

Windows Tableau server





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1. Running Setup



Running Setup

- This lesson describes how to install Tableau Server 2020.4 on Windows and perform essential configuration steps to get the server up and running.
- Installing the software is the first step to sharing and connecting to workbooks.
- Later lessons of this guide describe how to configure Tableau Server so users can connect from anywhere to share, view, and publish data.

Let's review

In the previous lesson (Planning Your Deployment) you figured out:

- How you're going to license your server (by users or by cores).
- What hardware you'll need in order to run your server.
- How your users are going to authenticate with Tableau Server—either using Windows Active Directory or using local authentication on Tableau Server.
- Whether you need to create a domain account for the Run As User account.

Before you install

- Compared to about 98.7% of the other server products on the planet, Tableau Server has an amazingly simple install program.
- Still, there are a few things you must do before you proceed.



Server software

- Make sure you have the right version of Tableau Our recommendation is this: use the same version (for example, 2020.4) of Tableau Desktop and Tableau Server across your organization.
- To get the latest version of Tableau Server software, go to the Customer Portal
- When you purchase Tableau, you get a user name and password to sign in to the Customer Portal.

Get a product key and make sure you're registered

- Using the user name and password that you received when you purchased Tableau, go to the Customer Portal and get your product key.
- Also make sure that you've registered an email address.
- We need a contact email to associate with each product key

Make sure you have the right Windows version

The following 64-bit Microsoft Windows Server operating systems are supported:

- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019



Make sure you have Administrator permissions

- To run the Tableau Server installation program, you must be signed in to the computer as a "local admin"—a user who's a member of the Administrators group in the Local Users and Groups management console in Windows.
- The "local" part means that you're an administrator for the local computer only, not for any other resources or computers on the network.

Make sure you're installing on a "clean" computer

As we discussed in the planning lesson, we recommend that you install Tableau Server on a computer that's dedicated to running Tableau Server. Here's why:

- Performance.
- Security.
- Interoperability.

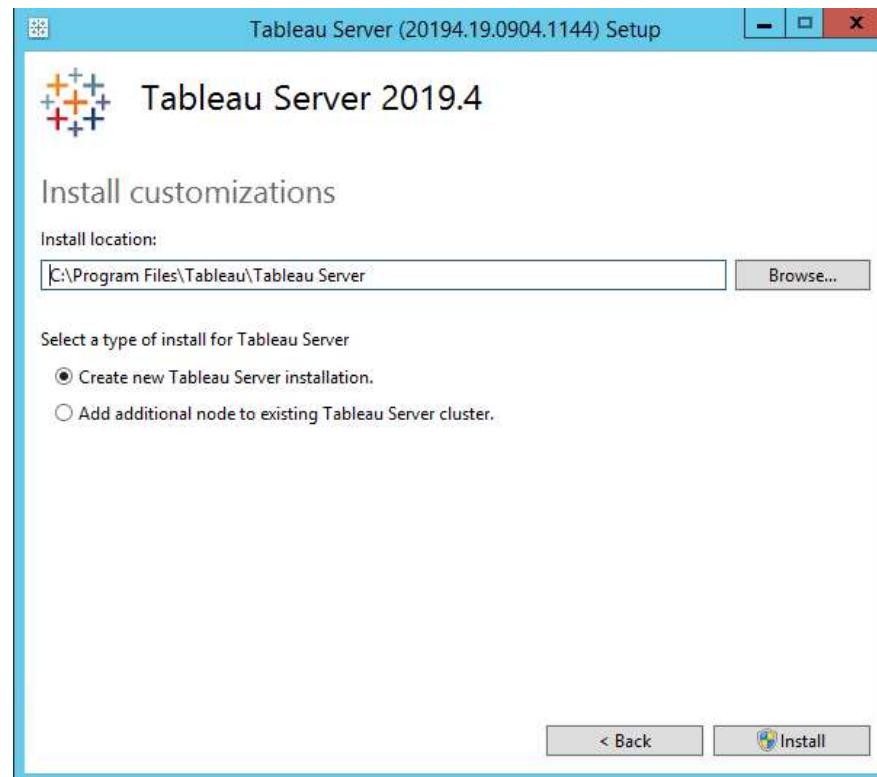


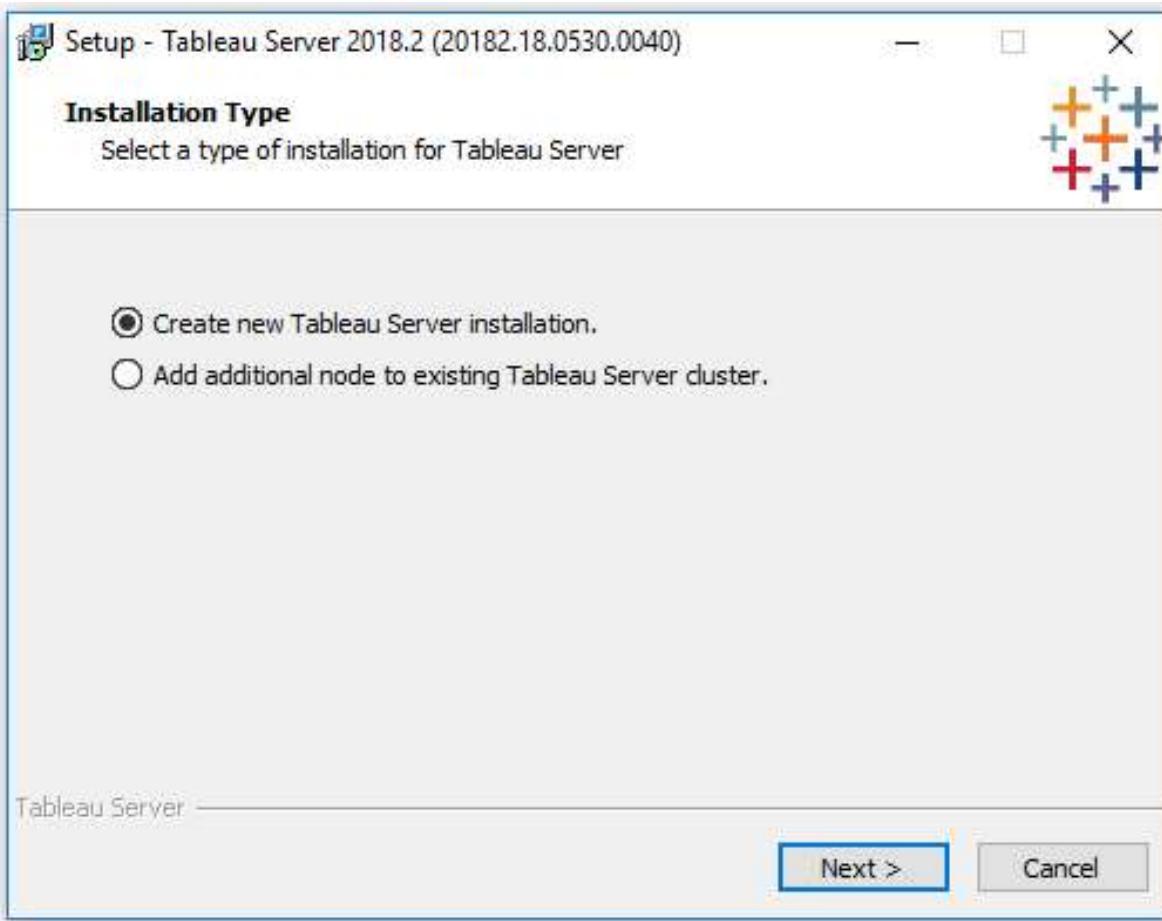
Step 1: Run Server Setup

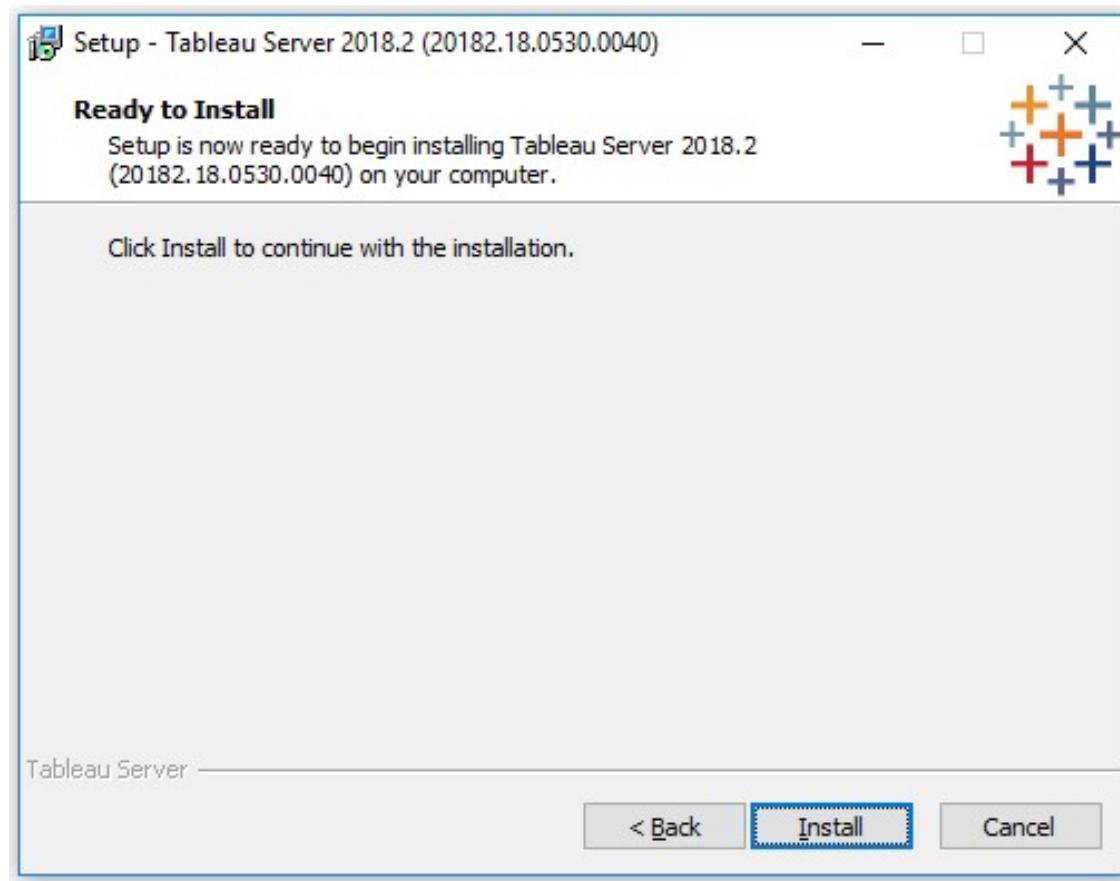
- After you download the Tableau Server installation file, double-click the installation file and then follow the on-screen instructions to complete setup and install the application.



Choose an installation path

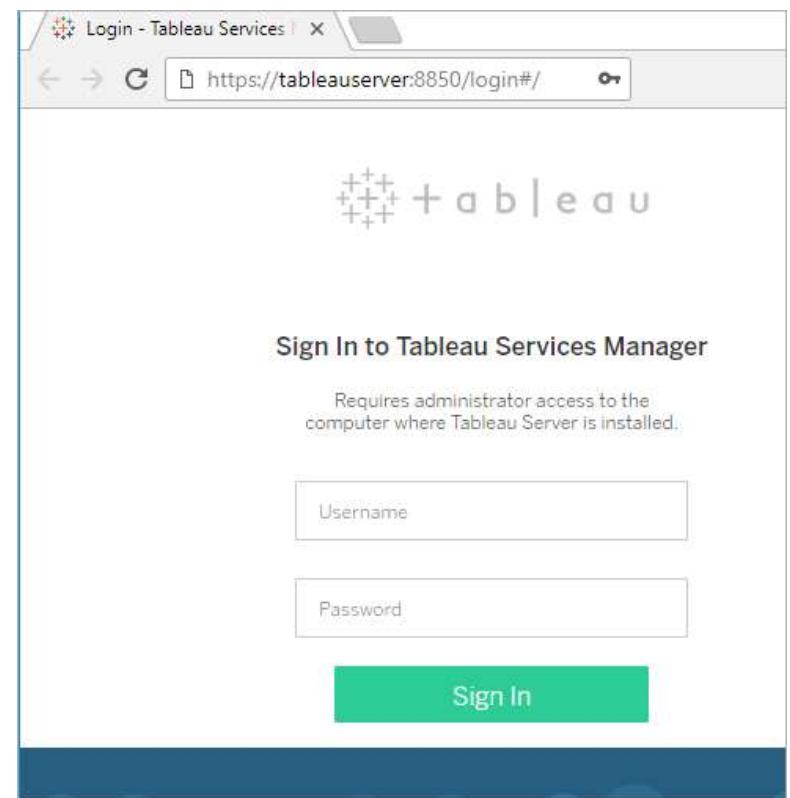






Step 2: Sign in to TSM

- The remainder of the setup process is performed with TSM in a web browser.
- After the first part of installation is complete, the Setup program will launch your browser and prompt you for your credentials:



Step 3: Activate and register Tableau Server

- When TSM starts, it will launch the Activate page.

