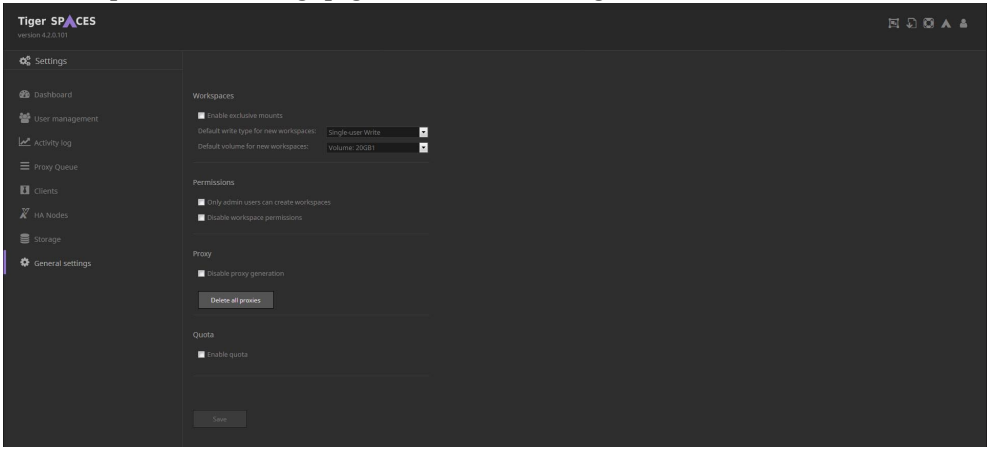
1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click Proxy Queue.



3. In the Proxy Queue page, do one of the following:
   - To pause the proxies generation, in the taskbar click the Pause button .
   - To resume the proxies generation, in the taskbar click the Resume button .

To delete all proxies in the depot:

1. Log on to the web interface with an administrative account and then in the taskbar click the Settings button .
2. In the left pane of the Settings page, click General Settings.



3. Under Proxy, click Delete All Proxies.
4. Confirm that you want to delete all proxies.

To clear the proxies of a workspace:

1. Log on to the web interface with an administrative account.
2. Select a workspace in the list and in the workspace menu in the taskbar click the Clear proxies button .
3. Confirm that you want to delete the proxies of this workspace.

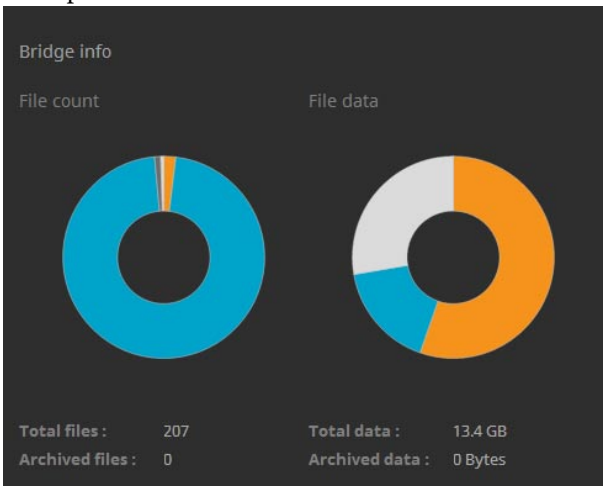
Manage Workspaces Data Lifecycle with Tiger Bridge

When workspaces data is subject to Tiger Bridge's data lifecycle management mechanisms, you can use the Tiger Spaces's web interface to monitor the status of data and also to manually manage data by replicating, archiving, retrieving data and by reclaiming space in a workspace.

Note: *Tiger Bridge data lifecycle management is available only for workspaces stored on Tiger Store-managed volumes.*

To view the Tiger Bridge status of a workspace, in the list of workspaces simply check the Replicated and Nearline columns, displaying what percentage of data in the workspace is replicated and what percentage of data is replaced by stub files.

The Inspector pane of a workspace also shows you Tiger Bridge statistics about data in the workspace.



Two pie charts display the distribution of data within the workspace depending on its Tiger Bridge status respectively by number of files and by data size. The color with which data is displayed in the pie charts designates the following:

- data that has not yet been replicated by Tiger Bridge

- replicated data, existing both in the workspace and on the target.

- nearline data i.e. actual data in the workspace is replaced with stub files pointing to data on the target in order to reclaim space

- data ignored by Tiger Bridge

- unknown data

- data for which Tiger Bridge's lifecycle management operation has failed.

Below the pie charts you can view information about the total number of files subject to Tiger Bridge lifecycle management and about their size.

To manually perform Tiger Bridge operations on all data in a workspace:

1. Log on to the Tiger Spaces web interface as an administrator.

2. Select a workspace in the list and in the workspace menu ⋮ do one of the following:

- Click the Replicate button , to manually replicate all data in the workspace.
- Click the Reclaim space button , to manually replace all replicated data in the workspace with stub files.
- Click the Retrieve data button , to manually restore all stub files in the workspace from the target.
- Click the Move to archive button , to manually move all replicated data in the workspace to the archival tier of the target.

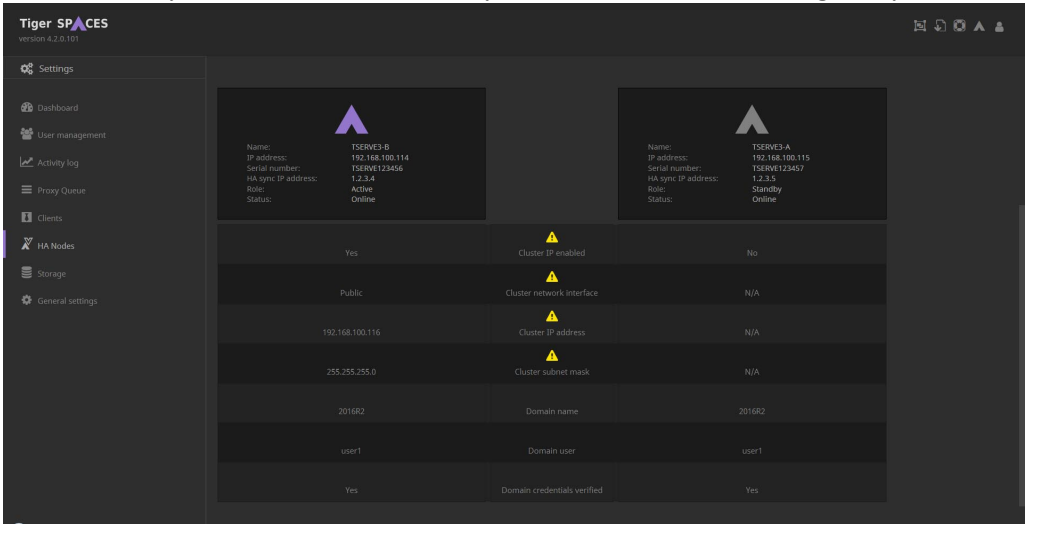
Monitor Tiger Spaces

As an administrator of Tiger Spaces you can view Tiger Spaces-related statistics and a detailed activity log. You can also download the list of all workspaces in the depot as a comma separated values (.csv) file.

Monitor High-Availability Cluster Synchronization

To be able to provide constant access to the workspaces depot, the two server nodes of your Tiger Spaces server must be online and have identical settings.

The HA Nodes page in the web interface shows you if both nodes are currently online, which of them is currently active and which is in standby mode and whether their settings are synchronized.



In case of conflicting settings ( ), you will have to start the Configuration Wizard on one or the other node and change the specific parameter in order to resolve the conflict. For details about accessing the Configuration Wizard, refer to “Initial Setup of Tiger Spaces” on page 14.

View Tiger Spaces Statistics

The dashboard of Tiger Spaces displays the following statistics:

Storage statistics — the total size, the free space and the space taken up by workspaces for the whole workspaces depot and each file system in it individually.

Workspaces statistics — total number of workspaces in the depot, average size of a workspace, number of workspaces currently in use, number of workspaces created within a given time period.

User statistics — the number of users and groups, number of newly created users/groups within a given time period, number of sessions (connections to Tiger Spaces) of each user/group.

Note: *For detailed statistics about each separate user, refer to “View Per User Statistics” on page 57.*

To view statistics in the Tiger Spaces dashboard:

1. Log on to the web interface with an administrative account.
2. In the taskbar, click Settings .
3. In the left pane, click Dashboard.

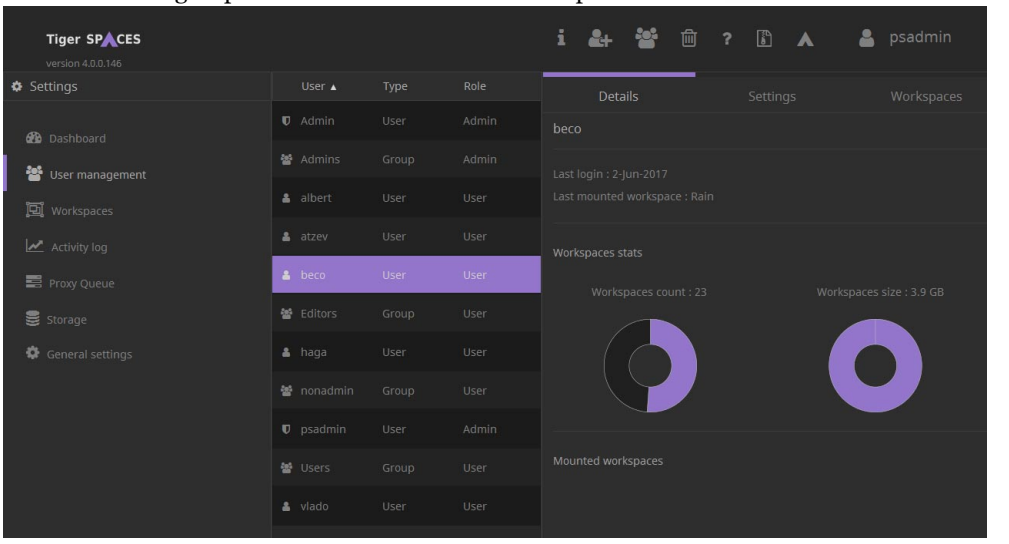
View Per User Statistics

Using the Tiger Spaces Inspector, you can view the following detailed information about each individual user:

- last time the user has logged in to Tiger Spaces.
- the last workspace mounted by the user.
- number of workspaces this user is owner of and their size.
- a list of workspaces currently mounted by the user.
- user role and groups that user is member of.
- list of workspaces the user owns and list of workspaces shared with the user.

To view per user statistics:

1. In the left pane of the Settings page, click User management.
2. Select a user or group in the list and then click the Inspector button .



View Connected Client Computers

The administrative interface of Tiger Spaces allows you to view a list of all currently connected client computers. You can sort the list of connected client computers by computer name, IP address and operating system.

Note: *Computers running the Tiger Spaces client driver, but currently not connected to the Tiger Spaces server are not displayed in the list.*

To display the connected client computers list:

1. Log on to the web interface with an administrative account.
2. In the taskbar, click Settings .
3. In the left pane, click Clients.

View Tiger Spaces Activity Log

The activity log of Tiger Spaces gives you information about the following actions:

Tiger Spaces settings — Tiger Spaces support enabled/disabled, permissions enabled/disabled, workspace quotas enabled/disabled.

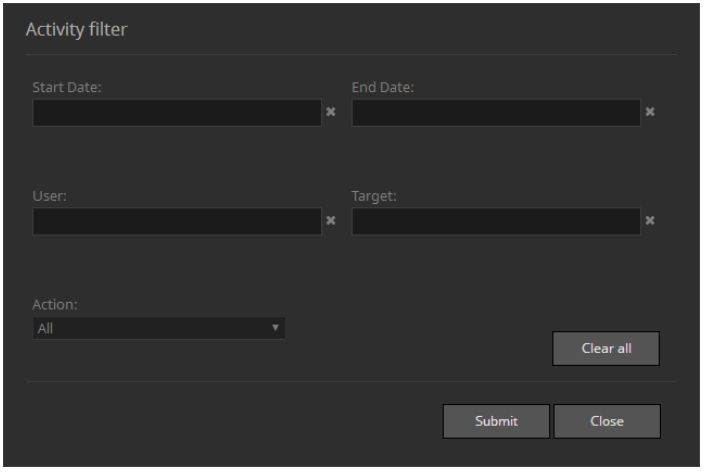
User/group — created, deleted, changed type, time of log on and log out.

Workspaces — created, deleted, mounted, dismounted, moved.

You can also filter the information displayed in the activity log by time period, user, target (user, file system part of the depot, workspace) and type of activity. You can also download the activity log as a a comma-separated values (CSV) file.

To view the Tiger Spaces activity log:

1. Log on to the web interface with an administrative account.
2. In the taskbar, click Settings .
3. In the left pane, click Activity log.
4. To filter the results, in the taskbar click the Filter button :



5. In the Activity Filter dialog, select the filters you want to apply and click Save.

   Tip: *To clear the filters, in the Activity Filter dialog click Clear All and then Save.*

To export the activity log as a .csv file:

Note: *Data in the .csv file is arranged the same way as it appears in the web interface. To rearrange it, before downloading the .csv file sort the desired columns in ascending or descending order by clicking their headers.*

1. Log on to the web interface with an administrative account.
2. In the taskbar, click Settings .
3. In the left pane, click Activity log.
4. (optional) Narrow down the entries in the downloaded activity log, using the Filter button .

5. In the taskbar, click the Export as csv button  .

   Depending on the settings of your web browser, the .csv file either downloads automatically to your default location for downloaded files or you are prompted to select a location yourself.

Download the Workspaces List as a .csv File

To facilitate you in keeping track of your projects, Tiger Spaces allows you to download the list of all workspaces in the depot as a comma separated values (.csv) file. The file contains the following information about each workspace in the depot - name, description, time of last modification, size, status and volume, on which the workspace is stored.

Note: *Data in the .csv file is arranged the same way as it appears in the web interface. To rearrange it, before downloading the .csv file sort the desired columns in ascending or descending order by clicking their headers.*

To download the workspaces list as a .csv file:

1. Log on to the web interface with an administrative account.
2. In the workspace menu in the taskbar click the Export as csv button  .

   Depending on the settings of your web browser, the .csv file either downloads automatically to your default location for downloaded files or you are prompted to select a location yourself.

3 Working with Tiger Spaces

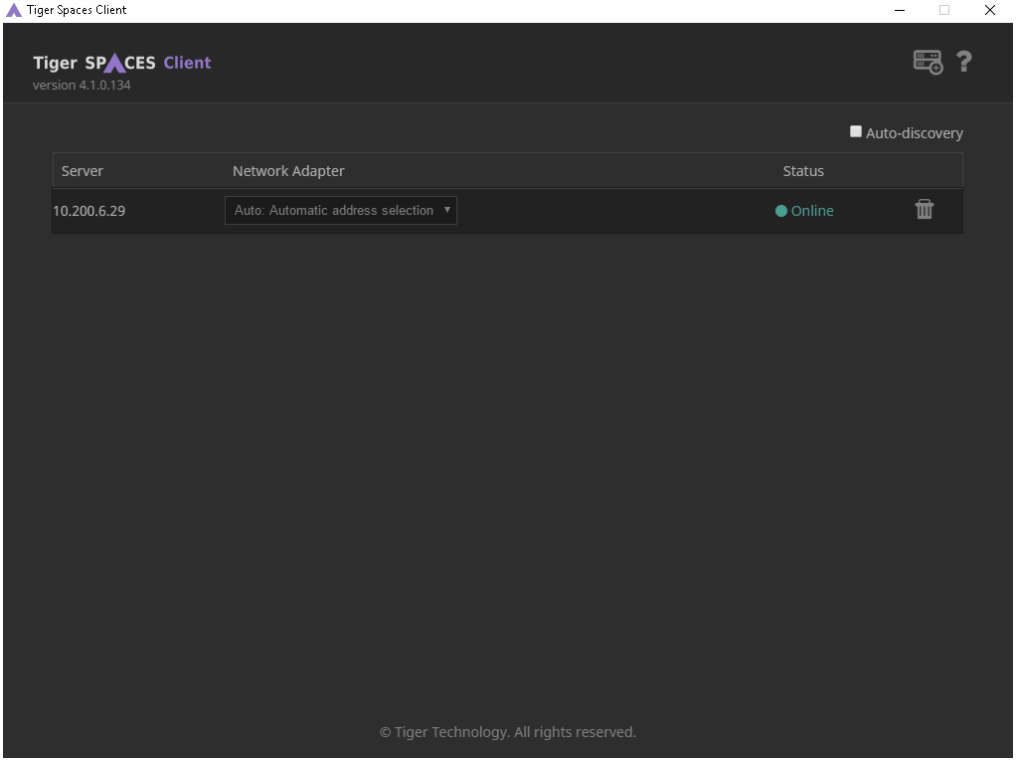
Connect to the Tiger Spaces Server

After installing the Tiger Spaces client driver on your computer, you must connect to the Tiger Spaces server in order to be able to work with workspaces. By default, Tiger Spaces's automatic discovery of available servers is turned off and you have to manually connect to the Tiger Spaces server(s) on your network. If the auto discovery option is turned on, Tiger Spaces automatically detects and connects you to all available servers on the network.