The screenshot shows the activation process for Tableau Server. At the top, a horizontal progress bar indicates the steps: Activate (green dot), Register, Setup, and Initialize. Below the progress bar, a message reads: "Enter your license product key to get started with Tableau Server." A large input field is labeled "Product Key" and contains the placeholder text "The key has 20 characters" and the value "0000-0000-0000-0000-000". To the right of the input field, a note states: "Tableau Server requires at least one product key that activates the server and specifies the number of license levels you can assign to users. You can access your product keys from the Tableau Customer Portal..." Below the input field, a link says "I can't find my product key?". On the right side, a section titled "Activated Product Keys" shows the message "No product key currently activated". At the bottom, two buttons are visible: "Activate Product Key" and "Next". A promotional message "Try it free for 14 days" is displayed above a button labeled "Start Tableau Server Trial".

Step 4: Configure essential Tableau Server settings

- After you finish activating and registering, the Tableau Server configuration options page appears.

The settings below are all you need to get started.

Identity Store
You cannot change the identity store after initializing.
 Local
 Active Directory

Run As Service Account
 NT AUTHORITY\NetworkService
 User Account

Gateway Port
Port Number: 80 (Default)

Product Usage Data
 Disable sending usage data to Tableau

Include samples
 Include sample workbooks

Initialize

Identity Store

You cannot change the Identity store after initializing.

Local

Active Directory

Domain:

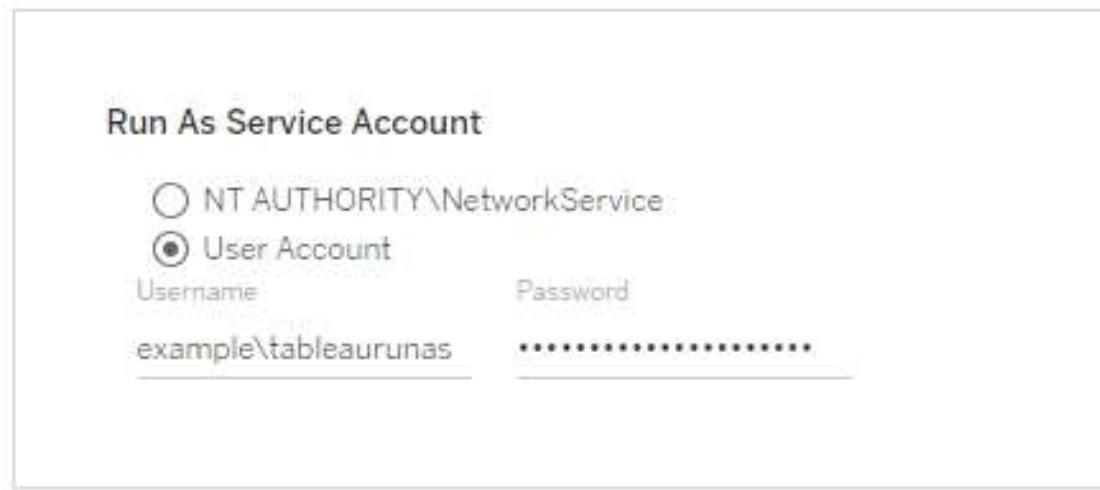
example.lan

NetBIOS (Nickname):

EXAMPLE

Set Run As service account

- If you have determined that your deployment plan requires updating the Run As service account with a domain account, enter that account in the User Account field.



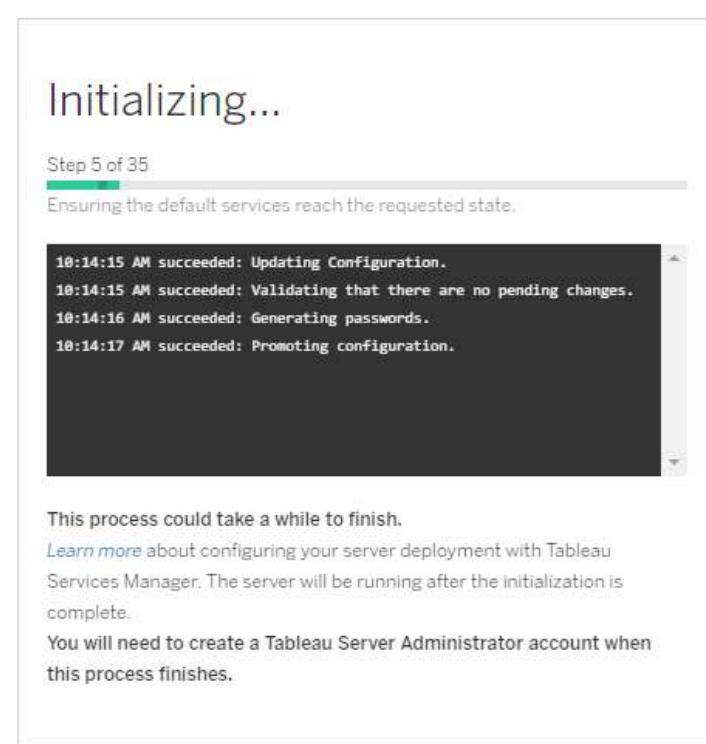
Set the port

- If the port number displayed in the Gateway section says 80, you're golden.



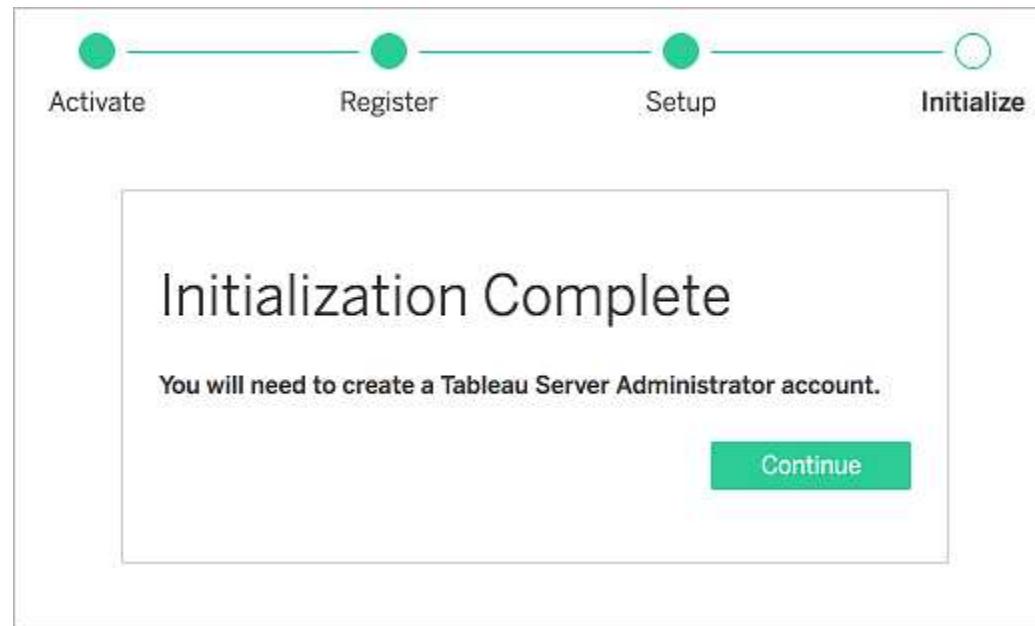
Continue configuration

- To continue the configuration, click Initialize.
- Tableau Server saves the configuration changes and will initialize.
- This can take a while.



Continue configuration

- When finished, the following page will be displayed:



Step 5: Create a Tableau Server administrator user

- The final step is to add an administrator user for Tableau Server.
- After the configuration is all set, Tableau launches your browser and presents a page where you set the administrator user for Tableau Server.
- The Tableau Server administrator is a user within Tableau Server who can manage all aspects of Tableau, including managing sites, users, groups, and projects, plus change server configuration settings.

Your server is installed!

- After you create the administrator user, you're signed in as the administrator to Tableau Server, using the web interface.
- You can poke around the UI to get a sense of what you can do.
- You can also try publishing a workbook to the server from Tableau Desktop.
- But before you roll out Tableau Server to all colleagues, you must perform a few more steps.

2. Backing Up Tableau Server



Backing Up Tableau Server

- Backing up your server should be part of your regularly scheduled server maintenance.
- Backups provide peace of mind because they allow you to restore the server configuration and content to a previous state if anything unexpected happens.



Back up Tableau data

- A proper backup of your Tableau Server installation saves all your configuration information, user information, and content.
- Even if you're already making backups of your server or software using third-party utilities or snapshots, you still need to follow this procedure.
- The only way to restore Tableau Server to a previous state is from the files you will generate in the procedure below

Creating backup files

To back up Tableau Server, you must generate two backup files:

- Repository data
- Topology and configuration data:



To create back up files

- Generate a repository backup with the date appended to the file name. Run the following command:

`tsm maintenance backup -f <backup_file> -d`

- For example, if you want to generate a backup file called `repository-<date>.tsbak`, run the following command:

`tsm maintenance backup -f repository -d`

- TSM will append the file name with the date and the file extension, `.tsbak`. The file will be saved to the following location:

`C:\ProgramData\Tableau\Tableau Server\data\tabsvc\files\backups\`

To create back up files

- Generate a topology and configuration backup.
- Run the following command:

```
tsm settings export -f <path-to-file.json>
```



To create back up files

- Run the following command to create a topology and configuration backup file with the proper file extension (.json) and date in the file name.
- The command example also includes the path to the same location as the repository backup:

```
tsm settings export -f C:\ProgramData\Tableau\Tableau  
Server\data\tabsvc\files\backups\topology-config-  
<date>.json
```

3. Securing Client-Server Communication



Securing Client-Server Communication

- This lesson describes how Tableau Server communicates with other computers, and what you can do to make that traffic more secure.



An overview of HTTP and client-server communication

- By default, Tableau Server, like many server applications, communicates with clients using the standard web protocol, namely HTTP.
- In HTTP, when a browser sends a request to the server, and when the server responds, the information is sent back and forth in clear text.
- That means anyone who can snoop on that communication can read its content.

Your security goals: privacy and trust

- When it comes to securing communication between Tableau Server and its clients, you're after privacy and trust.
- To achieve privacy, you make HTTP content unreadable to anyone who might snoop.
- You do this by encrypting the traffic.
- But you also need a trust relationship between the server and client.

Using SSL to encrypt Tableau Server communication

- SSL (secure sockets layer) is a protocol similar to HTTP, except that it lets computers send encrypted information across a network such as the web.
- (We're using the term SSL as the generic name for this protocol; you might also see it referred to as TLS.) SSL accomplishes the two goals mentioned earlier—privacy and trust—through the encryption and authentication that we just mentioned.
- When SSL is enabled for Tableau Server, users can use `https://` instead of just `http://` to request content from the server.

SSL and VPN

- Some of your Tableau Server users might access your server from offsite using a VPN (virtual private network) connection to your network.
- In that case, although the users are offsite, the VPN connection itself provides both privacy and trust.
- It's still a good practice to enable SSL, but it's not essential if access to Tableau Server for your users is across a VPN.

SSL certificates

- To support SSL, the server requires a digital certificate.
- You can obtain a digital certificate from a publicly trusted, third-party entity known as a certificate authority, or CA.
- A trusted CA verifies your organization's identity and then issues a signed certificate that is unique to your organization.
- Examples of trusted CAs include Symantec (VeriSign), thawte, and GlobalSign. There are many others.

Mutual (two-way) SSL

- We'll just mention here that it's possible to configure mutual SSL, sometimes called two-way SSL, where both the server and the client have certificates.
- Mutual SSL is particularly useful if your users will be accessing the server from public locations, especially over public wifi, because it helps make sure that only preconfigured clients are allowed access to the server.

Self-signed certificates

- Your organization can generate its own certificate without going through the vetting process that a CA offers. This creates a self-signed certificate.
- A self-signed certificate allows the client and server to establish encrypted sessions. However, it doesn't let the client verify the server's identity (authenticate the server).
- When users connect to the server, they see a message that says something like "This certificate is not trusted." The exact text depends on the browser or other client.

SSL for client-server traffic inside your organization

- The certificate that you obtain from the trusted CA helps secure traffic between your server and users working on computers outside your organization—that is for traffic from the internet.
- For this scenario, clients use your server's fully qualified (public) domain name, such as <https://www.example.com/.> (Notice the s at the end of https://)

Use your organization's existing internal CA and self-signed root certificate

- If your organization has an IT team, ask them if they have their own internal certificate authority.
- If they do, ask them to create a certificate for you.
- Often, these certificates will be automatically trusted by your Tableau users' computers, so you don't have to go through the process of configuring each client to trust the certificate.

Create a self-signed certificate for your server, and configure clients to support it

- Yes, we really are saying the exact opposite of what we just said in the section about using self-signed certificates for public traffic.
- But here's why it's okay: for client-server traffic that's isolated inside your organization's private network, you don't need public-level trust that you get with a CA-issued certificate.



How to decide which option to use

- If your organization has an internal CA, use it. This enables you to enable SSL internally, while sparing your users the pesky "untrusted certificate" browser messages.
- Use a self-signed certificate, and configure clients to trust it, or explain to users that it's okay to make an exception for Tableau Server and ignore the "untrusted site" browser message.

How to decide which option to use

- Obtain a certificate from a publicly trusted CA.
- If none of the first three options is available, enlist your IT department to help you with the process described for creating an internal CA.



Get and install a public certificate for Tableau Server

- The process for obtaining a certificate is different for each CA, and cost varies by CA and level of certificate you get.
- If your organization doesn't have an IT department, the best way to start is by searching the web using a phrase like "get ssl certificate" and reading through the offerings from different CAs.
- If your organization does have an IT department, ask them if they have a relationship with public certificate authorities and can streamline the acquisition process.

Enable SSL

- Open TSM in a browser: <https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI
- On the Configuration tab, select Security > External SSL.
- Under External web server SSL, select Enable SSL for server communication.

External web server SSL

Configure SSL for secure communication between Tableau Server and web clients. [Learn more about external web server SSL.](#)

Enable SSL for server communication

SSL certificate file (Required)

Select File

SSL certificate key file (Required)

Select File

SSL certificate key passphrase

Optional

SSL certificate chain file

Select File

If you are using SSL for server communication and want to configure SSL communication between Tableau Server and clients using certificates on both the server and clients, you must first enable mutual SSL. [Click here to configure the mutual SSL authentication method.](#)

Cancel

Save Pending Changes

Enable SSL

- Click Save Pending Changes.
- Click Pending Changes at the top of the page:



View the certificate

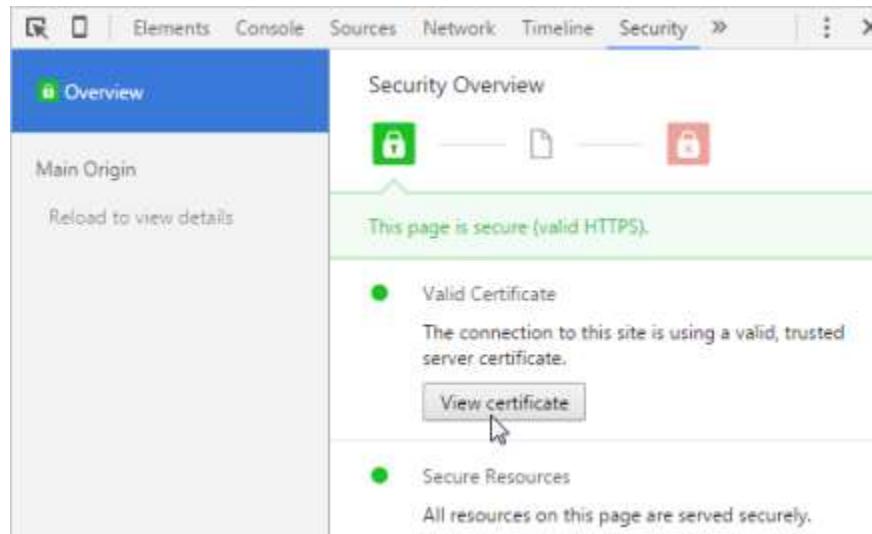
After you install the files, you can navigate to your site in a browser and view the certificate. We'll use Tableau Online on Google Chrome to show you how this works.

- Open your browser and go to online.tableau.com.
- Click the green padlock that appears in the address bar.



View the certificate

- Click the Details link. The site's security overview appears.



Be nice to your future self

- When you get the certificate files, make a note of their expiration date, and set up a plan now to update the certificate before it expires.
- Set a reminder on your calendar three months before the expiration date.
- Take notes on who you contacted to get the certificate, include purchase orders, receipts, and ticket numbers.

4. Creating Users



Creating Users

- The reason you have Tableau Server is to allow users to share their Tableau workbooks and data sources! So one of your tasks is to set up your server so that your coworkers can sign in, publish their work, and view the work of others.
- How you do this depends on whether you configured your server to use Active Directory identity store or local identity store.

About users, groups, and sign-in

- There are two ways to create users in Tableau Server.
- If the server is configured to use Active Directory, you import the users from your organization's Active Directory store.
- This copies user names and email addresses of users from Active Directory to Tableau Server. (It doesn't copy the password.)
- If you configured the server to use local identity store, you create a user name, password, and optional email address for each user

User limits and your license

- Your server license determines how many users you can create.
- If you have a user-based license, the license tells you the maximum number of registered users you can have, across a range of user-based license types.
- If you have a core-based license, you can create as many users as you want.

Sites

- Before we talk about users and roles, we must quickly talk about sites.
- You might be used to using the term site to mean "a collection of connected computers," or perhaps as the short form of "website."
- But in Tableau-speak, we use site to mean a collection of content (workbooks, data sources, users, etc) that's walled off from any other content on the server.

Users and site roles

- When you create a user, that user is in a specific site. For the tasks in this guide, you'll be creating users in the Default site.
- You also have to assign the user a site role, which defines the maximum access the user has.
- In this guide we assume that you, as the person who created the administrator user at the end of the Tableau Server installation process, have the Server Administrator site role.

Groups

- Tableau Server lets you organize users into groups, which makes it more convenient for certain tasks, such as assigning permissions.
- For now, your goal is just to add users to your Tableau Server site, so we'll go into detail when we talk about permissions.
- However, we mention groups here because if you're working with Active Directory, you can import users from Active Directory groups to Tableau Server groups.

Sign in to Tableau Server

- When you add users to Tableau Server, you create or import them using the Tableau Server administrator page, which you access with a web browser.
- Before you sign in, you'll need this information: The URL that you use to sign in to your instance of Tableau Server.
- The URL depends on whether you're working directly on the server computer or accessing the server from a different computer.
- If you don't know the server name or IP address, check with your IT person.

Here's how to sign in to Tableau Server:

1. Open your browser and enter the server URL. Here are some examples of what the URL might look like:

`http://localhost/` (if you're opening a browser directly on the server computer)

`http://MarketingServer/` (if you know the server name)

`http://10.0.0.2/` (if you know the server's IP address)

If the server is *not* using port 80, you need to include the port number in the URL, as in these examples:

`http://localhost:8000/`

`http://MarketingServer:8080/`

`http://10.0.0.2:8888/`

... where 8000 or 8080 or 8888 is the port that you configured.

Sign in to Tableau Server

- Tableau Server displays a page where you can enter a user name and password:



Create users: Active Directory

- If you configured Tableau Server to use Active Directory, you import users into Tableau Server from your organization's Active Directory.
- You can import users individually, but if you have a lot of users, you can also import them in a batch.
- Either way, you'll need to specify a site role for the users you're importing.

Import users individually

1. Sign in to Tableau Server.
2. At the top of the page, click Site.
3. Click the Users tab, click Add Users, and then click Active Directory Users.
4. In the Import Users from Active Directory dialog box, enter the user names for the Active Directory accounts that you want to import.



Import an Active Directory group of users

- Sign in to Tableau Server.
- At the top of the page, click Site.



Import an Active Directory group of users

- Click the Users tab, click Add Users, and then click Active Directory Group.
- In Import a Group from Active Directory, enter the friendly name of the group that you want to import.
- Select the group that you want to import.
- In Site role, select Explorer (Can Publish), and then click Import.

Should you delete group containers after importing users from Active Directory?

- When you import users from Active Directory groups, corresponding groups are created in Tableau Server.
- This is helpful if you want to map your groups from Active Directory directly to content permissions in Tableau Server.
- If that's useful to you, you might want to schedule periodic synchronization of Active Directory groups with Tableau Server.

Should you delete group containers after importing users from Active Directory?

To delete a group, do this:

- Sign in to Tableau Server.
- At the top of the page, click Server.
- Click the Groups tab and then select the group that you want to delete.
- Click the Actions drop-down menu, and then click Delete.

Create users: local identity store

If you configured Tableau Server to use local identity store when you installed it, you create users by entering user information directly into Tableau Server for each person who can sign in.



- Sign in to Tableau Server.
- At the top of the page, click Users.
- Click Add Users and then click Local User.

Import users with CSV file

- For bigger batches of users, you can save time by creating a text file that lists the user name, password, and site role, and then importing the file.
- If that seems useful to you, you can read more about it in CSV Import in the Tableau Server Help.

Back up your server

- Now that you have users on your Tableau Server, you should do a backup.
- Our backup process is quick and straightforward. We made it that way so that you can easily perform backups as part of a regular server maintenance rhythm.
- For a refresher on how to perform backups, see [Backing Up Tableau Server](#)

5. Structure Content Projects, Groups, and Permissions



Structure Content Projects, Groups, and Permissions

- When your Tableau authors want to share their data sources and reports (content) on your Tableau Server, they need to know where they should publish that content, so that the people they want to share it with can find it easily.
- To publish or view content on Tableau Server, users must sign in to the server.
- After signing in, each user must have permissions to work with content.

Groups, projects, and permissions: at the core of content management

To set up a successful Tableau Server content environment, you coordinate the following pieces:

- Groups—sets of users who need the same type of access to content.
- Projects—containers for workbooks and data sources, each of which generally represents a category of content.
- Permissions—sets of capabilities that define who can work with what content.

Use groups to keep permissions manageable

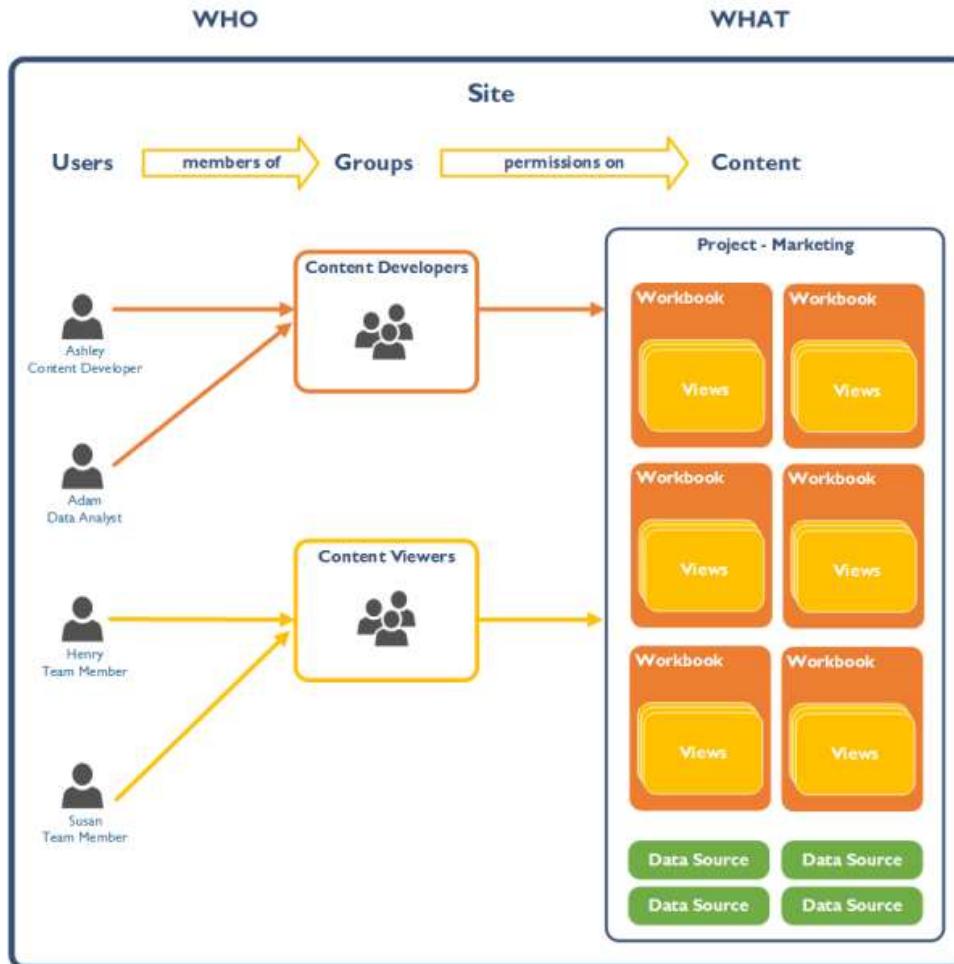
- We strongly recommend that you organize users into groups.
- You can then set permissions at the group level, to apply a set of capabilities to all users in the group.
- When you get a new Tableau user, just add them to the groups that give the access they need.

Use projects to separate content categories

- While publishing content, the publisher must select the project on Tableau Server in which to put their content.
- You use projects to keep related content together, whether you categorize by audience (e.g. finance), role (e.g. administrators), or function (e.g. production versus sandbox).

Project permissions on functional groups (example)

- This example shows how group permissions set at the project level coordinate with site roles to determine who (which groups) are allowed to access which content in the project.
- A good practice is to create groups based on functional categories—Content Creators, Content Viewers, Data Stewards.