Note: *When the automatic discovery option is turned on, Tiger Spaces searches for Tiger Spaces servers on the same network, using the IP address of the network card of your computer it automatically detects.*

To turn the auto discovery option on/off:

1. Click the Tiger Spaces tray application (Windows)/ the menulet (Apple Mac) to display the Settings dialog.



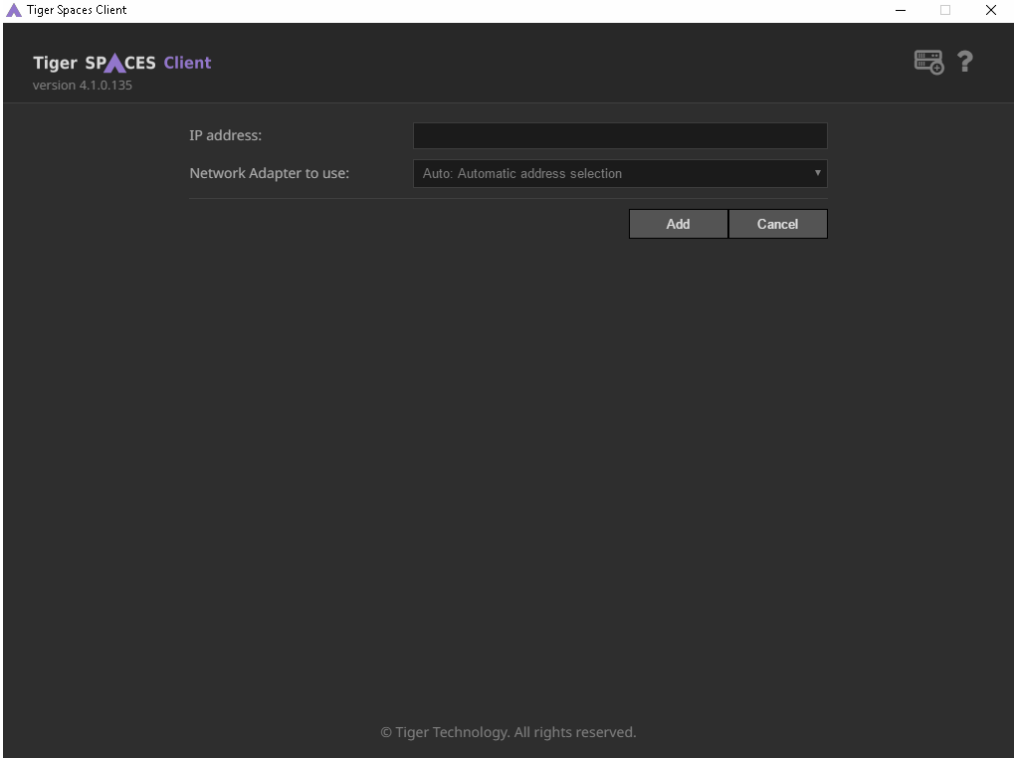
2. Do one of the following:

   • Select the Auto-discovery check box, to allow Tiger Spaces automatically detect Tiger Spaces servers on the network and connect your computer to them.

- Clear the Auto-discovery check box, to allow only manual connection to a Tiger Spaces server.

To manually connect to a Tiger Spaces server:

1. Click the Tiger Spaces tray application (Windows)/ the menulet (Apple Mac) to display the Settings dialog.
2. In the Settings dialog, click the Add Server button .
3. In the Add Server dialog, do the following:



- In IP address, enter the IP address of the Tiger Spaces server, to which you want to connect.

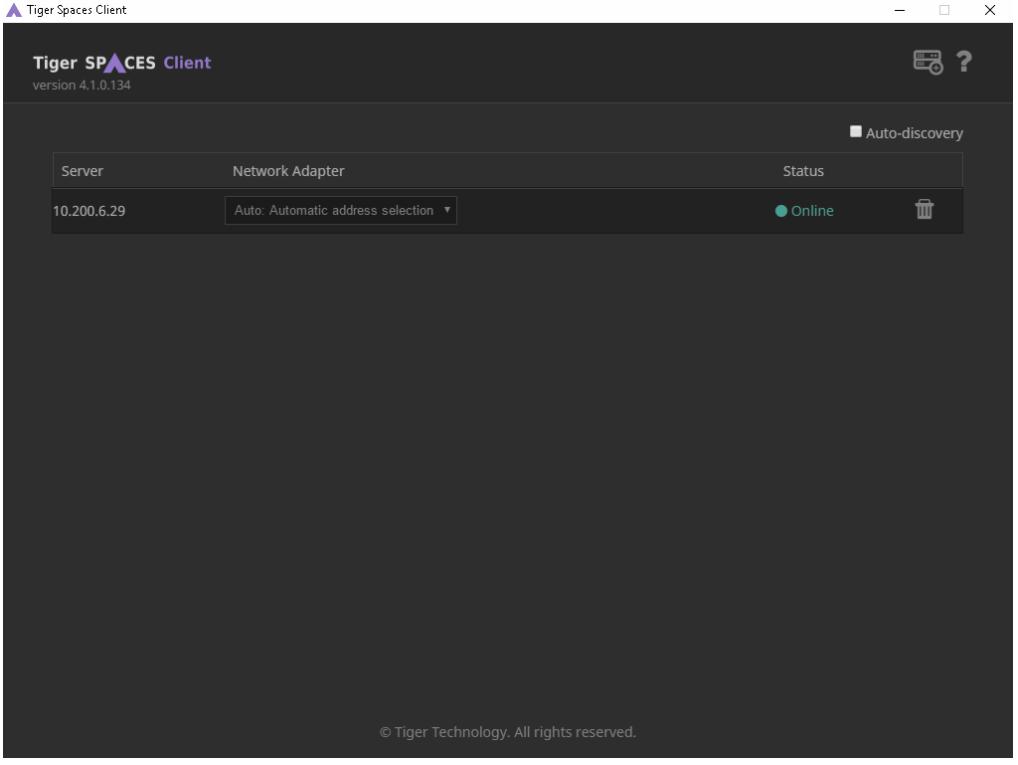
Important: *If high availability is activated, enter the cluster IP address.*

- (optional, if you have more than one network adapter) In Network Adapter to use drop-down box, select the IP address through which to connect to the Tiger Spaces server.

4. Click Add.

To disconnect from a Tiger Spaces server:

In the Settings dialog, click the Delete button next to a Tiger Spaces server in the list



Note: *If the automatic discovery option is turned on, as long as the server is online, it will automatically connect to your computer again.*

Access the Web Interface of Tiger Spaces

To access the web interface, you have to log on to Tiger Spaces with an account that is either a member of the "Tiger Spaces Users"/"Tiger Spaces Admins" groups on the domain controller (when Tiger Spaces is deployed in Active Directory domain), or an internal Tiger Spaces user account, created by an administrator of Tiger Spaces (when Tiger Spaces is deployed in workgroup environment). See “Manage Tiger Spaces User Accounts and Groups” on page 36.

Note: *If the "Tiger Spaces Users"/"Tiger Spaces Admins" groups don’t exist on the domain controller, you have to manually create them. If you want to use the accounts in a different group on the domain controller, contact Tiger Technology support for assistance.*

To access the web interface from a Windows or Mac OS X Tiger Spaces client:

1. Right-click the Tiger Spaces tray application/menulet and select Workspaces in the menu, then click the IP address of the Tiger Spaces server, whose web interface you want to access.
2. In the home page of the web interface, enter your user name and password in the respective fields and then click ➤ .

   For more details about the interface, refer to “The Web Interface” on page 66.

To log out Tiger Spaces:

Important: *After you log out Tiger Spaces, all workspaces currently mounted for viewing or editing are automatically unmounted and all unsaved changes are lost.*

1. In the taskbar, click the User icon and then in the menu click Log out.

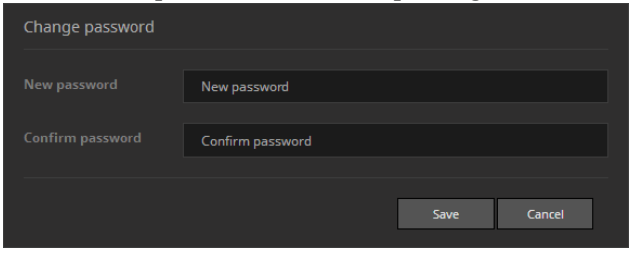
Change Your Password

Note: *The change password functionality is available only for internal Tiger Spaces user accounts.*

Beside Tiger Spaces administrators, each Tiger Spaces user can change the password of his/her Tiger Spaces account.

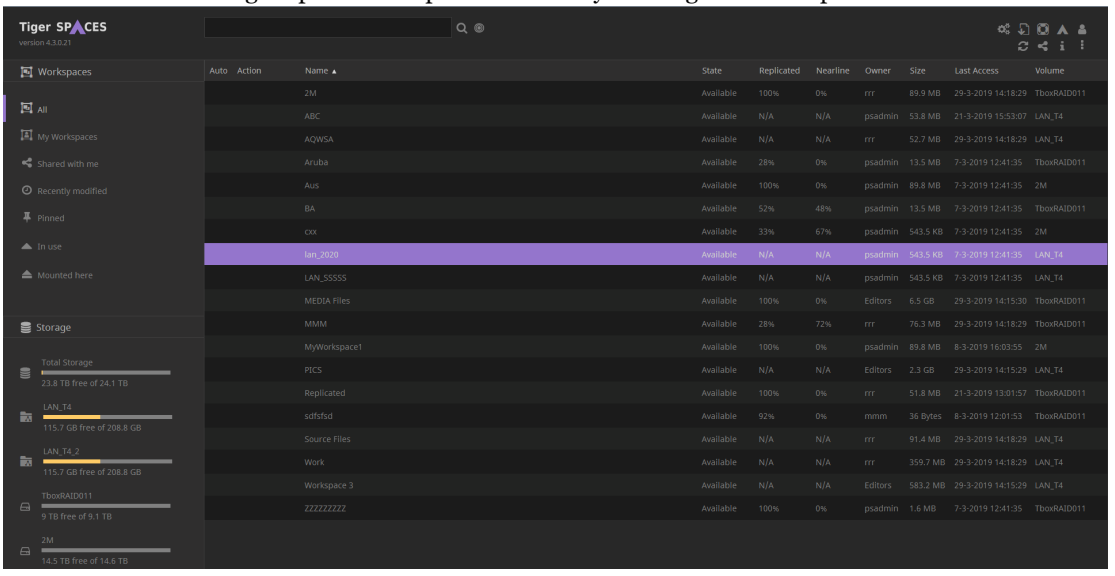
To change the password of your Tiger Spaces account:

1. Log on to the Tiger Spaces web interface.
2. In the taskbar, click the User icon and then in the menu click Change password .
3. Enter the new password in the corresponding fields and click Save.



The Web Interface

The web interface of Tiger Spaces is the place for actually working with workspaces.



By default, it lists all workspaces accessible to your account. By selecting the respective option in the left pane, you can filter the list of displayed workspaces:

All workspaces — shows all workspaces available for your account.

My workspaces — shows just the workspaces you have created.

Shared with me — shows the workspaces shared with you for editing or previewing.

Recently modified — shows all recently modified workspaces to which you have access.

Pinned — shows the workspaces you have selected to remain mounted on your computer as long as you are logged on to Tiger Spaces.

In use — shows all workspaces that are currently mounted on a client computer.

Mounted here — shows all workspaces mounted on your computer only.

A workspace listing displays the following buttons, depending on the status of the workspace and your permissions for it:

— mount the workspace with Read Only permissions.

— mount the workspace for editing.

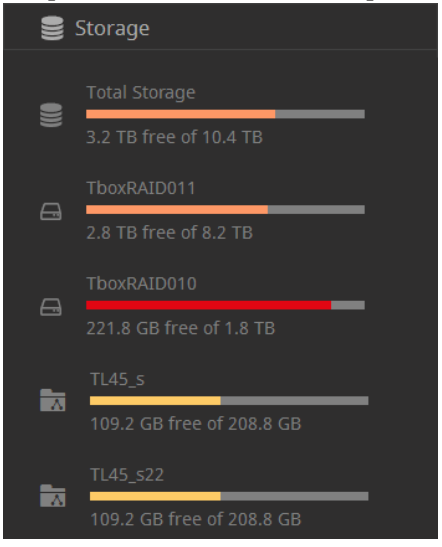
— mount the workspace exclusively i.e. not letting any other users mount it on their computer.

— unmount the workspace from your computer.

After selecting a workspace in the list, you can toggle the inspector, by clicking the Inspector button in the taskbar in order to view all workspace statistics, sharing details, comments and activity statistics.

Double-clicking a workspace in the list opens the workspace page, in which you can browse and preview the workspace contents without mounting it.

In the left pane below you can view information about the file systems in the depot, to which your computer is connected. The used space bar color designates how full is the respective file system.



Below the Tiger Spaces logo, you can view the version of Tiger Spaces. The top band of the interface also allows you to search the depot (see “Searching The Workspaces Depot” on page 67) and displays controls for workspace management, depending on the current selection (see “Working with Workspaces” on page 70).

Searching The Workspaces Depot

To facilitate you in finding workspaces and data in the depot, Tiger Spaces provides you with a search engine. Tiger Spaces displays results based only on workspace name, description and tags, but can also search within the workspaces contents - displaying as results metadata generated by the parsers (file

name, format, video/audio properties, etc.). Tiger Spaces cannot display results based on workspace's sub-folder name.

Note: *Tiger Spaces parses each workspace, which has been mounted for editing, when it is dismounted. You can also force the parsing of a workspace by rescanning it.*

When initiating a search as an administrator, Tiger Spaces displays results within all workspaces in the depot. When the search is initiated from a user, Tiger Spaces searches only in the workspaces that user has access to.

You can use wildcards to expand your search:

- '_' for a random single character (example: '**`s_mple`**' finds '**`sample`**' and '**`simple`**', etc.)
- '%' for a random string of characters (example: '**`l%t`**' finds '**`list`**', '**`lot`**', '**`loft`**', etc.)

  Tip: *To use the above symbols not as wildcards, include them in your search in square brackets (example: '**`draft[_]September`**' finds '**`draft_September`**').*

You can use a prefix in your query to narrow your search to:

ws: — workspaces only (example: **`ws:dog`** will display only workspaces containing "dog").

md: — media only (example: **`md:cat`** will display only media results containing "cat").

obj: — objects only (example: **`obj:mouse`** will display only objects containing "mouse").

fl: — files only (example: **`fl:cockroach`** will display only files containing "cockroach").

Check the table below for details about what and how can be searched in Tiger Spaces:

searches for results in	query format*/ valid query example	Admin interface	User interface	Case sensitive	Exact match*
workspace name (**`Cat 123`**)	alphanumeric: **`cat1`**	✔	✔	-	-
workspace description **`(Cat food commercial 2)`**	alphanumeric: cat	✔	✔	-	-
tag ("siamese cat")	alphanumeric: "cat"	✔	✔	-	-
file name ("cat324.mov")	alphanumeric: "cat32"	-	✔	-	-
file format ("cat324.mov")	alphanumeric: ".mov", "mov"	-	✔	-	-

searches for results in	query format*/ valid query example	Admin interface	User interface	Case sensitive	Exact match*
file duration ("cat324.mov" with duration 1 min 38 seconds and 19 milliseconds)	"0:01:38:19"	-	✔	-	✔
video file frame width ("cat324.mov" video file with frame width of 852 pixels)	852	-	✔	-	✔
video file frame height ("cat324.mov" video file with frame height of 480 pixels)	480	-	✔	-	✔
video file aspect ratio ("cat324.mov" video file with screen aspect ratio 0:1)	0:1	-	✔	-	✔
video file frame rate ("cat324.mov" video file with a frame rate of 25 frames per second)	25.00 fps	-	✔	✔	✔
audio codec ("cat324.mp3" audio file using mp3 codec)	MP3 (MPEG audio layer 3)	-	✔	✔	✔
audio sample rate ("cat324.mp3" audio file using a rate of 44 100 samples per second)	44.100000 KHz	-	✔	✔	✔
Number of audio tracks ("cat324.mp3" audio file using just 1 audio track)	1	-	✔	-	✔
Number of channels per tracks ("cat324.mp3" audio file using 2 channels per track)	2	-	✔	-	✔

* When searching for more than one tag, your query must always be an exact match of the searched item. Use wildcards for more flexible search.