Project permissions on functional groups (example)

For example, two groups cover three types of user:

- Ashley and Adam need to publish and manage workbooks.
- They are members of the Content Developers group, and their site role is Creator
- Henry needs to view and interact with workbooks. He belongs to the Content Viewers group, and his site role is Explorer
- Susan needs to view workbooks online (with no other interaction).
- She also belongs to the Content Viewers group, and her site role is Viewer

Walkthrough of a common content-management approach

To show you how projects and permissions work, we'll walk you through the following processes:

1. Set permissions defaults in the Default project
2. Create a new project for a hypothetical Marketing department
3. Create groups based on users' content needs
4. Create the temporary users for this exercise
5. Add the users to the groups
6. Assign permissions to the groups at the project level
7. Lock project permissions

1. Set permissions defaults in the Default project

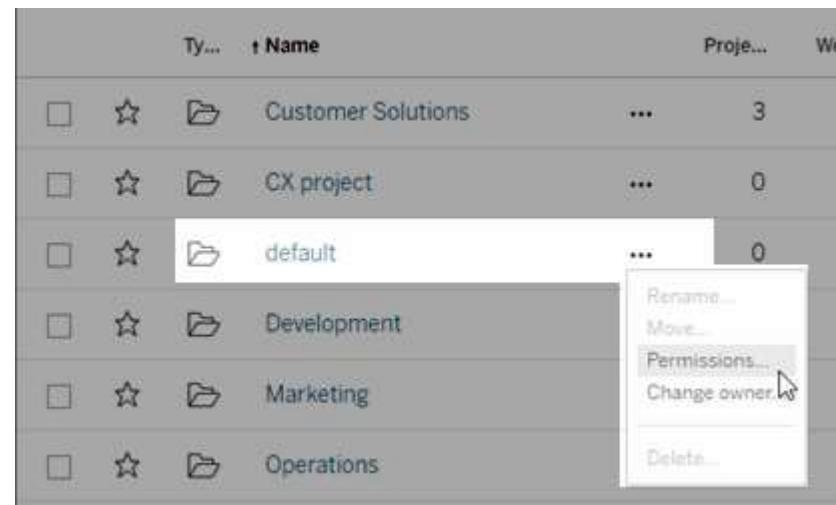
Every site in Tableau Server has a Default project. The default project is designed to be a template for new projects in the site, and is useful for creating a default set of permissions.

- While you're signed in to Tableau Server as an administrator, select the Content menu at the top of the page, and then select Projects.



1. Set permissions defaults in the Default project

- Open the permissions for the Default project. On the Actions menu (...), select Permissions.



1. Set permissions defaults in the Default project

- Next to All Users (a default group), select the . . . button and then Edit

The screenshot shows the 'Permissions' dialog for the 'Default' project. At the top, it says 'Edit permissions for the project "Default".' Below that is a search bar labeled 'Search for a user to view their permissions'. The main area is a table with four columns: 'User / Group', 'Project', 'Workbooks', and 'Data Sources'. The 'User / Group' row shows 'All Users (5)' with a dropdown arrow. The 'Project' row shows 'Publisher'. The 'Workbooks' and 'Data Sources' rows both show 'Editor'. In the bottom right corner of the 'All Users' cell, there is an 'Edit' button with a small circular arrow icon, and a cursor is pointing at this button.

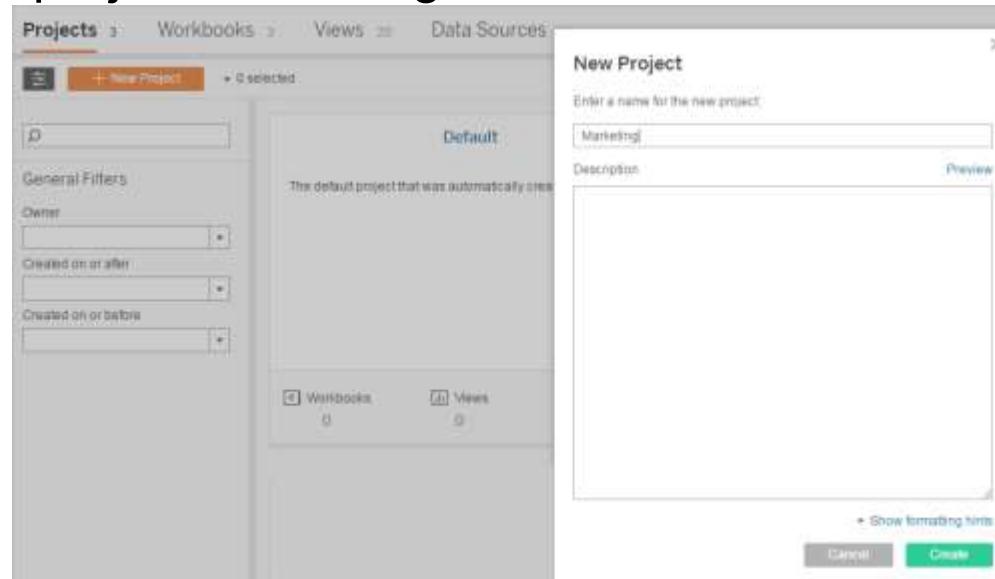
1. Set permissions defaults in the Default project

- Under Project, Workbooks, and Data Sources, select None.
- Click Delete to apply the changes.



2. Create a new project for a hypothetical Marketing department

- In the menu at the top of the page, click Projects, and then click New Project.
- Name the project Marketing, and then click Create.



3. Create groups based on users' content needs

- **Marketing – Content Developers**—This group is for users who can publish, edit, and manage workbooks, and connect to data sources.
- **Marketing – Content Viewers**—This group is for users who can view and sometimes interact with content in the project, but can't publish or save anything.

3. Create groups based on users' content needs

Always use descriptive, meaningful language for your group names.

- In the menu at the top of the page, select Groups.
- Click New Group and then name the group Marketing – Content Developers.

3. Create groups based on users' content needs

- Repeat these steps to create the other group.
- When you're done, your list of groups look like the list in the following image.

Groups 3				
+ New Group		0 items selected		
	Name			Users
<input type="checkbox"/>	ALL All Users	...		5
<input type="checkbox"/>	M Marketing - Content Developers	...		0
<input type="checkbox"/>	M Marketing - Content Viewers	...		0

4. Create the temporary users for this exercise

- For this walkthrough, you'll add four local users, all of whom you can delete when you are finished with this exercise.



4. Create the temporary users for this exercise

Just for the projects in this walkthrough (not for your own projects), and to help you easily identify the user's site role and project role, you'll give users verbose names in this form: <name> - <project role> - <site role>:

- Ashley - Content Developer - Creator
 - Adam - Data Analyst - Creator
 - Henry - Content Viewer - Explorer
 - Susan - Content Viewer - Viewer
1. In the menu at the top of the page, select **Users**.
 2. Click **Add Users**.

4. Create the temporary users for this exercise

New User

Username:	Ashley
Username available	
Display name:	Ashley - Content Developer - Creator
Password:	*****
Confirm password:	*****
Email (optional):	
Site role:	Explorer
	<input type="button" value="Add Users"/>

The Site role dropdown menu is open, showing the following options: Explorer, Server Administrator, Site Administrator, Creator. The 'Creator' option is highlighted with a mouse cursor icon.

4. Create the temporary users for this exercise

Site Users 5					
+ Add Users		▼ 0 items selected			
	Display name		Username	Site role	
<input type="checkbox"/>	S Susan - Content Viewer - Read Only	...	Susan	Read Only	
<input type="checkbox"/>	H Henry - Content Viewer - Explorer	...	Henry	Explorer	
<input type="checkbox"/>	A Ashley - Content Developer - Creator	...	Ashley	Creator	
<input type="checkbox"/>	A Adam - Data Analyst - Creator	...	Adam	Creator	

5. Add the users to the groups

With your groups set up and users added to the server, you can add users to them.

- In the menu at the top of the page, click Users.
- Select Adam and Ashley, and then in the Actions menu (...), click Group Membership.



5. Add the users to the groups

- Select Marketing – Content Developers, and then click Save.

The screenshot shows two overlapping interface elements. On the left is the 'Site Users' list with 5 items. Two users are selected: 'Adam - Data Analyst - Creator' and 'Ashley - Content Developer - Creator'. On the right is the 'Group Membership' dialog box, which lists 'All groups' and allows assigning groups to the selected users. The 'Marketing - Content Developers' group is checked under the 'Members' column for both selected users. A green 'Save' button at the bottom right of the dialog box is highlighted with a mouse cursor.

Group	Members
All Users	5
Marketing - Content Developers	0
Marketing - Content Viewers	0

6. Assign permissions to the groups at the project level

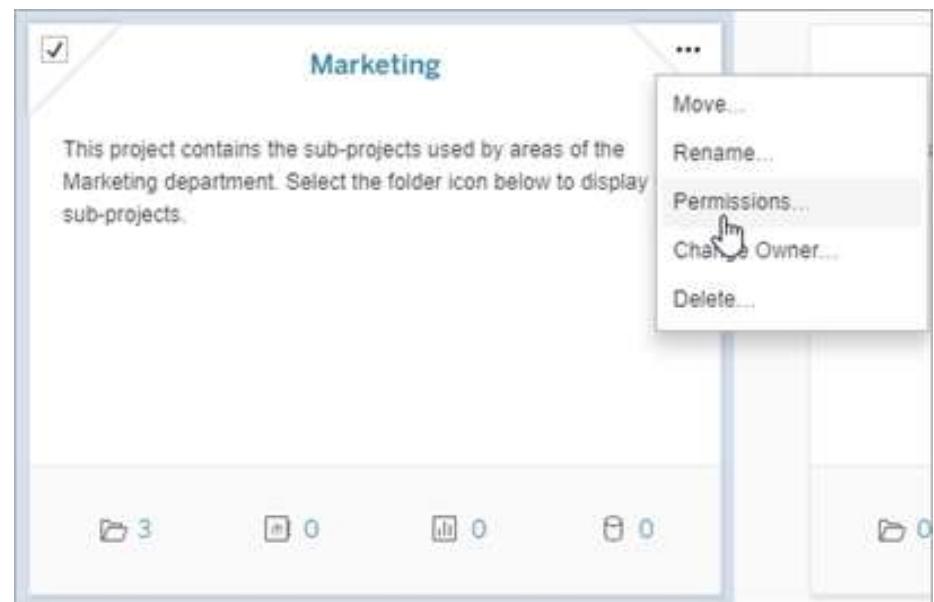
At the risk of repeating ourselves, we're not assigning permissions to individual users—users will get their permissions from the groups they're in.

- In Tableau Server, go to Content> Projects.



6. Assign permissions to the groups at the project level

- On the Marketing project, open the Actions menu (...), and select Permissions.



6. Assign permissions to the groups at the project level

Permissions

Edit permissions for the project "Marketing".

Search for a user to view their permissions

User / Group	Project	Workbooks	Data Sources
All Users (5)	None	None	None

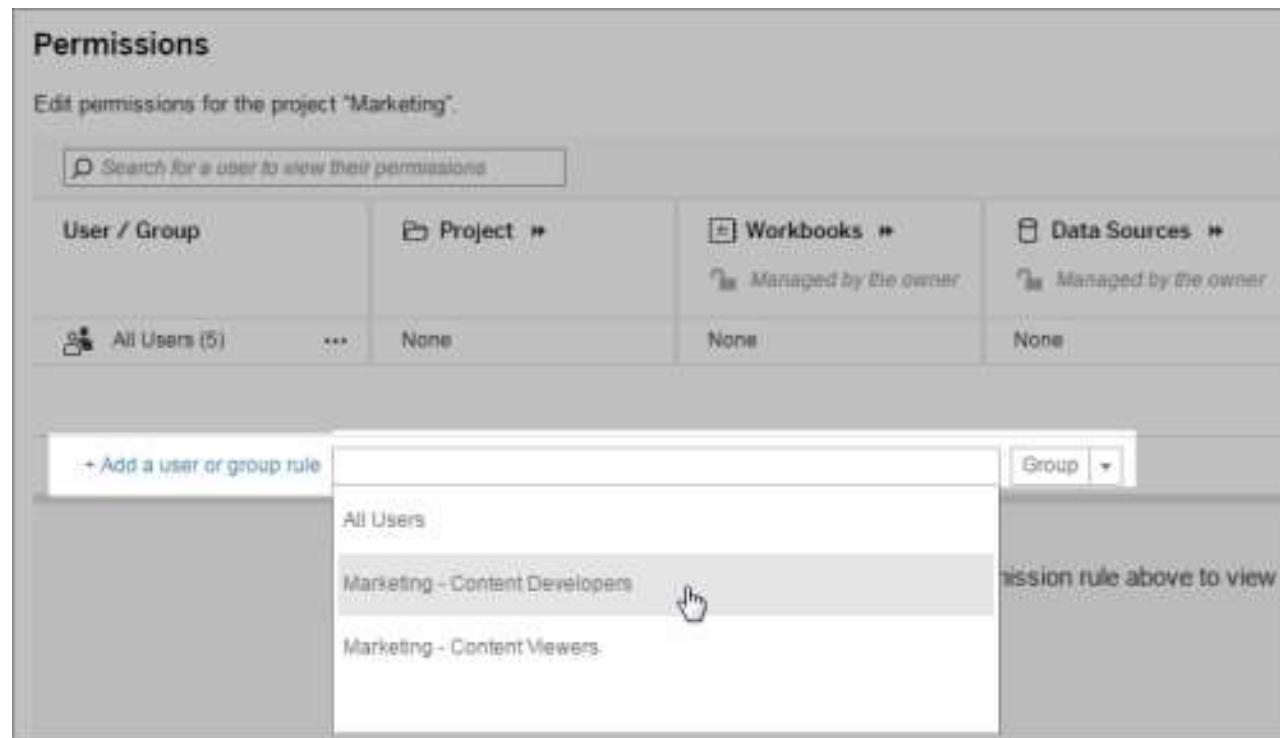
+ Add a user or group rule

All Users

Marketing - Content Developers

Marketing - Content Viewers

Group ▾



6. Assign permissions to the groups at the project level

- The page updates so that you can select permission roles under Project, Workbooks, and Data Sources.