All search results are sorted in alphabetical order. You can filter the results by choosing to display just media results , just objects , just miscellaneous files or just tags by selecting the respective search filter in the left pane.

Working with Workspaces

From a Tiger Spaces client computer, you can work with workspaces stored in the depot in the following ways:

- Create a new empty workspace (see “Create a New Empty Workspace” on page 71).
- Create a new workspace from template (see “Create a New Workspace from Template” on page 73).
- Import an existing workspace into the Tiger Spaces depot (see “Import a Workspace” on page 75).
- Export a workspace as a folder to the root of the volume/share (see “Export a Workspace” on page 77).
- Mount a workspace with Read Only permissions to read and copy data from it (see “Mount a Workspace for Viewing” on page 77).
- Mount a workspace with Read & Write permissions – depending on the type of the workspace, other computers may also be able to mount it for editing (Avid Bin Locking or Multi-user Write types) or just for viewing (see “Mount a Workspace for Editing” on page 78).
- Mount a workspace for editing with Exclusive permissions i.e. not letting any other computer mount it for editing or viewing until you unmount it regardless of the type of the workspace (see “Mount a Workspace for Editing” on page 78).
- Pin a workspace (see “Pin a Workspace” on page 80).
- Lock a workspace, allowing only Read Only access to it even to its owner (see “Lock a Workspace” on page 79).
- Edit workspace settings such as name, description, tags, type, quota, volume/share it is stored on and allow using it as template for other workspaces (see “Edit Workspace Settings” on page 85).
- Close a workspace (see “Close a Workspace” on page 81).
- Delete a workspace (see “Delete a Workspace” on page 82).
- Preview the settings and contents of a workspace (see “Preview a Workspace without Mounting It” on page 82).
- Add comments to a workspace (see “Manage Workspace Comments” on page 84).

Tiger Spaces has an intuitive user interface that displays just the options that are currently available for you for each workspace – these depend on the status of the workspace (In Use or Available) and on the permissions your account has for the specific workspace. The interface updates the information about workspaces dynamically and there’s no need to refresh your browser in order to view most current information.

Create a New Empty Workspace

When you select to create a new empty workspace besides specifying the name and type of the workspace, you can also add description and tags to facilitate finding the workspace, and specify preferred mount point of the new workspace on Windows computers.

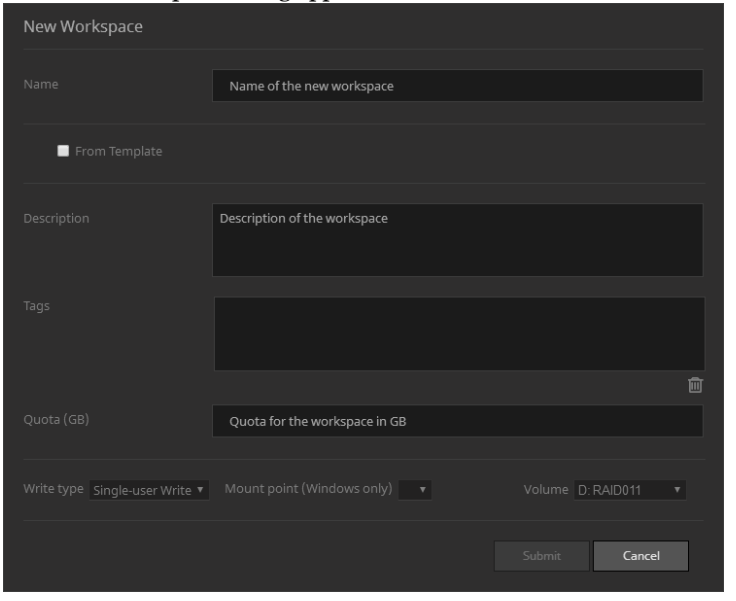
Note: *Only Tiger Spaces administrators can create workspaces on SAN volumes, when workspace quota setting is enabled in Tiger Spaces.*

To create a new empty workspace:

1. In the web interface, make sure no workspace is selected and click the Create button ➕ in the taskbar.

   Note: *The Create button is not present, when you are logged on as a user, if workspace quotas are enabled in Tiger Spaces and only Tiger Spaces administrators can create new workspaces.*

   The New Workspace dialog appears.



2. Enter the name of the new workspace.
3. Make sure that the "From Template" check box is not selected.
4. (optional) Provide a brief description of the workspace to help you and other users discern the workspace in the depot.
5. (optional) Add tags to the workspace, to facilitate searching the database.

Note: *You can add as many tags as you like. A tag can consist of maximum 256 characters including spaces. To finish adding a tag, simply press Enter. To edit a tag, double click it and when finished, press Enter. To delete a tag, click the Delete button in the tag itself.*

6. If workspace quotas are enabled, enter the quota of the new workspace in GB.

Note: *This field is available only if workspace quotas are enabled and if a Tiger Spaces administrator is creating a new workspace on a volume managed by Tiger Store.*

7. In the Write Type drop-down box, select one of the following:

• Single-user Write – the workspace can be mounted with Read & Write permissions on only one computer at a time.

• Avid Bin Locking – Tiger Spaces emulates Avid FS for the workspace and allows mounting the workspace with Read & Write permissions on multiple computers simultaneously, letting Avid restrict accesses to the bins that are currently in use.

• Multi-user Write – there is no emulation of the file system, but Tiger Spaces allows mounting the workspace with Read & Write permissions on multiple computers simultaneously.

Warning: *Unless the applications you use allow accessing the same workspace with Read & Write permissions simultaneously, setting the workspace type to Multi-user Write can lead to corruption of data in the workspace, stored on a Multi-user write workspace.*

8. (optional) In Mount Point, select a preferred drive letter, which to be used on each Windows computer when mounting the workspace.

9. (optional) In the Volume drop-down box, select the volume/share on which to create the workspace as long as Tiger Spaces support is enabled on multiple volumes/shares or on a volume pool.

Note: *In case you don't select a particular volume/network share and Tiger Spaces support is enabled on a volume pool, Tiger Spaces attempts to store the workspace on the volume with less folders. If support is enabled on multiple volumes/shares, Tiger Spaces stores it on the first volume/share in the list. In case the volume/share Tiger Spaces selects doesn't have enough free space, you have to manually select a volume/share in the list.*

10. (optional, if workspace quotas are enabled) In Quota, enter the workspace quota in GB.

Note: *This field is available only if workspace quotas are enabled and if a Tiger Spaces administrator is creating a new workspace on a volume managed by Tiger Store.*

11. Click Submit.

A folder with the name of the workspace is created in the depot. If permissions are disabled, the newly created workspace is accessible for work to any user. If permissions are enabled, until you set permissions to the newly created workspace, only you as owner can access it. For details about setting permissions to a workspace, refer to "Set Workspace Permissions" on page 93.

Create a New Workspace from Template

If you choose to create a new workspace based on template, your new workspace will be the same type as the template workspace and will inherit its folder structure. You can also select to copy the contents of the template workspace or inherit its permissions, or both. The description, tags and preferred mount point setting are optional and should be specified manually for each new workspace. Tiger Spaces allows you to set any existing workspace as a template for new workspaces. For more details about setting a workspace as template, see “Set a Workspace as Template” on page 92.

Important: *Until the creation of the new workspace is fully finished, both the new workspace and the template workspace remain with In Use status for other computers.*

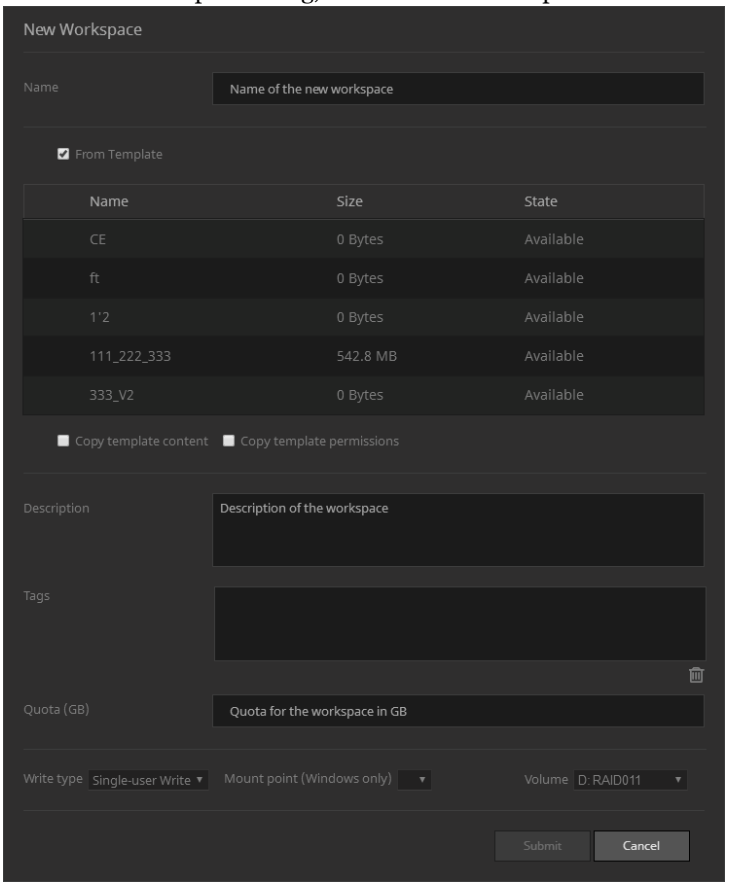
Note: *Only Tiger Spaces administrators can create workspaces on SAN volumes, when workspace quota setting is enabled in Tiger Spaces.*

To create a new workspace from template:

1. In the web interface, make sure no workspace is selected and click the Create button ➕ in the taskbar.

   Note: *The Create button is not present, when you are logged on as a user, if workspace quotas are enabled in Tiger Spaces and only Tiger Spaces administrators can create new workspaces.*

2. In the New Workspace dialog, select the From Template check box.



3. Enter a name of the new workspace.
4. In the list of existing template workspaces, select the workspace that you want to use as a template for the new workspace.

   Important: *If a template workspace is currently mounted with Exclusive rights, you cannot use it as a template.*

5. Select "Copy template content", if you also want to copy the contents of the template to the new workspace.

   Note: *Copying the contents of the template workspace can take significant time. Until the whole contents is copied to the new workspace, both the template and the new workspace are with "locked" status.*

6. Select "Copy template permissions", if you want the new workspace to inherit the permissions of the template workspace.

Note: *Copying permissions from a template workspace includes the owner of the workspace.*

7. (optional) Provide a brief description of the workspace to help you and other users discern the workspace in the depot.

8. (optional) Add tags to the workspace.

   Note: *You can add as many tags as you like. A tag can consist of maximum 256 characters including spaces. To finish adding a tag, simply press Enter. To edit a tag, double click it and when finished, press Enter. To delete a tag, click the Delete button in the tag itself.*

9. (optional) Specify a preferred mount point, which to be used on Windows computers for mounting the workspace.

10. (optional) In the Volume drop-down box, select the volume/network share on which to create the workspace.

    Note: *In case you don't select a particular volume/network share and Tiger Spaces support is enabled on a volume pool, Tiger Spaces attempts to store the workspace on the volume with less folders. If support is enabled on multiple volumes/shares, Tiger Spaces stores it on the first volume/share in the list. In case the volume/share Tiger Spaces selects doesn't have enough free space, you have to manually select a volume/share in the list.*

11. (optional, if workspace quotas are enabled) In Quota, enter the workspace quota in GB.

    Note: *This field is available only if workspace quotas are enabled and if a Tiger Spaces administrator is creating a new workspace on a volume managed by Tiger Store.*

    Important: *If you are also copying the contents of the template workspace, make sure that the quota you assign to the new workspace is not less than the contents of the template workspace as not all content will be copied.*

12. Click Submit.

    A folder with the name of the workspace is created in the depot. If permissions are disabled, the newly created workspace is accessible for work to any user. If permissions are enabled, until you set permissions to the newly created workspace, only you as owner can access it. For details about setting permissions to a workspace, refer to "Set Workspace Permissions" on page 93.

Import a Workspace

The import workspace option facilitates you in migrating existing folders and all their contents from the root of a volume/share to Tiger Spaces. An imported folder becomes visible in Tiger Spaces as a separate workspace. When importing a folder you can specify its name, type (Single-user write, Multi-user write or Avid bin locking), mount point on Windows client computers and on which of the volumes/shares with enabled Tiger Spaces support to copy it.

You cannot import a folder into Tiger Spaces:

• when the imported workspace has the same name as an existing workspace in the depot of the volume/share.

• when workspace quotas are enabled, only administrators can import folders from SAN volumes and users can import folders only from network shares.

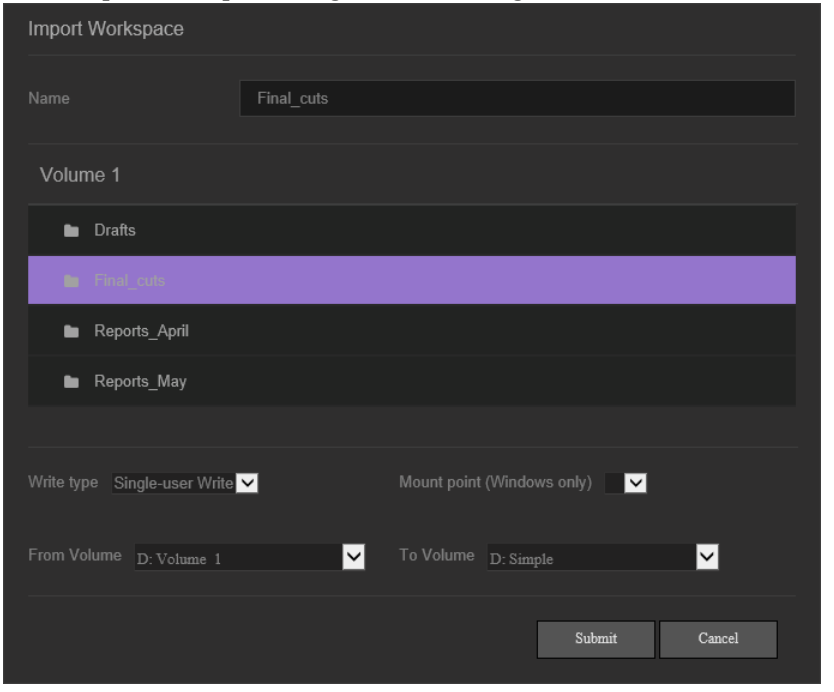
• when workspace quotas are enabled, users cannot import a folder from the root of a network share to a SAN volume.

When Tiger Spaces support is enabled on a volume pool and you import an ambiguous folder (a folder with the same name existing in the same location on two or more volumes in the pool), the workspace contains the merged contents of all ambiguous folders with the same name, but has the attributes of the ambiguous folder that is on the volume first detected by the metadata controller service at the time you perform the import operation.

To import an existing folder into the depot:

1. In the web interface, click the Import button in the taskbar.

2. In the Import Workspace dialog, do the following:



- In the "From Volume" drop-down box, select the volume/share from which to import the folder.
- In the "To Volume" drop-down box, select the volume/share on which to import the folder.
- In the pane, select the folder, which you want to import.

- In Name, enter a name for the imported workspace, unless you want to import it with the name of the folder.
- In Write type drop-down box, select the type of the imported workspace.
- (optional) Select a preferred mount point on each Windows client computer.
- Click Submit.

Note: *Importing a folder with all its data can take significant time.*

A workspace with the specified name is created in the depot. It contains all data from the imported folder. If permissions are disabled, the imported workspace is accessible for work to any user. If permissions are enabled, until you set permissions to the imported workspace, only you as owner can access it. For details about sharing a workspace, refer to "Set Workspace Permissions" on page 93.

Export a Workspace

When you need to access the files of a workspace not through Tiger Spaces (if you want to archive them, for example) instead of disabling Tiger Spaces support on the volume/network share in order to unhide the workspaces depot, you can export the workspace. The export operation copies the workspace folder and all its contents to the root of the volume/network share on which the depot is stored as long as there is enough free space. The new folder inherits the hierarchical structure of the workspace folder and contains all of its data and is accessible to all computers that can browse the volume/network share.

If you have enabled support for Tiger Spaces on a volume pool, the exported folder is created on the volume on which the workspace in the depot has been stored. You can move workspaces between volumes/network shares, following the steps described in "Move a Workspace Between Volumes/Network Shares" on page 96.

Important: *Only the owner of a workspace or an administrator can export it and only if the workspace is with Available status.*

To export a workspace:

1. In the web interface, select a workspace in the list and in the workspace menu ⋮ in the taskbar click the Export button  .
2. Confirm that you want to export the workspace.

   The workspace folder is copied to the root of the volume/share on which it is stored.

Mount a Workspace for Viewing

Once you mount a workspace for viewing (with Read Only permissions), it is mounted on your computer as a local drive, but you cannot introduce any changes to it – you can just copy data from it to another location (a workspace mounted for editing, for example).

A workspace can be mounted for viewing on multiple computers as long as it is not mounted Exclusively on another machine.

Tip: *To view who has mounted the workspace and with what permissions, click the In Use link in the workspace listing.*

Note that if changes are introduced in the workspace from the computer that has mounted it for editing, all computers that are just viewing the workspace detect these changes only after re-mounting it.

Important: *(Avid only) You can open an Avid project, stored in a Tiger Spaces workspace, only if you have mounted it for editing. When the workspace is mounted with Read Only access, you will be able to open the Avid project's Bins only.*

To mount a workspace for viewing:

In the web interface, click the Read button in the listing of a workspace.

The workspace mounts as a local drive on your computer. If no preferred mount point is specified, the workspace is mounted in the default mount point for the respective platform:

- (Windows) using the first available drive letter.
- (Mac OS X) in the **`/Volumes`** directory.

Mount a Workspace for Editing

Before beginning work with your desired application on a workspace that exists in the depot, you must first mount it as local drive on your computer. Tiger Spaces provides you with several options for mounting a workspaces for editing. When the workspace type is set to "Single-user Write" only one computer can mount it with Read & Write permissions at a time and the workspace status must be "Available". When the workspace type is "Avid Bin Locking" or "Multi-user Write" multiple computers can mount it for editing even if the workspace status is "In Use". Note that in this case preventing data corruption is up to the application you use for access to the workspace's data.

Regardless of the type of the workspace, you can mount it Exclusively (mount it for editing with Exclusive rights), which means that no other computer can mount it neither for editing, nor for viewing until you close it on your computer.

Additionally, if a workspace is locked, it cannot be mounted for editing on any computer until its owner or an administrator unlocks it.

To mount a workspace for editing:

In the web interface, click the Write button in the listing of a workspace.

The workspace mounts as a local drive on your computer. If no preferred mount point is specified, the workspace is mounted in the default mount point for the respective platform:

- (Windows) using the first available drive letter.

- (Mac OS X) in the **/Volumes** directory.

To mount a workspace Exclusively:

In the web interface, click the Exclusive button ! in the listing of a workspace.

The workspace mounts as a local drive on your computer. If no preferred mount point is specified, the workspace is mounted in the default mount point for the respective platform:

- (Windows) using the first available drive letter.
- (Mac OS X) in the **/Volumes** directory.

Note: *To allow access to the workspace again, you must close it (see "Close a Workspace" on page 81).*

Lock a Workspace

When you don't want anyone to introduce any further changes to a workspace, you can lock it. By locking a workspace you provide only Read Only access to it, until it is again unlocked. Locking a workspace can be useful when you want to set it as template.

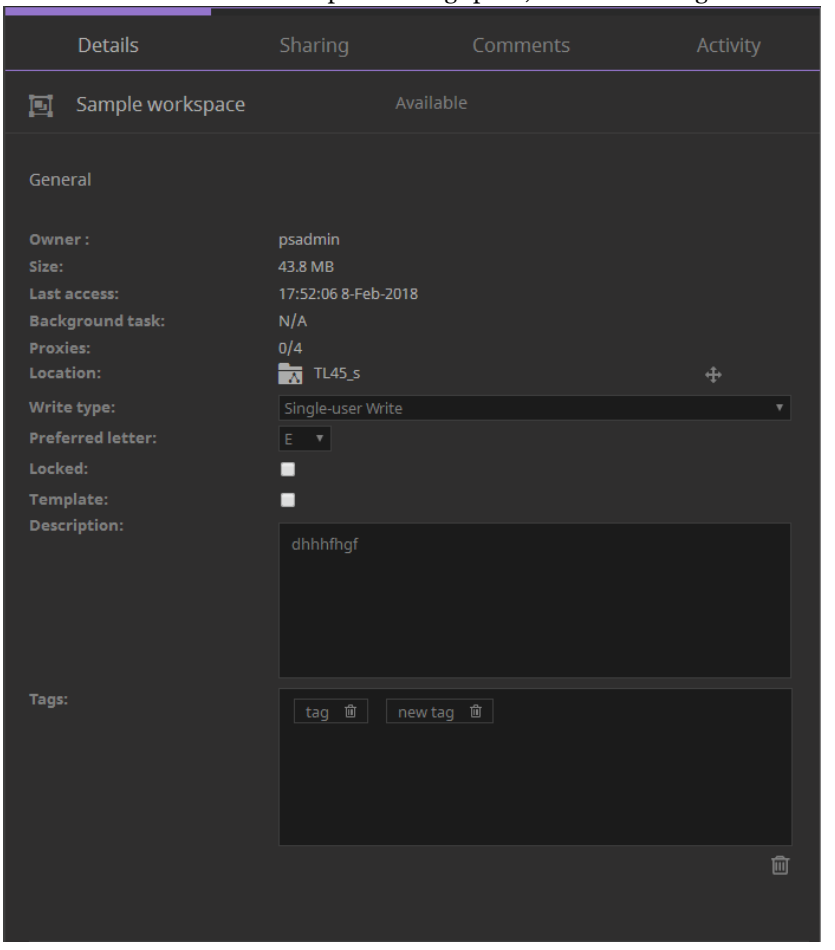
Important: *Only the owner of a workspace or a Tiger Spaces administrator can lock/unlock a workspace. You cannot lock/unlock a workspace with "In Use" status.*

To lock/unlock a workspace:

1. In the web interface, do one of the following:

- select a workspace in the list and click the Inspector button i in the taskbar.
- double-click a workspace in the list to open its page.

2. In the Details tab of the Workspace Settings pane, do the following:



- To lock the workspace, select the Locked check box and click Submit.
- To unlock the workspace, clear the Locked check box and click Submit.

Pin a Workspace

By default, each time you want to work with a workspace, you must access the web interface of Tiger Spaces and manually mount it. To facilitate your workflow, Tiger Spaces allows you to pin a selected workspace, which means that each time you log on to the web interface Tiger Spaces will attempt to mount it with the same permissions (Read, Write or Exclusive) you have mounted it as long as the workspace is not in use on another computer. A workspace can be pinned by two or more users at the same time. In this case Tiger Spaces mounts it for the user that logs on the web interface first.

You can unpin a workspace at any time. Also, a workspace is no longer pinned to your account, if you explicitly dismount it by closing it in the web interface or if someone else force closes it from your computer.

To pin/unpin a workspace:

1. In the web interface, mount a workspace for viewing ( ), writing ( ) or exclusively ( ).
2. In the workspace listing, click the pin icon next to the workspace name to change the status of the workspace to either pinned ( ) or unpinned ( ).

   Tip: *You can keep track of all pinned workspaces for your account, by clicking the Pinned filter in the left pane.*

Close a Workspace

You can close a workspace you have mounted for editing or just for viewing. When you close a workspace in the Tiger Spaces interface, you simply unmount the workspace drive from your computer. That is why, before closing a workspace, which you have edited, make sure that you have closed it in the editing application first, as any unsaved changes will be lost once you unmount the workspace from your computer.

You cannot close a workspace mounted on another computer. If a computer is holding a workspace open, you can force close it. Force closing a workspace unmounts the workspace from the computer and any unsaved changes in it are lost.

Important: *Tiger Spaces automatically closes (unmounts) all open workspaces on your computer on system reboot.*

To close a mounted workspace:

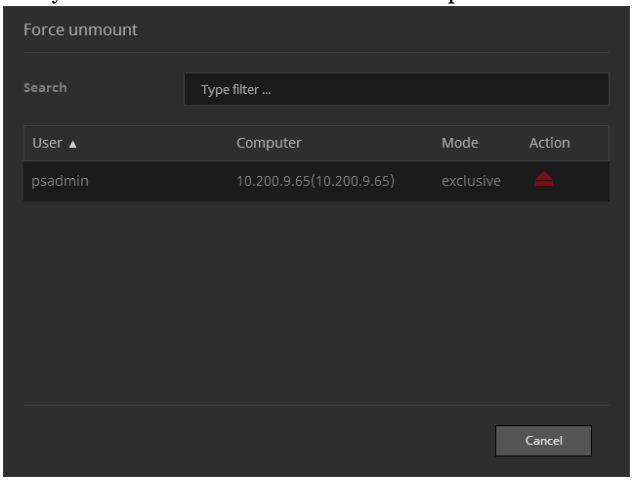
In the web interface, click the Close button in the listing of a mounted workspace.

The workspace drive is unmounted from your computer.

To force unmount a workspace mounted on another computer:

Important: *Force unmounting a workspace unmounts the workspace from the computer and any unsaved changes are lost.*

1. In the web interface, click the In Use button in the listing of a mounted workspace.
2. In the Force Unmount dialog, click the Force Unmount button next to a user and then confirm that you want to force unmount the workspace from that user's computer.



Delete a Workspace

The owner of a workspace or an administrator of Tiger Spaces can delete a workspace as long as it is not mounted on any computer (it is with Available status) and it is not locked. Once you delete a workspace in Tiger Spaces, the hidden folder and all of its contents are deleted from the depot on the volume/share and cannot be restored.

To delete a workspace:

1. In the web interface, select the workspace you want to delete and click the Delete button in the taskbar.
2. Confirm that you want to delete the workspace.

Preview a Workspace without Mounting It

Tiger Spaces allows you to preview a workspace even if you are accessing the user interface from a non-Tiger Spaces client computer, as long as your account has permissions for the workspace.

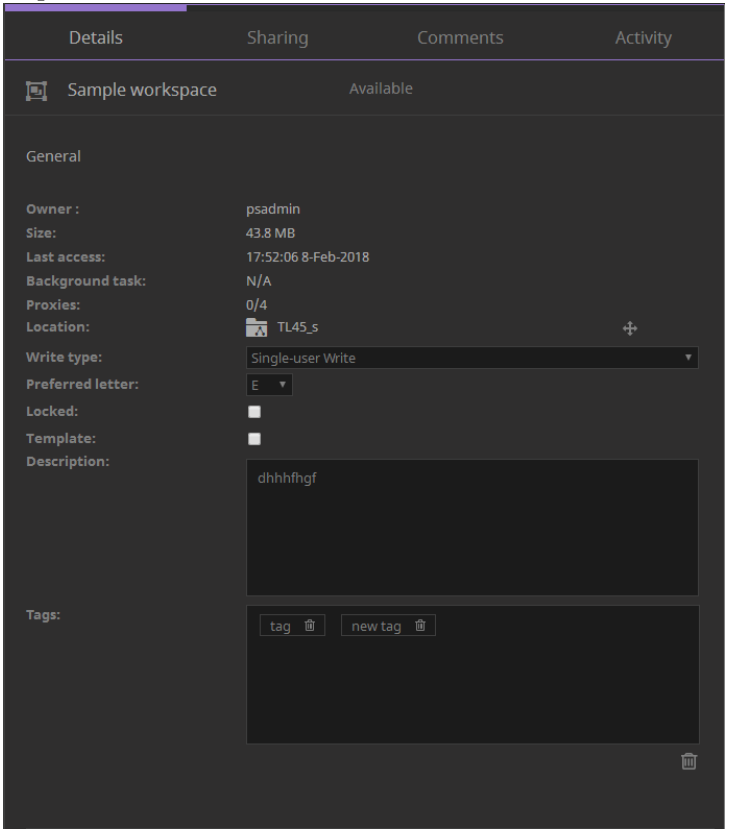
Tiger Spaces offers you two options for previewing a workspace:

Inspector pane — gives you general information about the workspace such as name, type, owner, size, number of files and folders, preferred mount point (if any), description, tags.

Workspace page — all details from the Inspector pane, including the hierarchical structure of the workspace and filters for browsing just media , objects or other files .

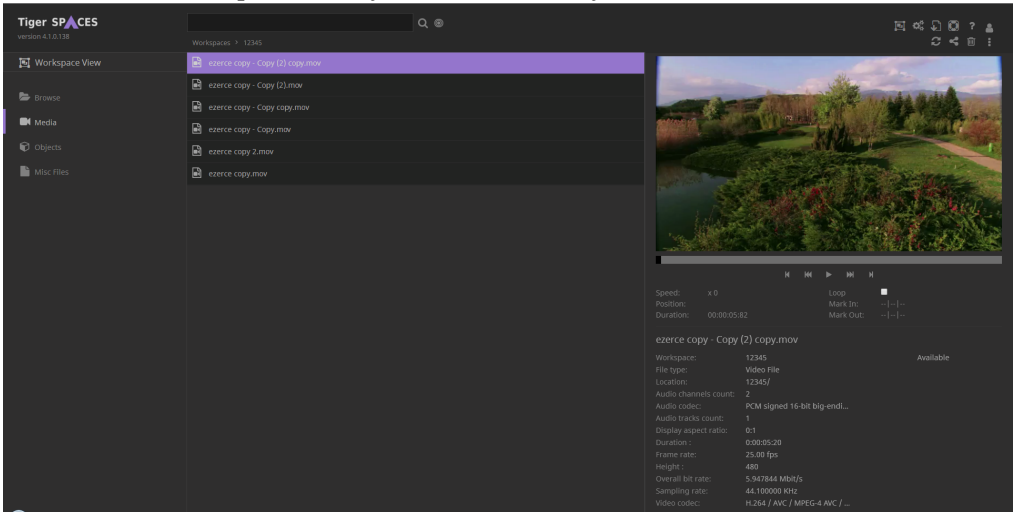
To preview workspace information in the Inspector panel:

1. In the web interface, select a workspace in the list and click the Inspector button in the taskbar.
2. In the Inspector panel, switch between Details, Sharing, Comments and Activity, by clicking the respective tab.



To preview a workspace's contents:

1. In the web interface, double-click a workspace in the list to open its page.
2. Browse the workspace structure and contents, by the double-clicking a sub-folder or by filtering the contents of the workspace to view just media files or object files.



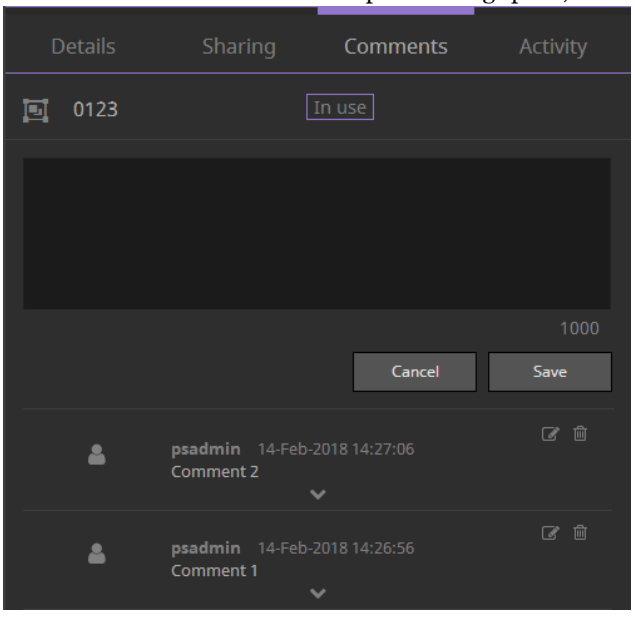
Manage Workspace Comments

Comments are designed to facilitate the communication between team members when working on the same workspace. Unlike the workspace description and tags, comments are not parsed by the Tiger Spaces search engine. Each user can add, edit or delete their own or other users' comments on a workspace, even if it is currently mounted on another computer. A comment can consist of up to 1000 characters with spaces included.

To manage workspace comments:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button in the taskbar.
   - double-click a workspace in the list to open its page.

2. In the Comments tab of the Workspace Settings pane, do one of the following:



- To add a new comment, click the Add comment button , enter the comment in the comment box and click Save.
- To edit a comment, click the Edit comment button next to an existing comment, edit it in the comment box and click Save.
- To delete a comment, click the Remove comment button next to an existing comment and when prompted, confirm that you want to delete the comment.

Edit Workspace Settings

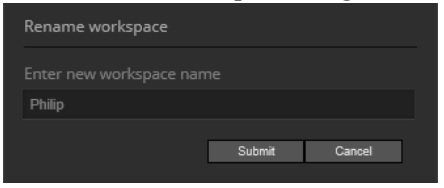
Rename a Workspace

The name of a workspace is used as a label of the drive that mounts on your computer. Only the owner of a workspace or an administrator can edit its name.