User / Group	Project	Workbooks	Data Sources
All Users (5)	None	Managed by the owner	Managed by the owner
Marketing - Content Devel.	Publisher	None	None
	Viewer		
	• Publisher		
	Project Leader		
	None		
	Denied		

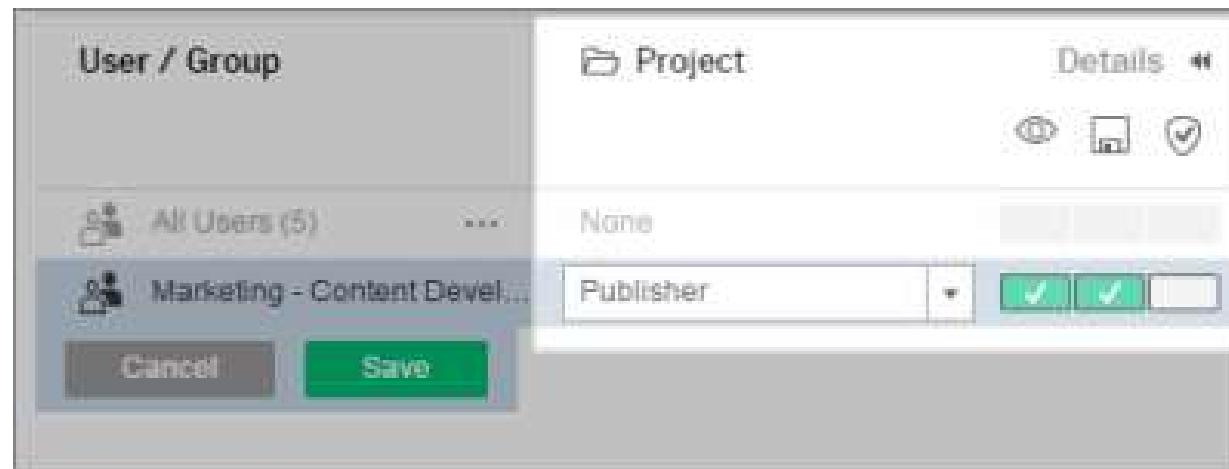
6. Assign permissions to the groups at the project level

- Under Project, select the Publisher permission role.
- To see what capabilities are included for the role, click the expand icon next to Project.

Search for a user to view their permissions		
User / Group	Project	
All Users (6)	None	
Marketing - Content Developers (2)	Publisher	

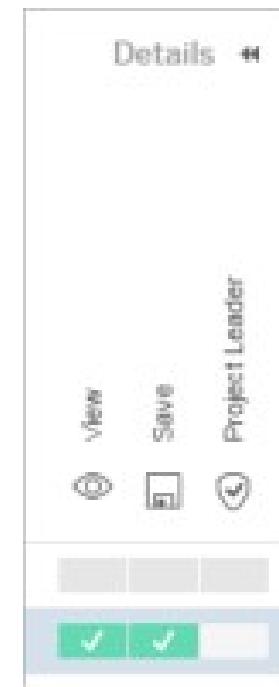
6. Assign permissions to the groups at the project level

- Selecting the Publisher role sets the project's View and Save capabilities to Allowed, but the Project Leader capability is left Unspecified.



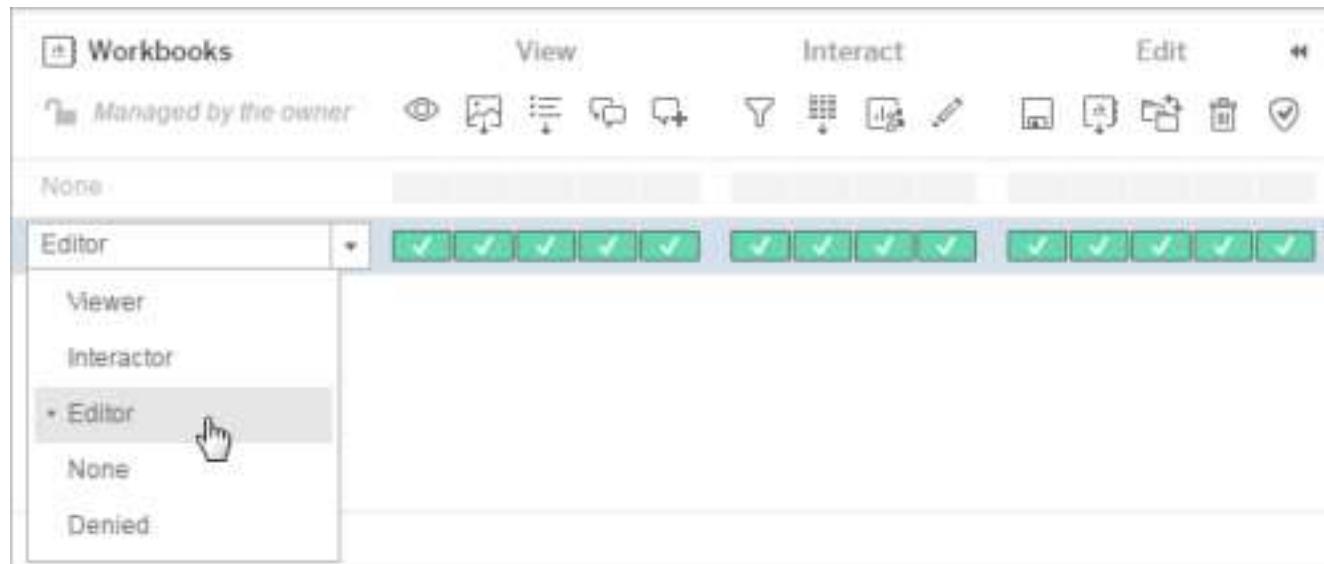
6. Assign permissions to the groups at the project level

- Notice also that individual project capabilities are shown as icons.
- To see the capability name, hover over the icon.
- Or click the link above the icons to show capabilities captions.



6. Assign permissions to the groups at the project level

- Under Workbooks, select the Editor permissions role.



6. Assign permissions to the groups at the project level

- Under Data Sources, select Connector.



6. Assign permissions to the groups at the project level

- Click Save to save the permissions settings.

User / Group	Project	Workbooks	Data Sources
All Users (5)	None	Managed by the owner	Managed by the owner
Marketing - Content Developers (2)	Publisher	Editor	Connector

6. Assign permissions to the groups at the project level

Starting with step 3 of this procedure, repeat the steps to add the Marketing – Content Viewers group and set its permissions. This time, use the following permission roles:

- Project: Viewer
- Workbooks: Interactor
- Data Sources: None

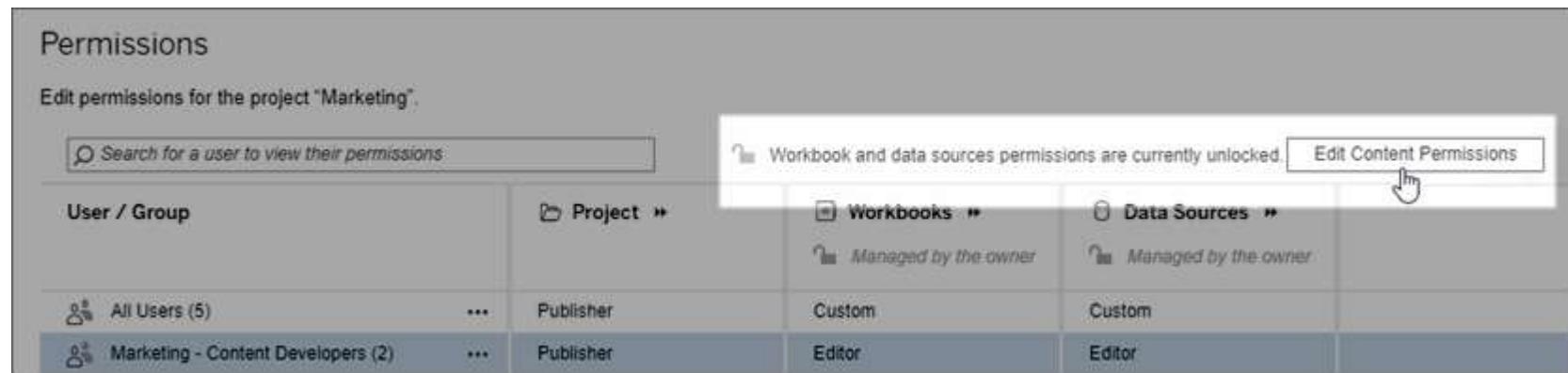


7. Lock project permissions

- Now, everything might be great if you stopped here. However, there's a twist.
- During the publishing process, publishers have an option to set permissions on their content.
- In the closed permissions model that we're advocating, you don't want well-meaning publishers to mess up your nice, clean server.

7. Lock project permissions

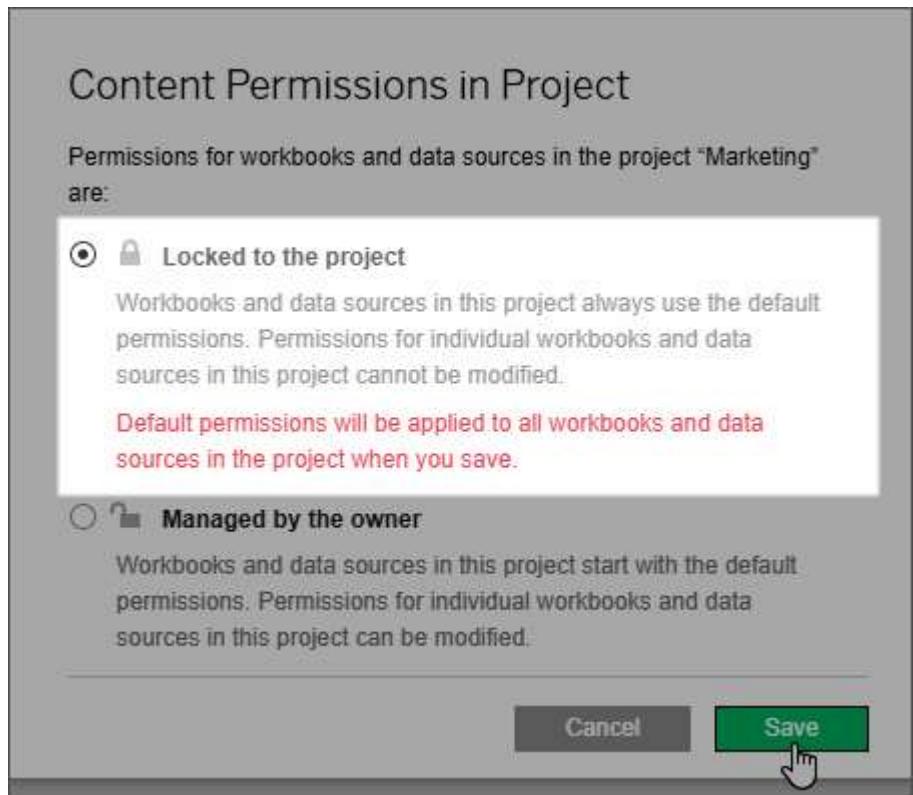
- With the Permissions pane still open, above the matrix on the right side, click Edit Content Permissions next to the text that refers to unlocked permissions.



The screenshot shows the 'Permissions' pane for a project named 'Marketing'. At the top, it says 'Edit permissions for the project "Marketing"'. Below this is a search bar labeled 'Search for a user to view their permissions'. To the right, there is a message: 'Workbook and data sources permissions are currently unlocked.' followed by a button labeled 'Edit Content Permissions' with a hand cursor icon hovering over it. The main area is a table with four columns: 'User / Group', 'Project', 'Workbooks', and 'Data Sources'. The 'Project' column has dropdown menus set to 'Publisher'. The 'Workbooks' and 'Data Sources' columns both have dropdown menus set to 'Custom'. The 'User / Group' column lists 'All Users (5)' and 'Marketing - Content Developers (2)'. The 'Marketing - Content Developers' row is highlighted with a blue background. The 'Edit Content Permissions' button is located in the top right corner of the permissions pane.