Note: *To edit the name of a workspace, it must be with Available status i.e. it must not be mounted on any other computer.*

To rename a workspace:

1. In the web interface, select a workspace in the list and in the workspace menu ⋮ in the taskbar click the Rename button ✎.
2. In the Rename Workspace dialog, enter a new name and click Submit.



Edit the Workspace Description

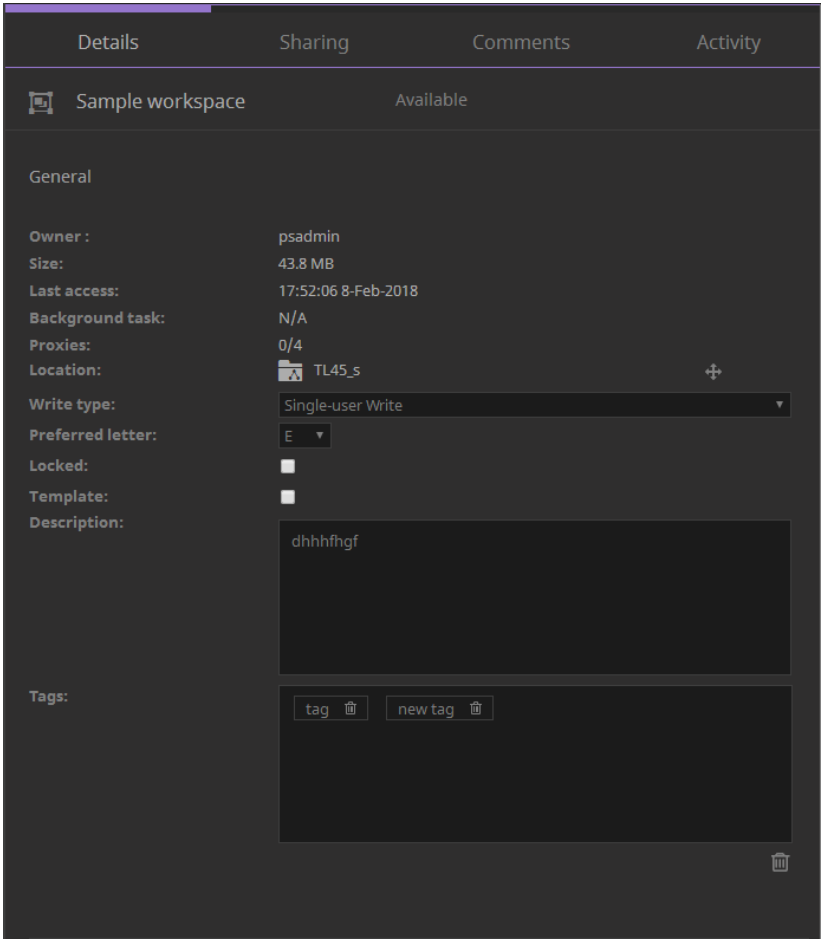
The workspace description facilitates you in discerning one workspace from another. The description is also scanned by the Tiger Spaces's search engine when displaying search results. You can change the description of a workspace at any time. To edit the description of a workspace, it must be with Available status i.e. it must not be mounted on any other computer.

Note: *Only the owner of a workspace, a Tiger Spaces administrator and users with Edit permissions can change the description of a workspace.*

To add/edit workspace description:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button ℹ in the taskbar.
   - double-click a workspace in the list to open its page.

2. In the Details tab of the Workspace Settings pane, add/edit the workspace description in the respective field and then click Save.



Manage Tags

The tags associated with a workspace facilitate you when using the Tiger Spaces's search engine. You can add tags both to a workspace and to its contents (media file, other file or object). You can also edit an existing tag or delete it at any time. You can manage the tags associated with a workspace even if it's currently mounted on another computer for editing.

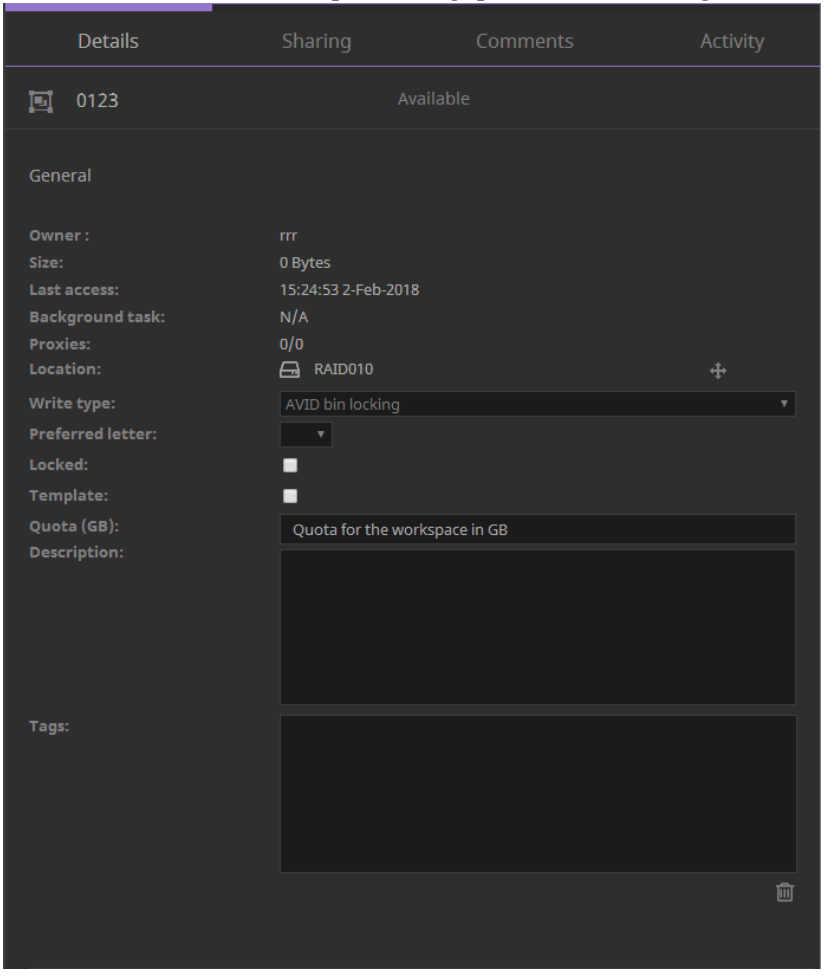
Note: *A tag can consist of more than one word and can contain spaces.*

To manage the tags of a workspace:

1. In the web interface, do one of the following:

- select a workspace in the list and click the Inspector button in the taskbar.
- double-click a workspace in the list to open its page.

2. In the Details tab of the Workspace Settings pane, do the following:

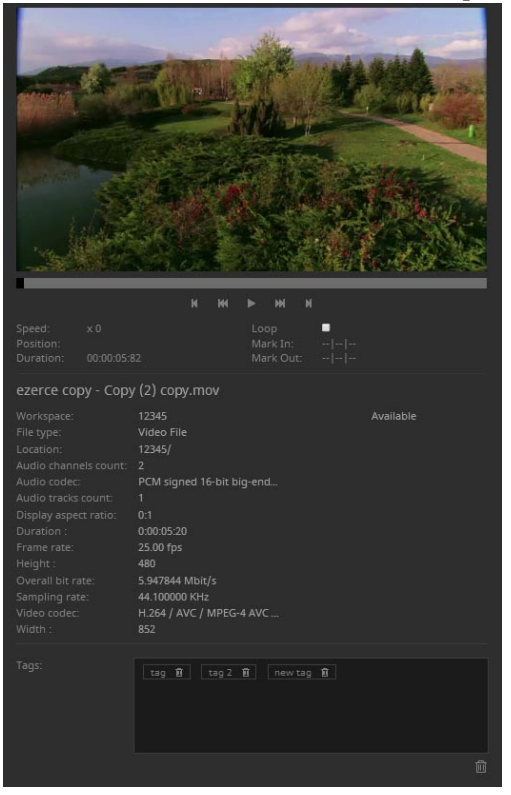


- To add a tag to the workspace, in the Tags field, type the tag and press Enter when finished.
- To edit a tag, in the Tags field, double click an existing tag, edit it and when finished press Enter.
- To delete a tag, in the Tags field, click the Delete button next to the tag.

Tip: *To delete all tags associated with the workspace, below the Tags field, click the Delete button . This doesn't delete tags associated with the workspace contents (media file, another file or an object).*

To manage the tags associated with a workspace's contents:

1. In the web interface, double-click a workspace in the list to open its page.
2. In the left pane select the type of content whose tags you want to manage - media , objects , or miscellaneous files .
3. Select the item in the list and in the Details pane do the following:



- To add a tag to the item, in the Tags field, type the tag and press Enter when finished.
- To edit a tag, in the Tags field, double click an existing tag, edit it and when finished press Enter.
- To delete a tag, in the Tags field, click the Delete button next to the tag you want to delete.

Tip: *To delete all tags associated with the item, below the Tags field, click the Delete button . This deletes just the tags associated with the currently selected item.*

Edit the Workspace Type

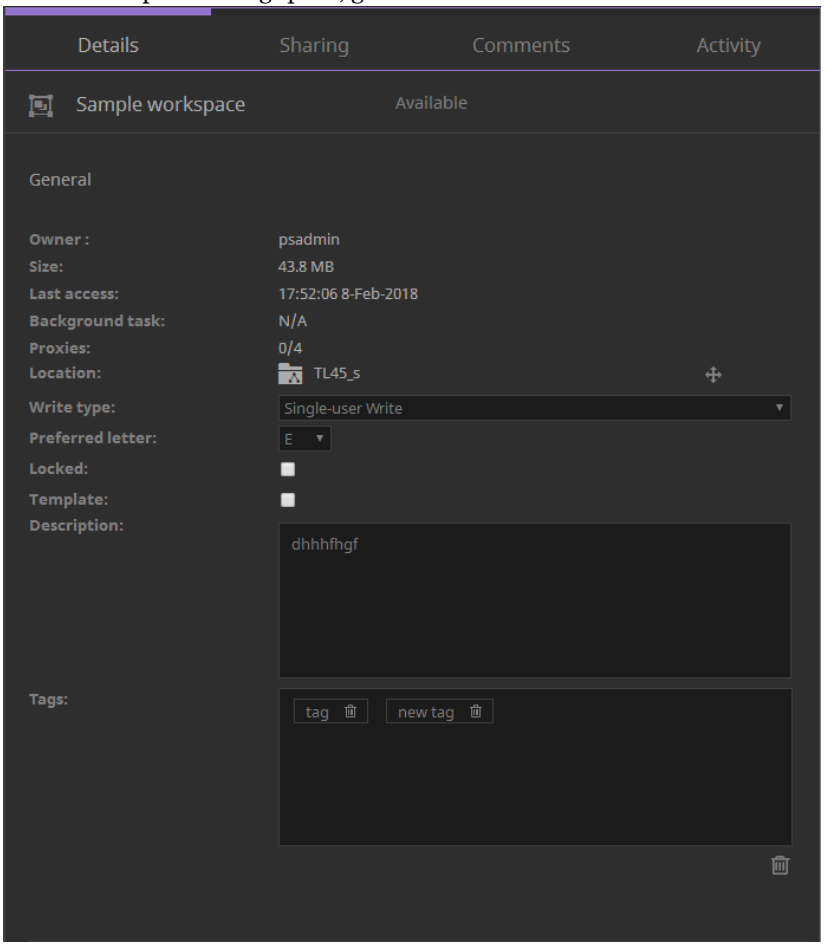
You can change the type of a workspace at any time. Keep in mind that if the workspace already contains data, changing its type may obstruct its usage and can even lead to data corruption. For example, if you change the type of a workspace from Avid Bin Locking to Multi-user Write, you will remove the Avid FS emulation and Avid will no longer supervise which bins are currently available for use, etc. To edit the type of a workspace, it must be with Available status i.e. it must not be mounted on any other computer.

Note: *Only the owner of a workspace, a Tiger Spaces administrator and users with Edit permissions can change the type of a workspace.*

To edit the type of a workspace:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button in the taskbar.
   - double-click a workspace in the list to open its page.

2. In the Workspace Settings pane, go to the Details tab.



3. In the Type drop-down box, select one of the following:

- Single-user Write – no parsers for detecting the workspace type are applied and the workspace can be mounted with Read & Write permissions on only one computer at a time.
- Avid Bin Locking – Tiger Spaces emulates Avid FS for the workspace and allows mounting the workspace with Read & Write permissions on multiple computers simultaneously, letting Avid restrict accesses to project bins that are currently in use.
- Multi-user Write – there is no emulation of the file system, but Tiger Spaces allows mounting the workspace with Read & Write permissions on multiple computers simultaneously.

Warning: *Unless the applications you use allow accessing the same project with Read & Write permissions simultaneously, setting the workspace type to Multi-user Write can lead to corruption of data in the project.*

4. Click Save.

Set a Workspace as Template

To facilitate you in creating new workspaces, Tiger Spaces allows you to set any existing workspace as template for future workspaces. When you create a new workspace from a template, you inherit the type and the folder structure of the template. Additionally, you can also select to copy the contents of the template workspace or inherit its permissions, or both. To set a workspace as template or remove it from the list of templates, it must be with Available status i.e. it must not be mounted on any other computer.

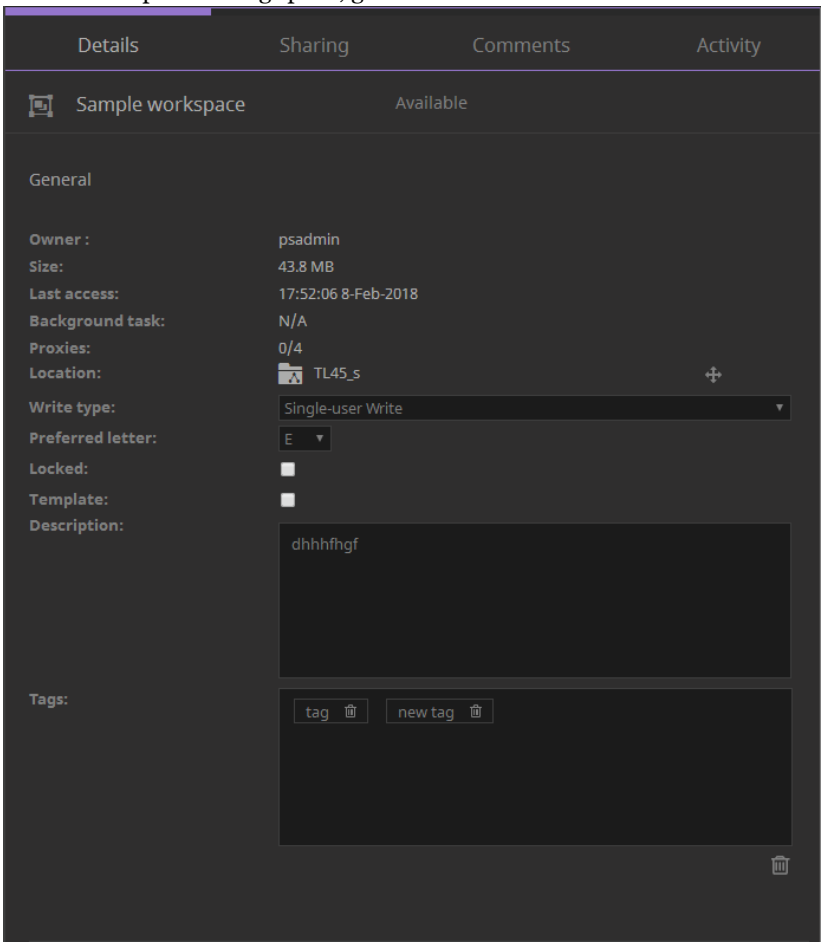
Note: *Only the owner of a workspace, a Tiger Spaces administrator and users with Edit permissions can set the workspaces template or remove it from the list of templates.*

To set a workspace as template:

1. In the web interface, do one of the following:

- select a workspace in the list and click the Inspector button  in the taskbar.
- double-click a workspace in the list to open its page.

2. In the Workspace Settings pane, go to the Details tab and do one of the following:



- Select the Template check box, to allow using the workspace and its contents as a template.
- Clear the Template check box, to remove the workspace from the list of templates.

3. Click Save.

Set Workspace Permissions

Unless Tiger Spaces is deployed without security, the access to each workspace is subject to authentication. You can authenticate yourself using the account you log on to Tiger Spaces with (either a domain account or an internal Tiger Spaces account). Until permissions of the workspace are set only its owner can mount it for viewing or editing. The owner of a workspace or a Tiger Spaces administrator can specify permissions defining who can access the workspace and with what rights:

Read — the user can mount the workspace with Read Only permissions only.

Write — the user can mount the workspace with Read Only, Read & Write and Exclusive permissions, but cannot delete the workspace.

Owner — the user can mount the workspace with Read Only, Read & Write and Exclusive permissions, and can manage any of its settings.

None — the user doesn't have access to the workspace.

Note: *Only an administrator can change the owner of a workspace.*

You can assign any of the above permissions to both individual users and user groups.

Note: *When Tiger Spaces operates in Active Directory domain environment, to assign permissions to a user group, this group must be a sub-group of the existing group "Tiger Spaces Users" on the domain controller.*

As you can set permissions both for a user and for the group this user is part of, Tiger Spaces performs the following check to decide which permissions to apply for the user:

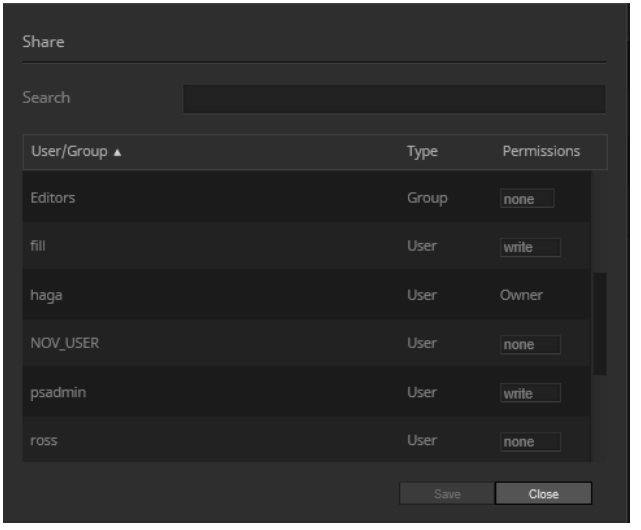
- the permissions set for the user precede the permissions set for the group the user is part of;
- if you specify permissions for two or more user groups, of which a user is a member, but do not set the individual permissions of that user, Tiger Spaces uses the more restrictive permissions set for the group i.e. if one group has Write permissions and the other has Read permissions, a member of both groups has Read permissions only;
- the permissions set for a sub-group precede the permissions set for the group of which this sub-group is a member;
- if no permissions are set specifically for a user or a sub-group, Tiger Spaces applies the permissions set for the group.

Each time you switch the environment in which Tiger Spaces operates from domain to workgroup or vice versa, an administrator of Tiger Spaces has to reset the permissions of each workspace manually to allow users to access it.

To set workspace permissions:

Important: *To change the permissions of a workspace, it must be with Available status. While setting the permissions, the workspace is with In Use status and no computer can access it until you exit the Permissions interface.*

1. In the web interface, select a workspace in the list and click the Share button in the taskbar.
2. In the Share dialog, select the respective permission in the drop-down box next to a user/group and click Submit.



The new permissions are applied immediately.

Set Preferred Mount Point of a Workspace (Windows only)

When a client computer mounts a workspace for editing or viewing, the workspace is mounted on the computer as a local drive, using the following default mount point depending on the client computer operating system:

- Windows – the first available drive letter.
- Mac OS X - **`/Volumes`** directory.

When creating a new workspace, you can specify a preferred drive letter to be used on all Windows client computers that mount the workspace. If the drive letter is already taken, the default mount point is used.

You can set or change the preferred mount point of a workspace at any time as long as the workspace is with Available status i.e. it must not be mounted on any other computer.

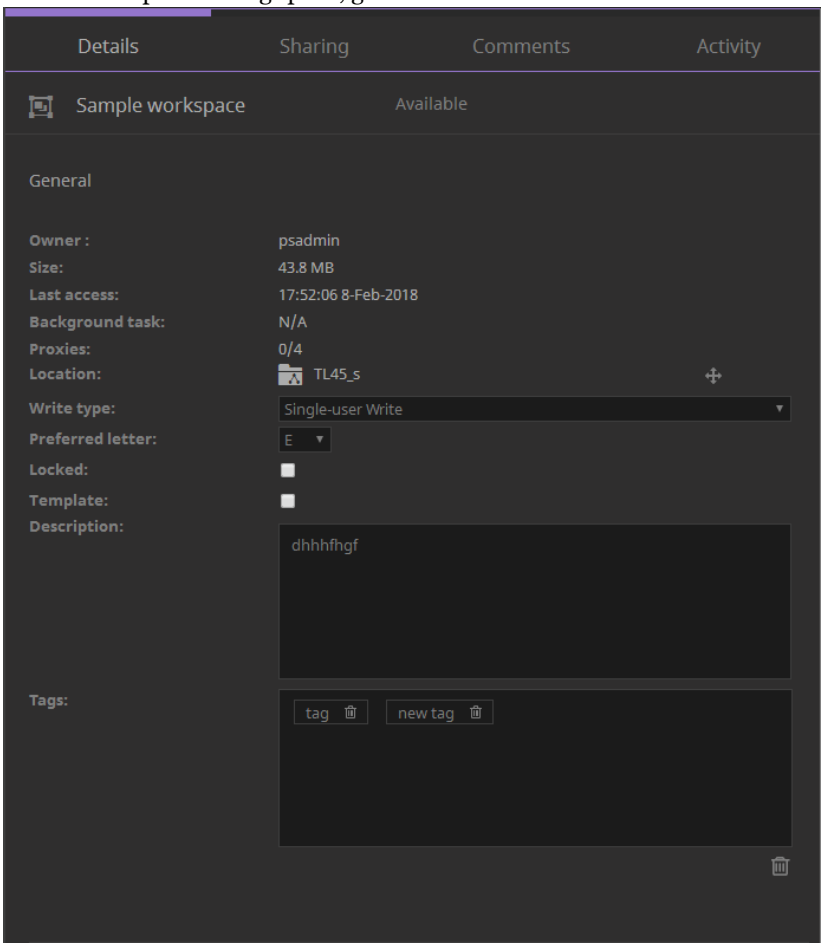
Note: *Only the owner of a workspace, a Tiger Spaces administrator and users with Edit permissions can change its preferred mount point.*

To set/change the preferred drive letter of a workspace:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button in the taskbar.

- double-click a workspace in the list to open its page.

2. In the Workspace Settings pane, go to the Details tab.



3. Select a drive letter in the Preferred letter drop-down box, and then click Save.

Move a Workspace Between Volumes/Network Shares

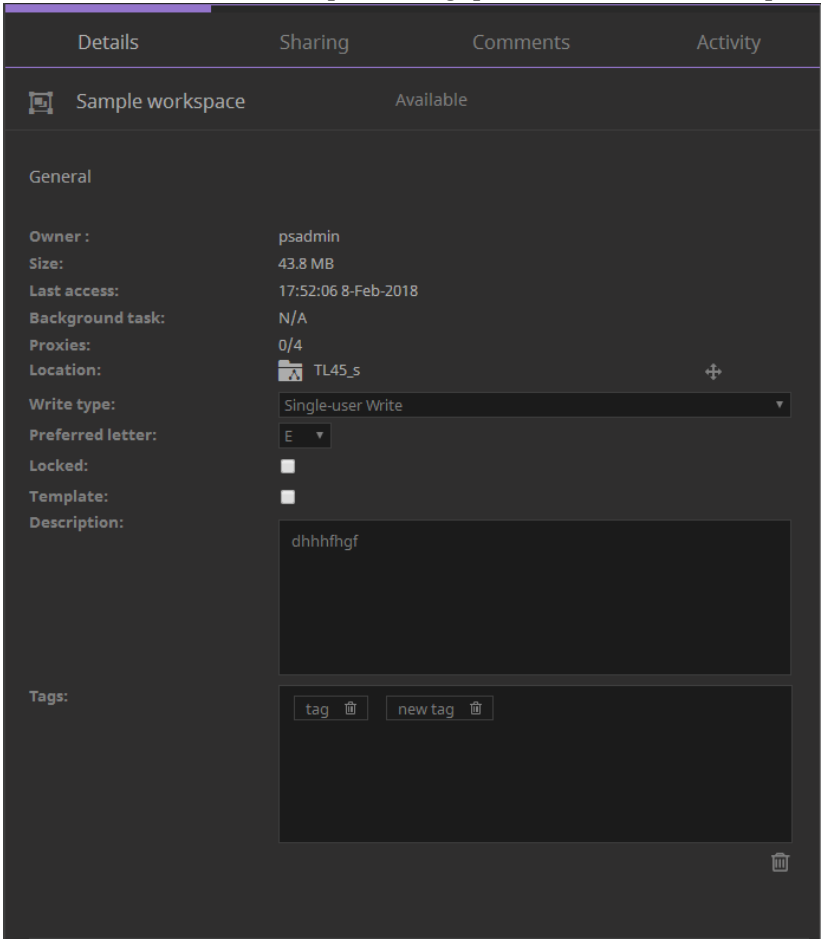
When Tiger Spaces support is enabled on multiple volumes/shares or on a volume pool, you can select on which volume/share to create each new workspace. Similarly, after a workspace is created in the depot, you can move it between the volumes in the pool or the volumes/shares, on which Tiger Spaces support is enabled.

Only the owner of a workspace or an administrator of Tiger Spaces can move a workspace as long as it is not mounted on any computer (it must be with Available status) and it is not locked. If workspace quotas

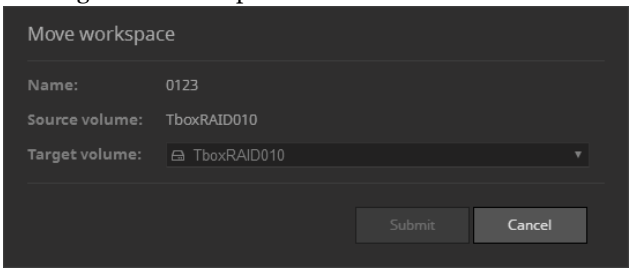
are enabled, users cannot move a workspace from a network share to a volume managed by Tiger Store. Also, should a Tiger Spaces administrator moves a workspace with assigned quota to a network share, the quota will be lost.

To move a workspace between volumes/network shares:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button in the taskbar.
   - double-click a workspace in the list to open its page.
2. In the Details tab of the Workspace Settings pane, click the Move Workspace button .



3. In the Move Workspace dialog, select the volume/network share on which to move the workspace in the Target volume drop-down box and then click Submit.



Change The Workspace Quota

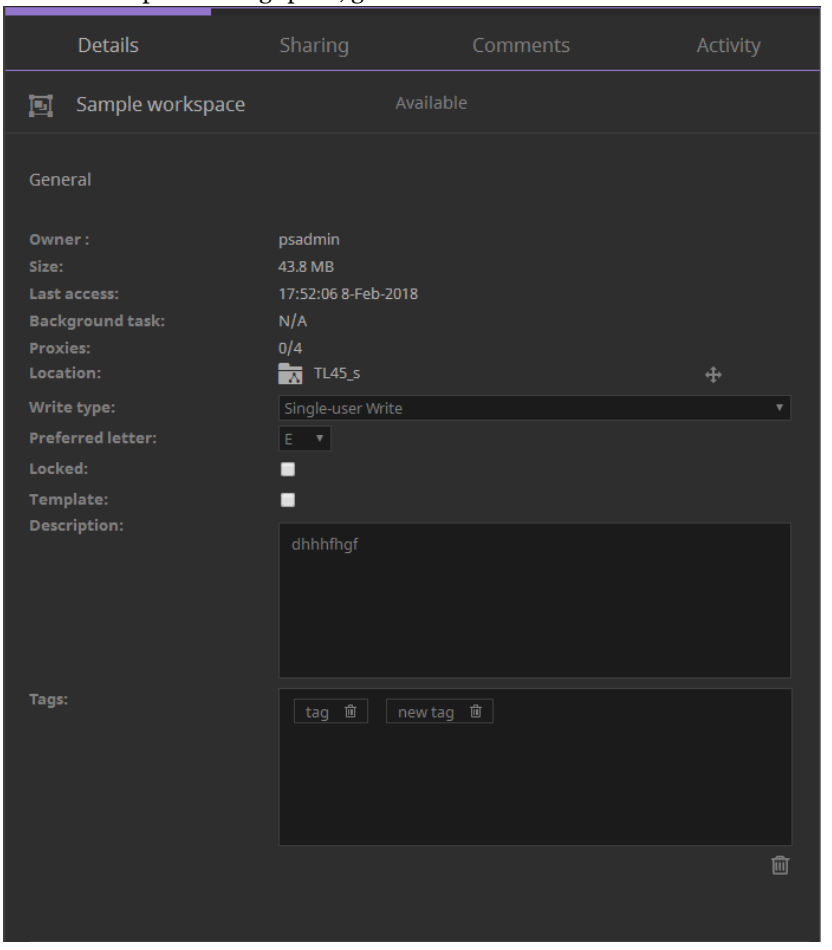
You can change the quota of a workspace after it has been created. You should make sure not to set a quota that is smaller than the current size of the workspace as this may prevent you and other users from mounting it.

Note: *Only Tiger Spaces administrators can assign/change the workspace quota.*

To change the quota of a workspace:

1. In the web interface, do one of the following:
   - select a workspace in the list and click the Inspector button in the taskbar.
   - double-click a workspace in the list to open its page.

2. In the Workspace Settings pane, go to the Details tab.



3. In Quota, enter the quota of the workspace and then click Save.

Tip: *To remove the quota of a workspace, simply leave the quota field empty.*

Rescan a Workspace

By default, each time a workspace is dismounted from a client computer, the Tiger Spaces parsers scan it in order to update information about files in the workspace, such as video codecs, frame rate, audio sample rate, application used, project structure, etc. Additionally on dismount the workspace database is updated with information about the workspace size, number of files, user accounts associated with it. You can force the parsing of a workspace without having to mount and then dismount it from a client computer and thus update metadata information about it in the depot database.

You can also rescan a workspace in order to force the generation of proxy media in it. You can do it only if the workspace doesn't contain any proxy media generated already. If it does, you should first clear its proxies and only after that rescan it.

Note: *You can rescan a workspace, only if it is with Available status i.e. is not currently mounted on any client computer.*

To rescan a workspace:

In the web interface, select a workspace in the list and click the rescan button in the taskbar.

4 Tiger Spaces|MAM

Tiger Spaces|MAM is a media asset management module designed in collaboration with IMC Technologies. It further enhances the efficiency of rich media & entertainment workflows by complementing Tiger Spaces with a robust engine for cataloguing, searching, making clip selection and building a rough cut-list that can be imported directly into Avid Media Composer, Adobe Premiere or Apple Final Cut Pro.

Getting Started

To get started with Tiger Spaces|MAM, you must:

• Install the IMC Technologies' module on the Tiger Spaces server or on both Tiger Spaces nodes, if high availability is activated. For more information, refer to the user's guide of the IMC Technologies' module.

Note: *If Tiger Spaces is installed on a Tiger appliance, contact Tiger Technology support for assistance.*

• Make sure Tiger Spaces|MAM is activated on the Tiger Spaces server/on each server node.

Integration with Tiger Spaces

Once the module is installed and activated, it automatically detects all Tiger Spaces workspaces and parses data in them. The MAM module uses the same user accounts already set up for access to Tiger Spaces - domain users in the "Tiger Spaces Users" and "Tiger Spaces Admins" groups or the internally created Tiger Spaces user or administrator accounts.

Should the Tiger Spaces|MAM service stop running for a reason, while new data is created in the workspaces depot, you can easily synchronize it following the steps below.

To resynchronize Tiger Spaces and Tiger Spaces|MAM data manually:

In the web interface, click the workspace menu ⋮ in the taskbar and then click MAM: resync workspaces.

Accessing the Web Interface of the MAM Module

You can access the MAM module's web interface directly through port 85 (for more information, refer to the user's guide of the IMC Technologies' module) or through Tiger Spaces, by searching the MAM module's database.

Note: *When you access the web interface of the MAM module through Tiger Spaces, you remain logged in with the same user account you're currently logged in with in Tiger Spaces.*

To search the MAM module through Tiger Spaces:

1. Log on to the web interface of Tiger Spaces.
2. In the search box of the enter the search term and click the Search in MAM button .