User / Group	Project	Workbooks	Data Sources
All Users (5)	Publisher	Custom	Custom
Marketing - Content Developers (2)	Publisher	Editor	Editor

- In the Content Permissions in Project dialog box, select Locked to the project, and then click Save.



View and test your work

- Let's check your work. The following images show what you'll see in the Permissions pane when you're done setting permissions for your groups.
- When you expand Project, you see this:

User / Group	Project	Details
All Users (5)	None	  
Marketing - Content Developers (2)	Publisher	 
Marketing - Content Viewers (2)	Viewer	 

View and test your work

- When you expand Workbooks, you see this:

User / Group	Project	Workbooks	View	Interact	Edit
All Users (5)	---	None	None	None	None
Marketing - Content Developers (2)	---	Publisher	Editor	Editor	Editor
Marketing - Content Viewers (2)	---	Viewer	Interactor	Interactor	Interactor

View and test your work

- When you expand Data Sources, you see this:

User / Group	Project	Workbooks	Data Sources	Use	Edit
All Users (5)	None	None	None		
Marketing - Content Developers (2)	Publisher	Editor	Connector	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Marketing - Content Viewers (2)	Viewer	Interactor	None		

Test permissions by publishing and interacting

If everything looks good in the Permissions pane, the next test is to go through the tasks that users need to do. You want to be sure that users can perform the tasks that they need to, and not tasks that you have not granted them access to.

- From Tableau Desktop, take a turn signing in as each user and testing that user's ability to publish workbooks.

Next-level content management

- This is the end of the walkthrough. You stuck it out til the end!
- Now you're ready to try this with your real world permissions scenarios.
- You should have enough information now to get started setting up permissions on your own, but there's always more to learn.

6. Connecting to Data Sources



Connecting to Data Sources

- One of the primary reasons Tableau champions advocate for Tableau Server is the collaboration that it enables.
- As your organization transitions to using Tableau Server, an important conceptual shift for you and your users is how you think about sharing workbooks ... and the data that workbooks help you analyze.

Think about data in Tableau Server terms

- If you use only Tableau Desktop, you manage all your own connections to data.
- For example, you might open Tableau, connect to SQL Server, and then select the database, table, and columns to work with.
- Or you might connect to an Excel spreadsheet and select the sheet to analyze.
- You generally don't think about how you're going to share the data with others.

Think about data in Tableau Server terms

- Create and publish packaged workbooks that contain extracts created in Tableau Desktop.
- Other users can work with those workbooks and with the static data in the extracts.
- Publish a data source that defines a connection to a database and that includes information about what data in that database to use.
- Users can then create workbooks that point to this source for their data.

Think about optimizing data access and security

- In addition to thinking about ways you can share data access, you and your users must learn how to make the most efficient use of data.
- Optimizing data access with Tableau Server can seem complex at first. Tableau supports many data connectors.
- Each connector is optimized for the data that it connects to, and each connector has different characteristics.

Think about optimizing data access and security

As you become familiar with Tableau Server and learn how to optimize data access for your scenarios, your users will see these benefits:

- Performance.
- Access to data.
- Single source for data.



Before you begin

We've written this lesson for Tableau Desktop champions who have been tasked with managing Tableau Server. Therefore, we assume you understand the differences between a live connection to data (such as a SQL Server or a cloud solution like Amazon Redshift) and an extract. You should be comfortable with the following terms and concepts:

- Data source
- Extract.
- Live connection.
- Run As User.



What do you need to do?

1. Provide access to data sources.
2. Deepen your understanding of the tradeoffs between using a live connection and an extract.
3. Test the performance differences that might occur between a live connection and an extract.

Provide access to data sources

- Providing access to data sources starts with understanding how various data sources handle authentication—that is, sign in. In most cases, databases, cloud data, and cubes require users to authenticate before they can access data.
- The details for authentication are unique to each connector, and authentication is handled by each connector.

Let users embed credentials (or not)

As administrator, you can decide to let users embed passwords (which are encrypted) in the workbooks and data sources that they publish to the server. In that case, when others use those workbooks or data sources, they can see the data without having to provide credentials.

- To enable or disable embedded credentials, sign in to Tableau Server.
- In the site menu, click Manage All Sites, and then click Settings, and then click the General tab.

Let users embed credentials (or not)

- Select or clear the Allow publishers to embed credentials in a workbook or data source option.

Embedded Credentials

Publishers can attach credentials to a workbook or data source. People that access the workbook or data source will be automatically authenticated to connect to data.

Allow publishers to embed credentials in a workbook or data source

Publishers can schedule data extract refreshes for their workbooks and data sources to keep their extracts up to date.

Allow publishers to schedule data extract refreshes

Set data source permissions

- Publishing data sources to Tableau Server lets people on your team provide centralized access to data.
- It enables data sharing among users, including those who don't use Tableau Desktop but have permission to edit workbooks in the web editing environment.
- Users working with Tableau Desktop can publish data sources that contain extract or live connections.

Set data source permissions

- **Connector.** This permissions role sets permissions that allow the user or group to connect to the data source from a workbook on the server (web authoring) or in Tableau Desktop.
- **Editor.** This permissions role sets permissions that allow the user or group to connect to the data source on the server and to publish, edit, download, delete, set permissions, and schedule refreshes for the data source.

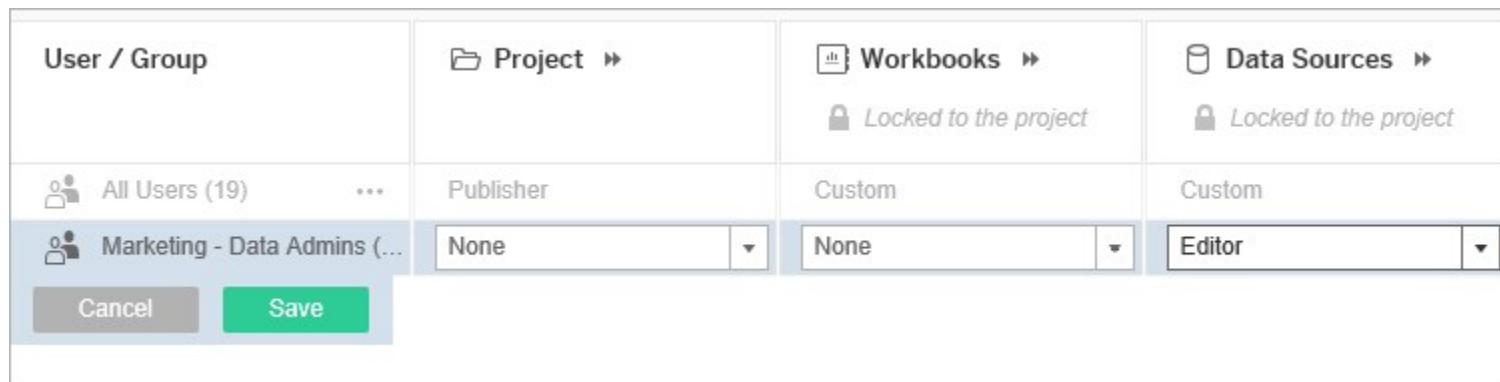
Set data source permissions

To set permissions on data sources in a project, follow these steps:

- Sign in to Tableau Server.
- Click site menu at the top of the page, and then select the site to work with.
- Click the Content tab, click Projects, and then select the project on which you want to set permissions.
- Under Actions, click Permissions.

Set data source permissions

- Select or add the user or group that you want to assign data source permissions to.
- Under Data Sources, select the permissions role that you want to set.



Share CSV, Excel, or Access files via a live connection

- Some of your users might analyze data that's in CSV (comma-separated values), Microsoft Excel, or Microsoft Access files that live as standalone files in a folder.
- Often these files are treated like a database—for example, several users might be using Tableau to analyze data in an Excel file that's on a shared network location, and someone (perhaps those same users) is also updating the file frequently.

Set up the shared network location

- Go to the Share files with someone([Link opens in a new window](#)) page on the Microsoft Windows site and follow the procedure under "To share files and folders on a workgroup or a domain."
- Those steps describe how to use the Windows File Sharing wizard to create a shared folder that is accessible inside your organization using a UNC (universal naming convention).

Set up the shared network location

- The UNC name consists of a server name followed by a folder name, much like a web address, to access your shared folder.
- Here's an example, where DATATEAM is the name of the computer and shared is the name of the shared location on that computer:

`\DATATEAM\shared`

Add the Excel file to the shared location

- After you've set up the shared location, copy the Excel file (or files) that you want to share to that location.



Create a workbook that connects to the shared Excel file

- This procedure describes how to access an Excel file on the shared network location and then how to publish that data in a workbook to Tableau Server.
- This is really a procedure for your users, so make sure they know how to follow these steps.
- After users publish using this method, other users who access the published workbook will see data that's coming directly from the shared Excel file.

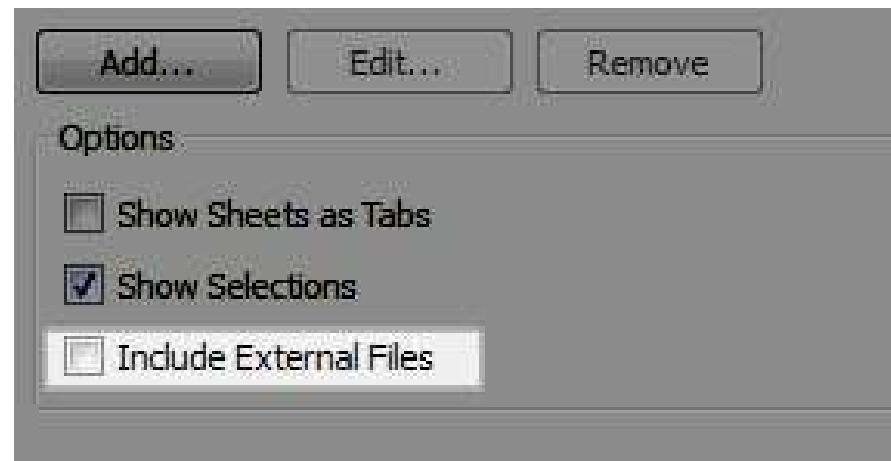
Create a workbook that connects to the shared Excel file

- Open Tableau Desktop. On the start page, under Connect, click Excel.
- In the Open dialog box, enter the UNC path in the file field at the top, using the format **\computer-name\share-location-name**.



Create a workbook that connects to the shared Excel file

- On the Publish Workbook to Tableau Server page, clear the Include External Files check box. Click OK.



Keep data fresh

- In many cases, the data that's displayed in a workbook or view changes after the user publishes the workbook.
- For example, if a user has a workbook that displays monthly sales information, the data for the workbook has to be updated at least every month.
- If the data source for the workbook has been configured to use a live connection to the data, the workbook can read updated data every time the workbook is opened.

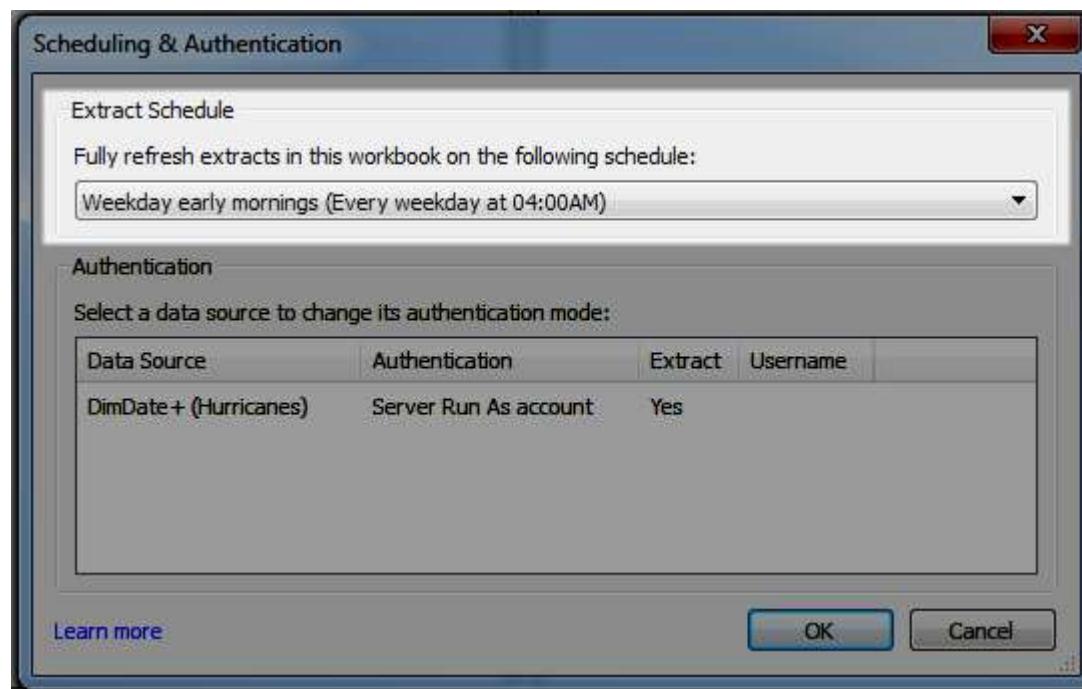
Keep data fresh

As an administrator you can also refresh extracts immediately:

- Sign in to Tableau Server.
- At the top of the page, click Tasks.
- Under Extract Refreshes, select the workbook or data source that you want to refresh.
- On the Actions menu, click Run Now.



Set refresh schedules that users can choose from



Set refresh schedules that users can choose from

- Sign in to Tableau Server.
- At the top of the page, click Schedules.

Disable, delete, or edit any existing schedules that you don't want by selecting the schedule, and then clicking the appropriate action on the Actions menu.

X

New Schedule

Create a schedule users can choose for running extract refreshes or subscriptions.

Name

Task type

Extract Refresh

Default priority

50

Tasks are executed in priority order from 1 to 100

Execution

- Parallel: Use all available background processes for this schedule
- Serial: Limit this schedule to one background process

Frequency

Hourly

every 1 hour

from 12 : 00

AM

Daily

Weekly

Monthly

to 12 : 00

AM

Cancel

Create

Determine the frequency of scheduled refreshes

- Refreshing an extract can be resource heavy, especially if you're trying to run multiple extract refreshes at once.
- Therefore, it's generally a good idea to run extract refreshes during non-business hours, and to schedule them as far apart as your business needs allow.
- A common approach for large extracts is to run incremental refreshes every night during non-business hours, and then run a full refresh over the weekend.

Configure data connection caching

- As you plan your data source strategy, you should know how Tableau Server caches workbook data that's hosted on the server.
- Understanding data connection caching is especially important for organizations that rely on real-time or near real-time data analysis.
- Consider a workbook that has a live connection to a database

By default, Tableau Server will cache and reuse data for as long as possible. To configure caching behavior for all data connections:

1. Run the following command to set the cache:

```
tsm data-access caching set -r <value>
```

Where `<value>` is one of these options:

- `low` or empty string (""). This is the default value. Tableau Server will cache and reuse data for as long as possible.
- `<n>`. Specifies the maximum number of minutes data should be cached. For example, `tsm data-access caching set -r 2` sets the maximum number of minutes to 2.
- `always` or `0` (zero). Either of these values configure the cache to be refreshed each time a page is reloaded.

2. Apply the changes. Run the following command:

```
tsm pending-changes apply
```

Understand the tradeoffs between using a live connection and an extract

- The purpose of this lesson is to guide you through a connection and data source management strategy.
- A strategy like this tries to answer a fairly simple question: for a given scenario, should your users access live data or should they use extracts?
- First of all, some data sources will not allow extracts—they will only allow live connections. Obviously, if that's the case, you don't have to make a decision: use the live connection.

Guiding principle: If performance is more important than data freshness, use an extract

- Extracts are great for enabling flow for your data analysts.
- When an extract is embedded in a workbook, all of the data is already available to Tableau Server, which stores the extract in a high-performance database.
- This generally results in good performance. When users drag dimensions and measures, apply filters, and add visualizations, they see the results immediately.

Guiding principle: If real-time data is required for business decisions, use a live connection

- Many data analysis scenarios require real-time data.
- For example, finance operations that model transactions during trading hours usually require real-time data.
- Similarly, polling scenarios often require near real-time data freshness to provide quick analysis.
- Generally, if the data analyses that your users are working on require data freshness that is measured in minutes or seconds, workbooks should be built using a live connection.

Guiding principle: If a workbook contains sensitive data, use a live connection

- As we were saying earlier, you must decide whether you'll allow users to embed credentials in workbooks and data sources when they publish.
- Your organization's security and privacy policy should dictate whether you allow users to embed credentials.
- If your organization enforces user-level permissions to databases, use a live connection for workbooks that connect to those databases.

Compare the performance of extracts and live connections

- People often ask which is faster: an extract or a live connection? If you've read all the way through this, you understand that the answer is "it depends."
- In the end, the best way to answer this question is to build a workbook with a live connection to your database.
- In most cases, the performance differences are obvious as you build your workbook and view the results.

7. Alerts, Monitoring, and Tuning



Notifications, Monitoring, and Tuning

- So you've finished setting up users and extracts and Tableau Server seems to be humming along—now you can relax, right? Almost.
- This lesson describes how to monitor the health of Tableau Server.
- In theory, the steps in this lesson are optional: you don't have to set up notifications or keep your finger on the server's pulse.



Alerts: Get notifications for server events

- Alerts are email notifications that you receive when something happens on Tableau Server.
- You can set up alerts for when the server is running out of disk space and for when server processes stop or start.
- These conditions often mean that there is an immediate problem.

SMTP information you'll need

Here's the SMTP server information that you need from your IT department:

- The server address. This is often something like smtp.example.com or mail.example.com, but other addresses are also possible.
- The port. This is 25 for most servers.
- A user name.
- A password.

SMTP information you'll need

- You'll also need to decide on a from address for the alerts that the server sends.
- When people receive an alert email from Tableau Server, this is the name that's on the from line of the message.
- Because alerts are simply informational, you generally don't need to worry about who's on the from line, so people use addresses like no-reply@example.com or tableau-admin@example.com.

Step 1: Configure SMTP information for Tableau Server

Open TSM in a browser:

- <https://<tsm-computer-name>:8850>.
For more information, see [Sign in to Tableau Services Manager Web UI](#)
- Click Notifications on the Configuration tab and click Email Server.

- Enter the SMTP configuration information for your organization:

Notifications

Configure Tableau Server to send email notifications about critical events, processes and server health. Email notifications must be sent through an email (SMTP) server. [Learn More](#)

Email Server Events

Configure email server

Tableau Server must connect to an email server using **SMTP** (Simple Mail Transfer Protocol) to send email notifications. Contact your organization's IT department to determine what SMTP information you need to configure Tableau Server to send email configurations. [Learn more about configuring SMTP for Tableau Server.](#)

SMTP server address

Username

Password

Port Number

Type an email address that all emails will be sent from (example: no-reply@example.com)

Send all emails from

Type email addresses, separated by a comma, that will receive Tableau Server health emails. Tableau Server health emails are typically sent to server administrators or other IT admins.

Send server health email to

Choose a footer link to embed in all email alerts and subscriptions. This link is typically the sign-in page of Tableau Server.

Tableau Server URL

Step 1: Configure SMTP information for Tableau Server

- Click Save Pending Changes after you've entered your configuration information.
- Click Pending Changes at the top of the page:



Step 2: Set up notifications

- Open TSM in a browser:
- <https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI.
- Click Notifications on the Configuration tab and click Events.

- Configure notification settings for your organization:

Events
You can specify which server events will trigger an email notification. We recommend enabling all notifications. [Learn more.](#)

Content updates

Send email when flow runs, encryption jobs, or scheduled refreshes fail

Allow users to receive email for views that they have subscribed to

Let users add attachments to subscribed views

Server health monitoring

Send emails for Tableau Server process events (up, down, and failover)

Send emails for Tableau Server license reporting

Drive space

Send emails when unused drive space drops below thresholds

Warning threshold	<input type="text" value="20"/>	%
Critical threshold	<input type="text" value="10"/>	%
Send threshold alert every	<input type="text" value="60"/>	minutes

Record disk space usage information and threshold violations for use in custom administrative views

[Cancel](#) [Save Pending Changes](#)

Subscriptions to views

- Users can periodically receive a snapshot of views that they're interested in.
- This can be useful if your users want to see information about views on a recurring basis.
- For example, users can get a view in their inboxes every week.
- See the Additional resources section at the end to read more about how users can set up subscriptions.

Server component events

- For installations of Tableau Server on a single computer (as described in this guide), you can receive a notification when Tableau Server processes stop or start.
- Because part of the server must be running to send an alert that processes have stopped, you only see notifications when the data engine, repository, and gateway processes stop.

Low disk space

- You can receive a notification when the disk space on the server computer falls below a threshold that you specify.
- As a general rule, we recommend that the server computer maintain at least 20% free disk space.
- The farther that the disk space falls below this threshold, the more likely that the server's performance will be affected.
- Eventually, the server may even stop responding.

Administrative views

- Sign in to Tableau Server as a server administrator.
- Click Status. Tableau Server displays a list of administrative views.

Analysis	
Dashboards that monitor Tableau Server activity.	
Views	Analysis
Traffic to Views	View count, viewers, and viewer behavior for published views.
Traffic to Data Sources	Data source usage, users, and user behavior for published data sources.
Actions by All Users	Actions for all users.
Actions by Specific User	Actions for a specific user, including items used.
Actions by Recent Users	Recent actions by users, including last action time and idle time.
Background Tasks for Extracts	Completed and pending extract task details.
Background Tasks for Non Extracts	Completed and pending background task details (non-extract).
Stats for Load Times	View load times and performance history.
Stats for Space Usage	Space used by published workbooks and data sources, including extracts and live connections.

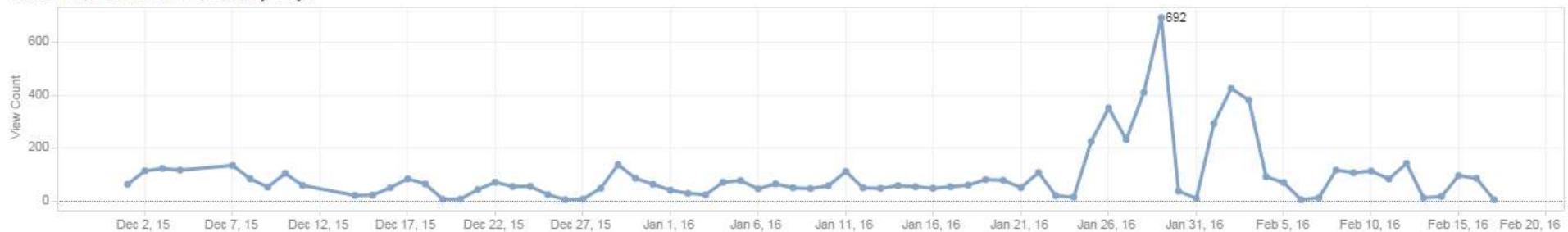
Traffic to views

- Use this view to identify peak hours for user traffic. (This is easier if you use the Time Range filter.)
- For example, in the screenshot below, the filter is set to Last 3 months.) If you know when users need your server most for their work, you can make sure that you schedule things like extract refreshes (which can take up server resources) for when usage is lightest.

How Much User Traffic Goes to Views? (Click to filter, see tooltip for more options)

View	Workbook	Time Range	Site	Min View Count
(All)	(All)	Last 3 months	(All)	5

What Is the Total View Count by Day?



What Is the Total View Count by Time?



Background tasks for extracts

- Use this view to identify times of the day when extract refresh tasks take longer than usual and to identify extract refresh tasks that did not complete.
- If there are peak times for extract refresh tasks, distribute the extract refresh schedule so that fewer extracts run at the same time.

Traffic to Views | Traffic to Data Sources | Actions by All Users | Actions by Specific User | Actions by Recent Users | Background Tasks for Extracts | Background Task

How Have Extracts Performed on this Server? (Click to filter)

Extract	Task	Timeline	Site	Runtime (sec)	Success	Error
(All)	(All)	Last 24 hours	(All)	0 - 62940	48	357

What Extracts Ran on this Server?

- opengrok_usage_zstein
- RefreshExtractsSQLserver
- opengrok_usage_zstein
- RefreshExtractsSQLserver
- opengrok_usage_zstein
- RefreshExtractsSQLserver
- davoExtract
- simserver
- AZ_Redshift_Test_2

Feb 3 4 PM Feb 3 7 PM Feb 3 10 PM Feb 4 1 AM Feb 4 4 AM Feb 4 7 AM Feb 4 10 AM Feb 4 1 PM Feb 4 4 PM

Time Range: Last 7 days Success: 336 Error: 2,440

How Much Time did Extracts Take?

Avg Runtime (sec)

Wed 1/26 Thu 1/27 Fri 1/29 Sat 1/30 Sun 1/31 Mon 2/2 Tue 2/3 Wed 2/4

How Many Extracts Succeeded or Failed by Day?

Day	Success	Failure
Wed 1/26	132	115
Thu 1/27	403	52
Fri 1/29	408	49
Sat 1/30	400	48
Sun 1/31	363	45
Mon 2/2	409	49
Tue 2/3	391	47
Wed 2/4	250	29

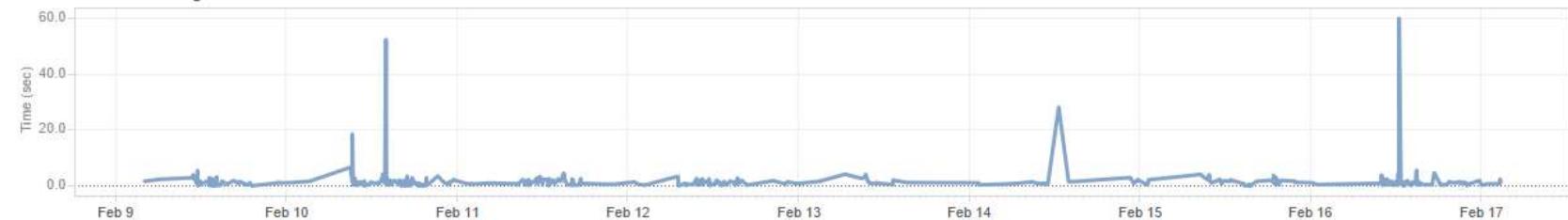
Stats for load times

- Use this view to identify which views are loading slowly.
- This helps you pinpoint workbooks that are very processing-intensive for the server—inefficient workbooks are one of the most common reasons for poor server performance.
- (We list some resources later that can help you optimize and troubleshoot workbooks.)