5

Best Practices

Configuring SQL Server for Work with Tiger Spaces

The computer on which the Tiger Spaces database will be stored and managed must run Microsoft SQL Server (see “Database Server Requirements” on page 10), set up for work with Tiger Spaces. Tiger Technology provides a download of Microsoft SQL Server 2014/2016 Express together with an automated script that configures it for work with Tiger Spaces. In case the computer designated as database server already has SQL Server installed, you need to set it up for work with Tiger Spaces. You must set the server to operate in SQL Server and Windows Authentication mode and configure an existing SQL user account to:

- have sysadmin role.
- use SQL Server authentication and enable Login for the account.
- have permissions to connect to the database engine.

Additionally, if the database server and the Tiger Spaces server are on different computers, you will have to:

- set up SQL Server to allow remote connections, enable TCP/IP protocol and configure the TCP port to be used.
- configure the SQL Server Browser service to start automatically.
- allow SQL Server and the ports it uses for remote connection in the firewall of the database server.

Below you will find sample steps for configuring SQL Server using SQL Server Management Studio (SSMS) and SQL Server Configuration Manager, which is needed only when configuring SQL Server for work on a remote database server. You can download SSMS for free and install it on the computer designated as database server or on a remote computer.

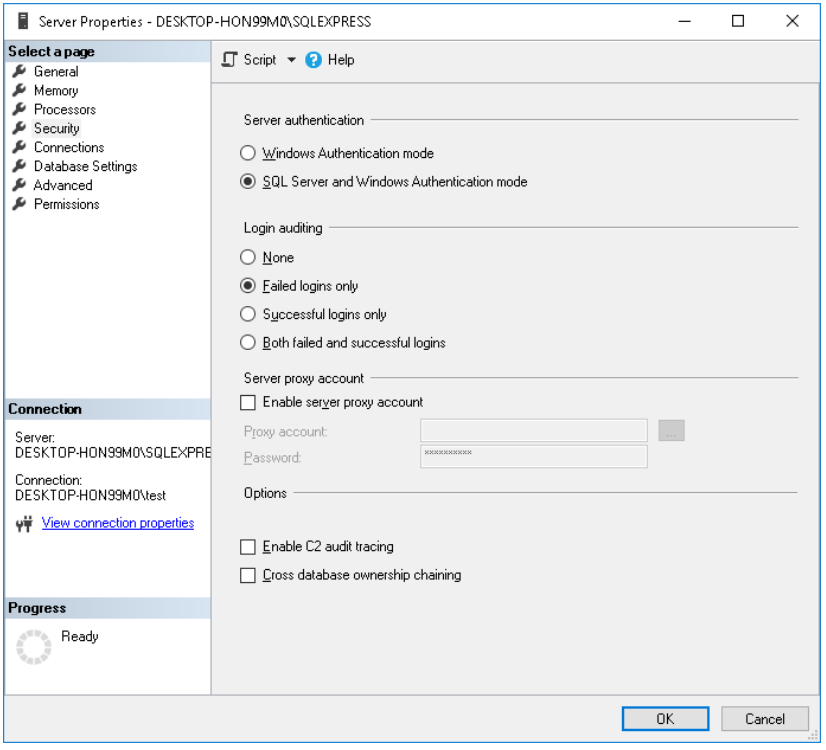
To configure SQL Server for work with Tiger Spaces on the same computer:

1. Start SSMS and connect to the computer running SQL Server.

   Note: *In case you are running SSMS on the SQL Server computer, type localhost as server name.*

2. Right-click the SQL Server node in the left pane and click Properties in the context menu.

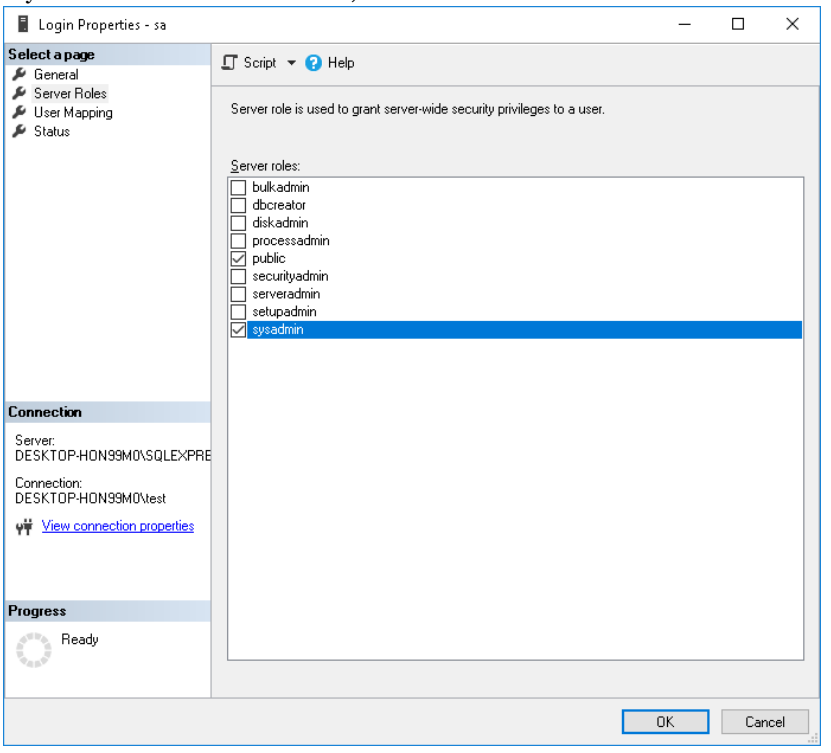
3. Open the Server Properties dialog and click Security in the left pane, in the right pane, select SQL Server and Windows Authentication mode, then click OK.



4. In the SSMS window, expand Security in the left pane and then expand Logins.

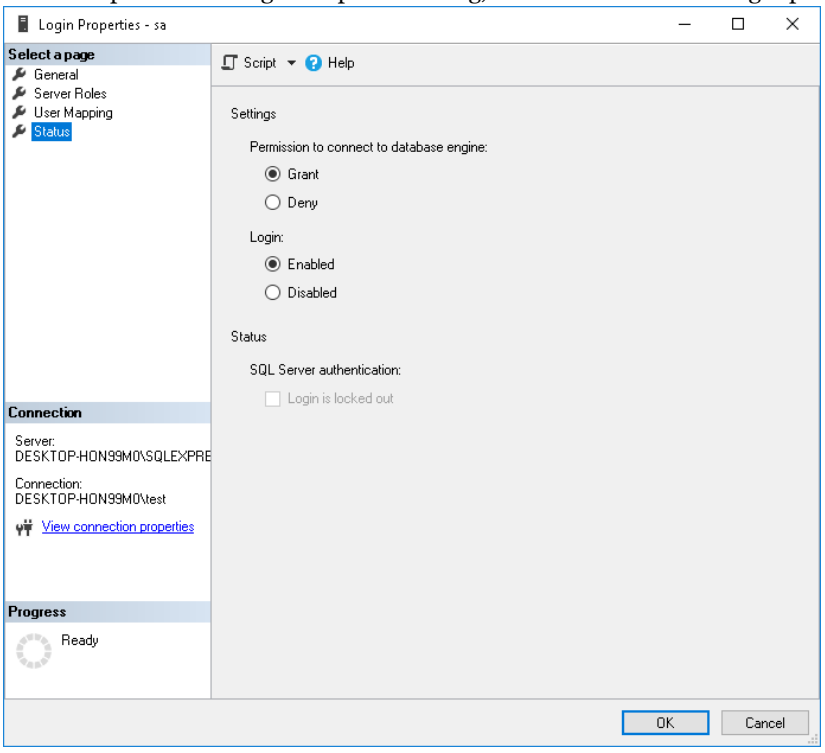
5. Double-click the user account, which you will use with Tiger Spaces to display the Login Properties dialog for the user.

6. In the left pane of the Login Properties dialog, click Server Roles and in the right pane make sure the "sysadmin" check box is selected, then click OK.



7. Double-click the user account, which you will use with Tiger Spaces to display the Login Properties dialog for the user.

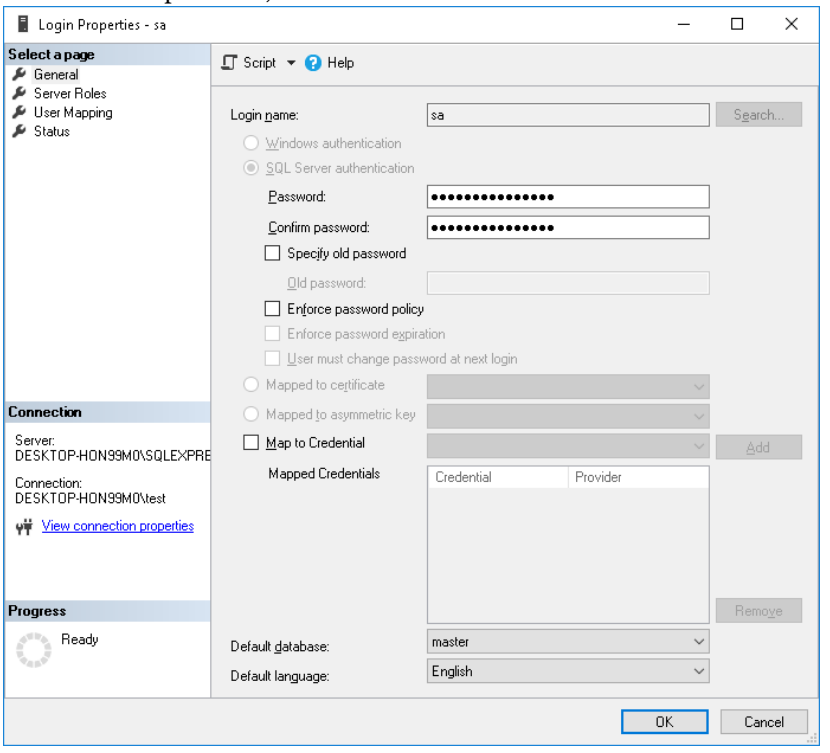
8. In the left pane of the Login Properties dialog, click Status and in the right pane do the following:



- Under "Permissions to connect to the database server", select Grant.
- Under "Login", select Enabled.
- Click OK.

9. Double-click the user account, which you will use with Tiger Spaces to display the Login Properties dialog for the user.

10. In the left pane of the Login Properties dialog, click General and make sure that the Password fields contain a valid password, then click OK.



11. In the SSMS window, right-click the SQL Server node in the left pane and click Restart in the context menu.

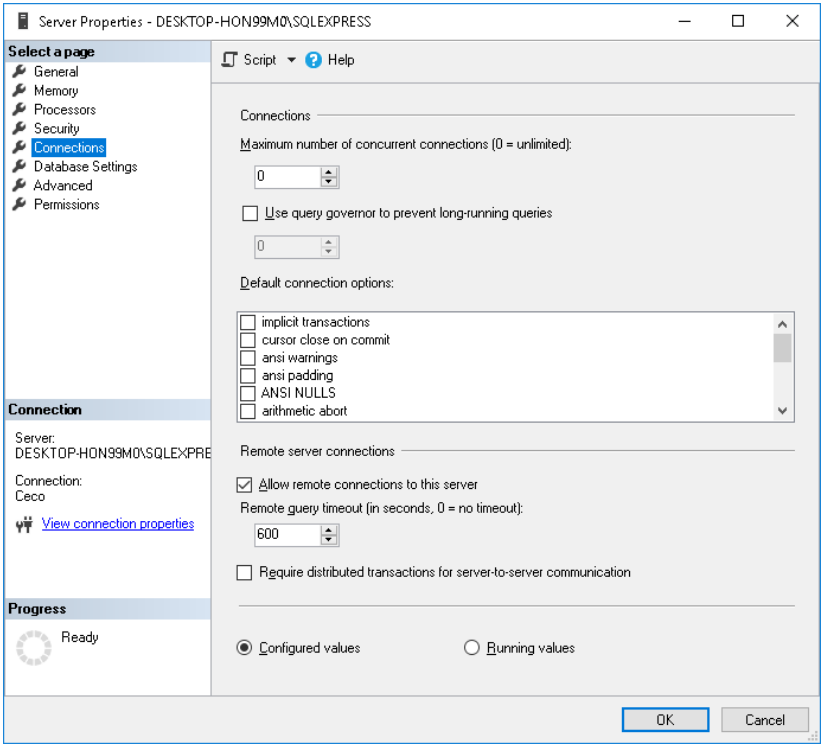
To configure SQL Server for remote access:

1. Start SSMS and connect to the computer running SQL Server.

Note: *In case you are running SSMS on the SQL Server computer, type localhost as server name.*

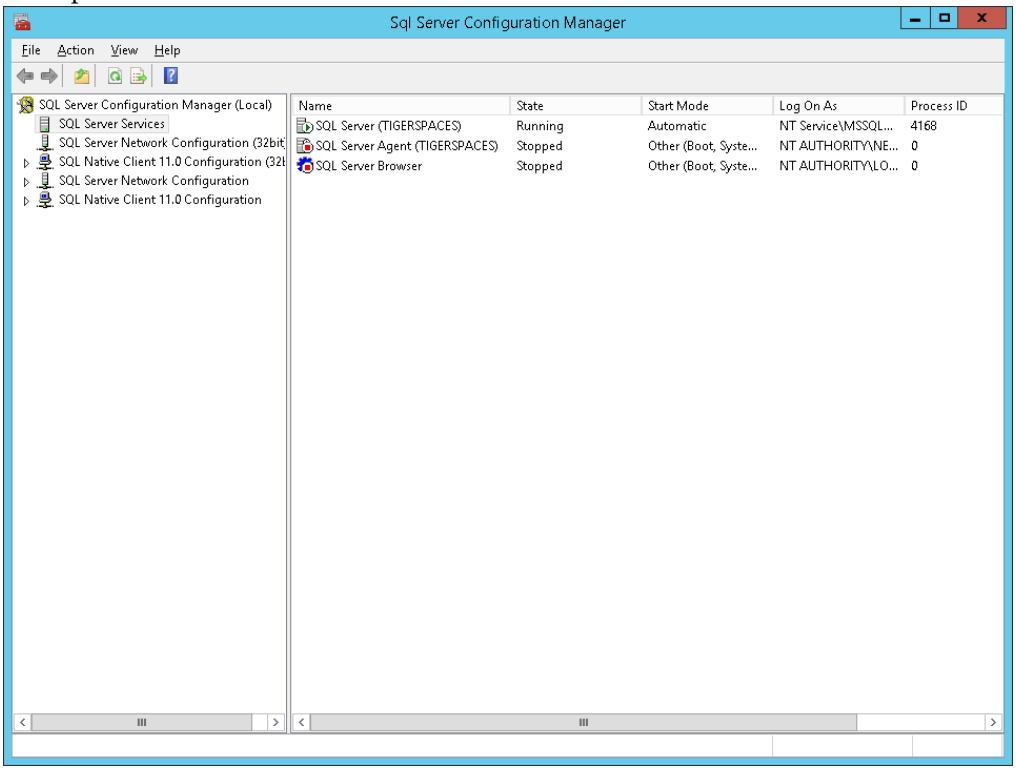
2. Right-click the SQL Server node in the left pane and click Properties in the context menu.

3. In the Server Properties dialog, click Connections in the left pane and in the right pane, make sure the "Allow remote connections to this server" check box is selected, then click OK.

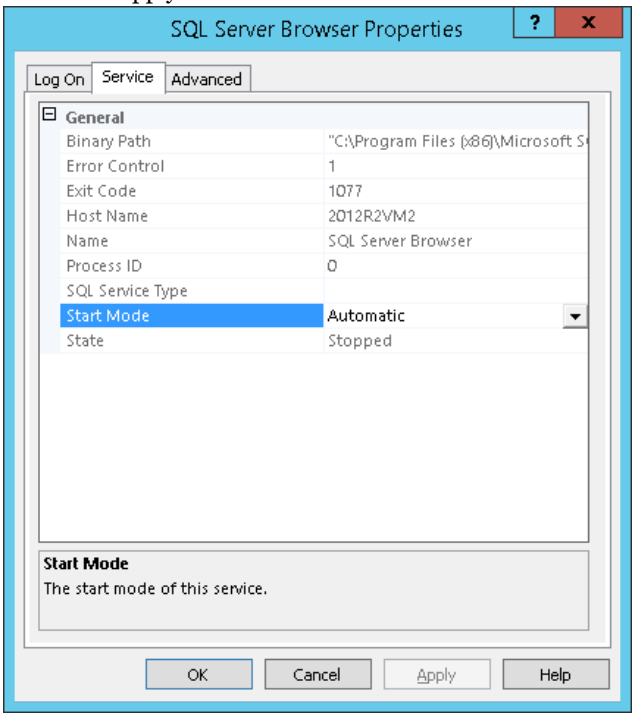


4. Start the SQL Server Configuration Manager.

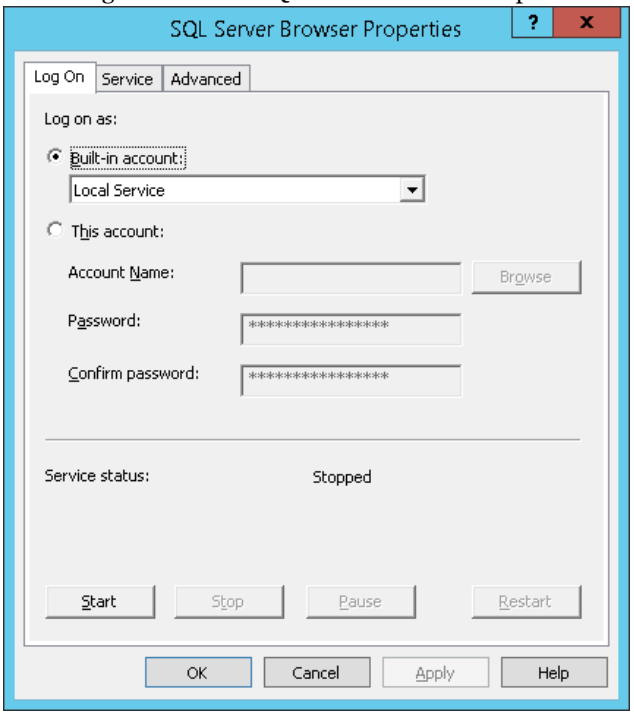
5. In the left pane click SQL Server Services and in the right pane right-click SQL Server Browser and click Properties in the context menu.



6. In the Service tab of the SQL Server Browser Properties dialog, select Automatic next to Start Mode and then click Apply.

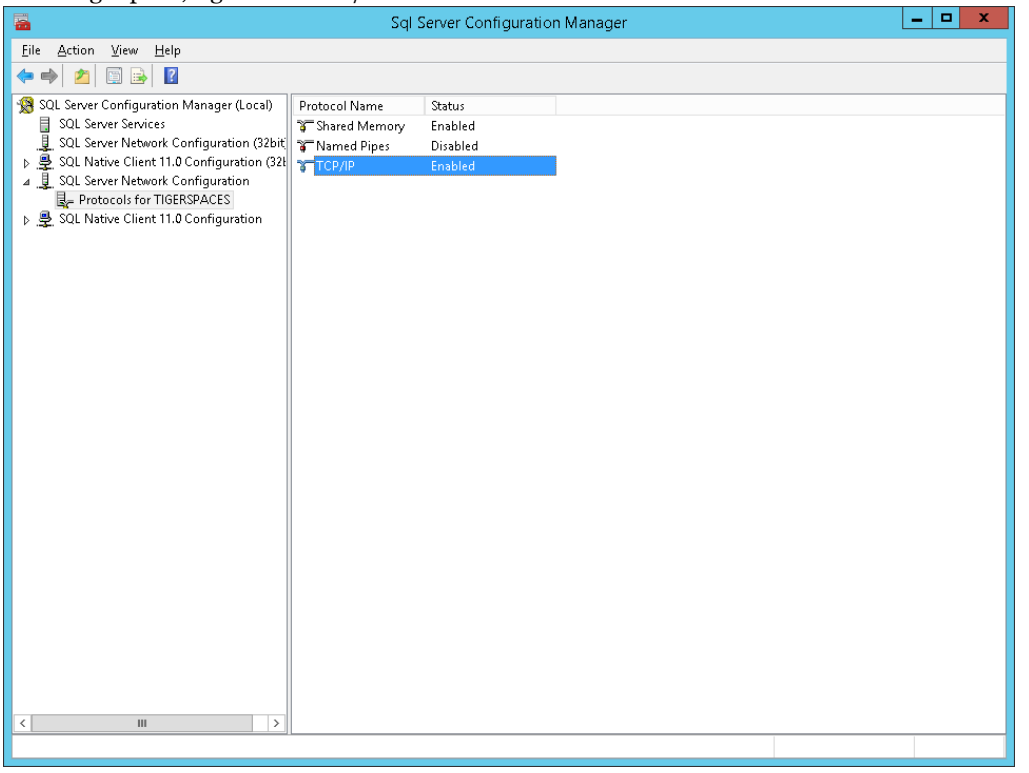


7. In the Log on tab of the SQL Server Browser Properties dialog, click Start and then OK.



8. In the left pane of the SQL Server Configuration Manager, expand SQL Server Network Connections and then select your SQL Server.

9. In the right pane, right-click TCP/IP and in the context menu click Enable.

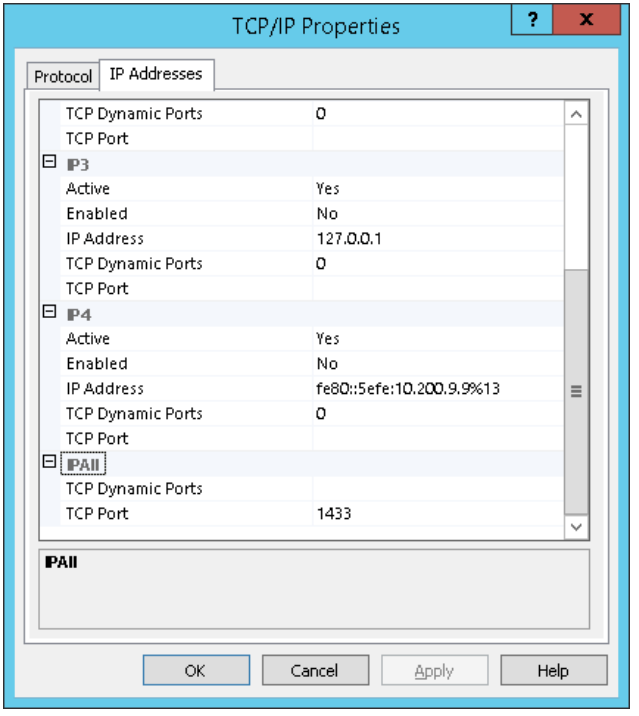


10. In the right pane, right-click TCP/IP and in the context menu click Properties.

11. In the IP Addresses tab of the TCP/IP Properties dialog under IPAll do the following:

- Delete the value for "TCP Dynamic Ports".
- Enter 1433 as value for "TCP Port".

- Click OK.



12. Restart the SQL Server service.

Tip: *You can easily restart the whole SQL Server in the SQL Server Management Studio (SSMS) window, by right-clicking the SQL Server node in the left pane and then clicking Restart in the context menu.*

13. In the firewall of the computer running SQL Server allow the connection for domain, private and public networks of the following:

- TCP Port 1433
- UDP Port 1434
- sqlservr.exe

Note: *For exact steps about allowing connections in the firewall of your computer, refer to the documentation of your operating system.*

Access Workspaces on Samba 3.x Linux Shares from Mac OS X Clients

To provide Mac OS X clients with access to workspaces stored on Samba 3.x Linux shares, you should set them to access these shares using SMB protocol version 2 or above. For more information, refer to the documentation of your operating system.

Transfer Tiger Spaces Data to Another File System

As long as Tiger Spaces support is enabled on a volume/network share, the depot containing all workspaces data is hidden and even if you attempt to copy the contents of the whole volume/network share it may not be copied. That is why, to transfer the contents of the Tiger Spaces depot to another file system, you must first disable Tiger Spaces support on the specific volume/network share in order to unhide the depot. Once you do so, a folder named "tws" containing all data from workspaces stored on this volume/network share will become visible in the root of the file system. You can then normally copy data from the "tws" folder or set a system to back it up.

Important: *If a folder named "tws" already exist in the root of the volume/network share, you cannot disable Tiger Spaces support until you rename that folder.*

Install Tiger Spaces after Tiger Store

In case you want to install Tiger Spaces on a Tiger Store storage server, to ensure the normal functionality of both products, you must first install Tiger Store software and only after that Tiger Spaces.

Specify Domain Name and Access Credentials

In Tiger Spaces, you may need to provide domain information in the following cases:

- when you are adding a NAS appliance, which is accessible in Active Directory domain environment.
- when Tiger Spaces is deployed in Active Directory domain environment.

In both cases it is advisable to provide the name of the domain user account without its domain i.e. "user" instead of "user@domain.com" or "domain.com\user".

Also, when specifying the domain name, you must use its netBIOS name and not the full DNS name of the domain. For example, if your domain is named "department.example.com", the netBIOS domain name you must enter would probably be just "example".

Grant psadmin Account Read and Write Permissions to Volumes

If you want to enable Tiger Spaces on SAN volumes and the storage server operates in Active Directory domain environment, the default administrative account psadmin, which is automatically added to the local administrators group on the storage server, must have Read & Write permissions to the volumes even if you have restricted the permissions of the group itself.

Set Preferred Mount Point of Workspaces on Windows Clients

The setting for preferred mount point of a workspace is part of the global settings of a Windows computer, thus making it valid for all users that log on to the computer. By design, local settings such as mapped network shares always take precedence over global settings. This way, if you specify a preferred mount point of a workspace that uses a drive letter already mapped by a network share, when you attempt to mount the workspace, instead of the workspace drive you will mount the network share.

To avoid such situations, it is advisable to check if the preferred drive letter of a workspace is not already in use.

Avoid Long File Names

As the workspace in the depot are actually stored on a either an NTFS volume or a network share, each file operation is subject to the limitations of the underlying file system. On all supported file systems it is advisable to avoid long file names in order to ensure that file operations in the workspaces depot are normally processed.

Generally, on all supported file systems you should try to limit path length (filename included) to below 255 characters.

Avoid Using Hard Links on Network Shares

By default, network file systems don't provide support for hard links. As the Tiger Spaces depot may also comprise network shares, when using hard links in your workspaces you may encounter problems with applications making use of hard links for some of their files, like recording Final Cut Pro X voiceover file in a project, for example.

Export/Move Workspaces Containing FCPX Library with Linked Media

Even without Tiger Spaces, when your Final Cut Pro X project's library contains linked media, should you move the project on the same or another volume, the media in the library will become offline. The same can be observed with Final Cut Pro X project exported outside the Tiger Spaces depot. Even if the linked media is also exported/moved as part of the workspace, it will appear as offline until you re-link it.

Disable File IDs in the Samba Configuration File on Mac OS X

To ensure that Mac clients can normally work on SMB share(s) exported by a Linux computer, it is advisable to disable file IDs setting in the samba configuration file of each Mac OS X client computer following these steps:

1. In Terminal, access the Samba configuration file on the computer:
   `/etc/nsmb.conf`
2. Make sure that the file IDs line in the configuration file looks like this:
   `file_ids_off=yes`
3. Save the changes to the Samba configuration file and restart the computer.
4. Repeat the above steps on each Mac client computer.

6 Known Issues

Supported Storage Known Issues

No Support for Tiger Spaces on a Volume Pool

Currently, you cannot enable support for Tiger Spaces on a volume pool.

No Support for NFS Shares Containing Non-Latin Characters in Their Name

Currently, you cannot enable Tiger Spaces on NFS shares, which contain other than Latin characters in their names.

Web Interface Known Issues

Accessing the Web Interface Using Private Mode of Safari Web Browser

You cannot access the web interface of Tiger Spaces using private mode in Safari web browser. The problem is related to the inability of Safari to handle local storage when private browsing. The problem is not observed when using private mode (like Incognito mode in Google Chrome, for example) in other supported web browsers.

Accessing the Web Interface with Safari 11.x and Below

It is advisable to access the web interface of Tiger Spaces through Safari browser using version 12.x and above. Using previous versions of Safari browser may result in inconsistent behaviour.

Refreshing the Web Interface to List Tiger Store Volumes

After restarting the storage server you may have to manually refresh the browser in order to display Tiger Store-managed volumes in the web interface of Tiger Spaces.

No Support for Workspace Pinning on Internet Explorer

Currently, you cannot pin/unpin a workspace, if you are accessing the web interface of Tiger Spaces in Internet Explorer. To be able to benefit from the feature, you should use a different web browser.

Displaying Sub-group Information in the Inspector

Currently, when you choose to display information about a Tiger Spaces users group in the Inspector, it does not display information about any of this group's sub-groups. To view information about a sub-group, you need to select it in the User Management page and click the Inspector.

Refreshing the Settings Pages

When refreshing any of the Settings pages, the web interface may switch back to workspaces view.

Known Issues in Active Directory Domain Environment

Restarting Tiger Spaces to Apply Domain Info Changes

In some cases, changes you have introduced in the Save Domain Info dialog in the web interface may not be applied until you restart Tiger Spaces. Specifying Active Directory domain info through the Configuration Wizard does not require restart of your Tiger Spaces server.

Using Domain Users in a Sub-group of the Tiger Spaces Admins/Users Groups

While you can log in to the Tiger Spaces web interface as a user member of a sub-group of the "Tiger Spaces Admins" or "Tiger Spaces Users" Active Directory domain groups and create new workspaces, currently, such users are not listed in the web interface of Tiger Spaces and you will not be able to manage them (share workspaces with them, view user statistics, etc.).

High Availability Cluster Known Issues

Cluster IP Desynchronization on the Tiger Store Server Nodes

Tiger Spaces high availability is closely dependent on high availability in Tiger Store. When you specify the Tiger Spaces cluster IP address, it is automatically assigned as an additional IP address of the respective network interface of the currently active Tiger Store node. In case of failover, Tiger Store takes care to transfer it to the standby node. Still, if you introduce changes to any of the IP addresses of this network interface in cluster view, Tiger Store will synchronize the changes on the standby node and as a result will automatically assign a consecutive IP address to the Tiger Spaces cluster.

A workaround to the problem is to manually delete the consecutive cluster IP address on the standby Tiger Store node in node view.

Mounting Pinned Workspaces After Restarting the Client Computer

It is possible a workspace pinned for your account to not be automatically mounted on your computer after you have restarted your computer. A workaround to the problem is to log out the Tiger Spaces web interface and then log in again.

Mounting a Workspace with Non-Latin Characters in its Name on Mac OS Client

Currently, Mac client computers cannot mount a workspace stored on a SMB share, if its name contains any non-latin characters. Mac clients can mount workspaces with non-latin characters in their name as long as they are not stored on a SMB share. Windows clients can normally mount such workspaces regardless of the volume/share, on which they are stored.

Workspace Quotas Related Known Issues

Mounting and Dismounting Workspaces, Which Have Reached Their Quota Limit

When a workspace has reached its quota limit, attempting to mount it on a client computer may fail in the Tiger Spaces' web interface, although the workspace is actually mounted on the computer. This will prevent you from unmounting the workspace in the web interface. Currently, the only workaround to this problem is to free some space in the workspace by deleting some files so that it doesn't take up all its quota and then close it.

New Quota Setting Lost if Workspace is Moved at the Same Time

It is possible Tiger Spaces to fail to apply the quota setting changes you've introduced, if you also move the workspace to another volume in the Workspace Settings dialog before saving the changes. To ensure that you have applied the changes to the workspace quota, it is advisable to click Submit before moving the workspace and only then re-open the dialog and move the workspace.

Viewing Workspace Drive Size When Quotas are Enabled

When a workspace with a quota is mounted on a client computer, Windows Explorer displays the size of the quota as the size of the workspace drive, while on Mac OS X and Linux, the operating system displays the size of the volume, on which the workspace is stored, as the size of the drive.

Known Issues on Client Computers

Delayed Notifications about File Operations on Mac Clients

In contrast to Windows clients, on Mac clients the notifications about changes in the workspace contents made on another computer (a new file is created or an existing file is renamed/deleted) may not be instantaneous. Depending on when the change is been introduced, Mac clients may have to wait up to 30 seconds to get a notification about it.

Workspace Remains Mounted After Disconnecting from the Storage Server

It is possible a workspace to remain with In Use status in the web interface, when a client computer disconnects from the storage server before dismounting the workspace. You should simply close the workspace in the web interface to change its status to Available.

Workspaces Mounted in the Finder after Disconnecting Mac Client from the Storage Server

It is possible a workspace mounted on a Mac client to remain mounted in the Finder, although the client computer has been disconnected from the metadata controller. In case the client has been physically disconnected, although the workspace is mounted in the Finder, users cannot mount it and work with it. When the client computer has been disconnected through the web interface, the workspace is mounted in the Finder and the client can introduce and save metadata changes to it (delete or rename files and folders), but cannot write data to it.

Missing Proxies

It is possible to lose the proxy media generated for a workspace in the following cases:

- if you move a workspace from one volume/share to another.
- if you disable and then enable again support for Tiger Spaces on a volume/network share.

To regenerate the proxies for the workspace:

1. Clear the proxies of this workspace.

2. Force the generation of proxies for this workspace, by rescanning it.

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