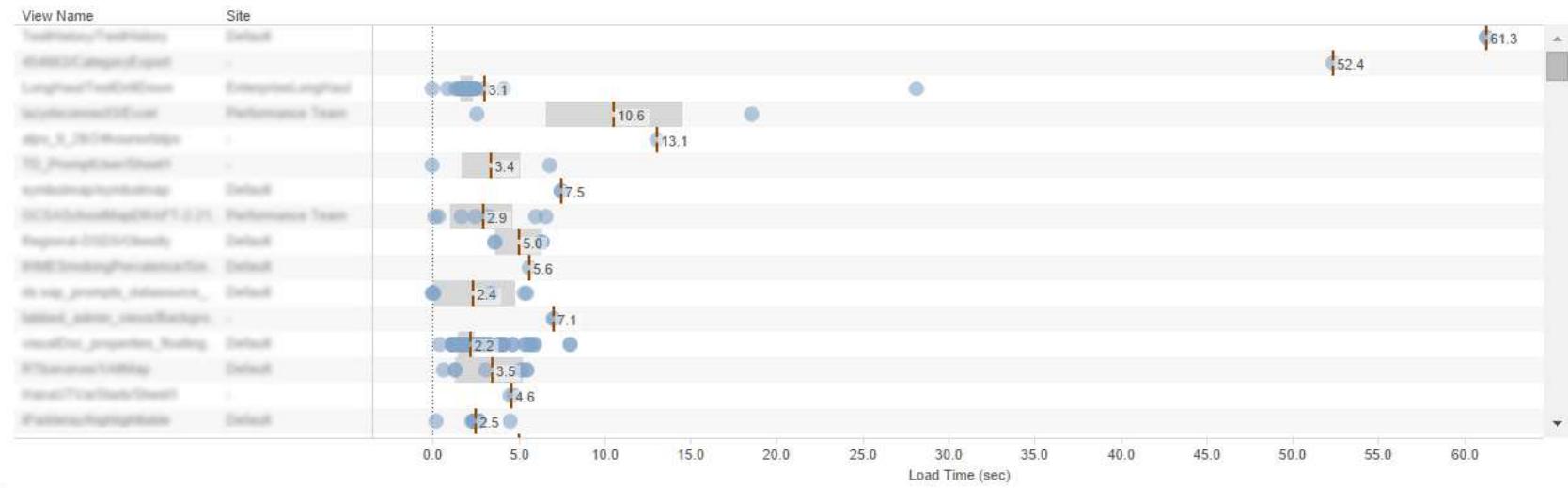
How Long Does it Take for Views to Load? (Click to filter)



What Are the Average Load times for Views?



What Are the Exact Load times for Views?



Windows performance monitoring

- So far the monitoring information that we've looked at has been gathered by Tableau Server.
- However, you can also use the Windows Performance Monitor (PerfMon) included with Windows Server to monitor server processes and resource utilization.



Step 1: Create a new data collector set

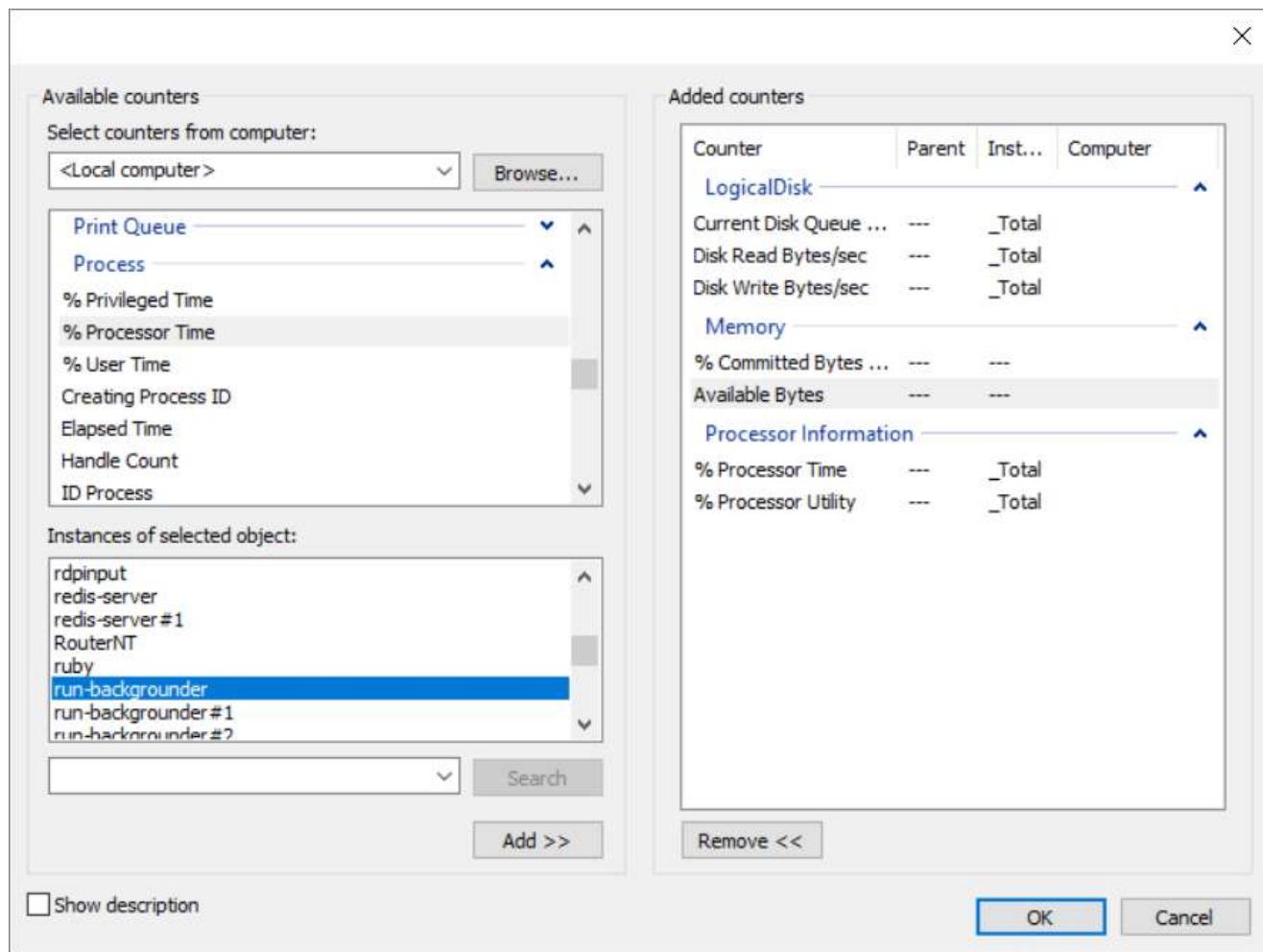
1. Click the Windows Start menu and search for "performance".
2. Right-click Performance Monitor and then click Run as administrator.
3. In the left pane, click Data Collector Sets.
4. In the right pane, right-click User Defined, click New, and then click Data Collector Set.
5. In the Create new Data Collector Set wizard, enter a name for the data collector set. For example, you might enter Tableau Server Performance.
6. Select Create manually (Advanced) and then click Next.
7. Under Create data logs, select Performance counter, and click Next.

Step 2: Select performance counters

1. Set the sample interval to 30 seconds.
2. Click Add.
3. Select performance counters from the list.

Category	Performance Counters	Notes
Logical Disk	Current Disk Queue Length Disk Read Bytes/sec Disk Write Bytes/sec	The number of outstanding write requests and the amount of bytes read and written to the server's hard disk. Select these counters for the disk on which you installed Tableau Server (referred to as the <i>instance</i> in PerfMon).
Memory	% Committed Bytes in Use Available MBytes	The percentage of virtual memory in use, and the amount of memory available in megabytes.

Processor Information	%Processor Time % Processor Utility	<p>The percentage of time that the processor spends active, and the percent of processing capacity being used by the processor.</p>
Process	% Processor Time Private Bytes	<p>The percentage of processing capacity being used by a particular process, and the amount of memory reserved for the process. Select these counters for the following processes (referred to as <i>instances</i> in PerfMon):</p> <ul style="list-style-type: none"> ◦ <code>run-backgrounder</code> (Backgrounder) ◦ <code>run-dataserver</code> (Data server) ◦ <code>redis-server</code> (Cache server) ◦ <code>hyperd</code> (Data engine) ◦ <code>run-vizqlserver</code> (VizQL Server)



Step 3: Save the data collector set

1. Browse to the directory where you want to store the data, and then click Next.
2. Click Finish.
3. In the left pane of the main Performance Monitor window, select the data collector set that you created.
4. In the right pane, right-click the performance counter DataCollector01 and then click Properties.
5. Select Comma separated as the log format and then click OK.

Step 4: Run the data collector set

- In the left pane, right-click the name of the data collector set that you created and click Start.
- The Windows Performance Monitor tool starts monitoring your server and storing information in the location that you specified.

Step 5: Analyze the data

- Finally, the moment that you've been waiting for! Open the log file for the data collector set in Tableau Desktop and start analyzing.
- The following section provides some guidelines and recommendations for how to improve server performance based on the data that you collect.

Tuning: Tweaking the server for better performance

- Because no two server environments are identical, we can't provide hard and fast rules for tuning server performance.
- Instead, we recommend that you look for patterns in the data that you collected from the administrative views and from Windows Performance Monitor.

Tuning: Tweaking the server for better performance

- **Optimizing for user traffic.** This tunes the server to be responsive to users who are publishing and (especially) viewing workbooks.
- **Optimizing for extract refreshes.** This tunes the server to put its horsepower to work in updating data extracts from a database or other source.

Optimize for user traffic

Here are some signs that you should optimize for user traffic:

- During peak traffic hours, overall resource utilization for the processor and memory are consistently high.
- The VizQL server process has a high percent processor time and large amount of private bytes dedicated.
- Spikes in user traffic noticeably affect view load times.

Refresh the cache less often

- If your users do not always need the most up-to-date data, you can improve the performance of views by configuring Tableau Server to cache and reuse data as much as possible.
- You can tune caching to increase the amount of time before data is cached.
- We covered cache configuration in the last lesson.
- See Configure data connection caching

Increase the number of VizQL server processes

1. Open TSM in a browser:<https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI
2. Click the Configuration tab.
3. Select the VizQL dropdown menu and increment the number of processes by at least one.
4. Click Pending Changes at the top right, and Apply Changes and Restart to commit the changes and restart Tableau Server.

Optimize for extract refreshes

- Extracts are failing or taking a long time to finish.
- The backgrounder process consistently has a high percentage of processor time.
- The VizQL server process has a low percentage of processor time and small amount of private bytes dedicated, even during peak traffic hours.

Adjust the extract refresh schedule

Use the administrative view for extracts to identify optimal times for running extracts. In addition to running extracts in off-peak hours, you can distribute the running of extract refreshes to minimize concurrent server load. If extract refreshes continue to cause problems, reduce the frequency of extract refreshes as much as possible.

- Schedule extracts for times when the server isn't busy. (Use the administrative view to check traffic.)
- Reduce the frequency of refreshes.

Configure extract refreshes to run in parallel

- When you create an extract refresh schedule, ensure that the refresh runs in parallel execution mode.

Increase backgrounder processes

1. Open TSM in a browser: <https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI
2. Click the Configuration tab.
3. Select the Backgrounder dropdown menu and increment the number of processes by at least one.
4. Click Pending Changes at the top right, and Apply Changes and Restart to commit the changes and restart Tableau Server.

8. tabcmd Commands



tabcmd Commands

You can use the following commands with the tabcmd command line tool:

- addusers (to group)
- createextracts
- creategroup
- createproject
- createsite
- createsiteusers
- createusers
- Decryptextracts etc

addusers group-name

- Adds users to the specified group.

Example

```
tabcmd addusers "Development" --users "users.csv"
```

Options

--users

- Add the users in the given .csv file to the specified group. The file should be a simple list with one user name per line. User names are not case sensitive. The users should already be created on Tableau Server.
- If you use this command with large .csv files on Tableau Server, a server administrator can enable settings that help improve performance.

Options

--[no-]complete

- When set to complete this option requires that all rows be valid for any change to succeed. If not specified, --complete is used.

Global options

`-h, --help`

Displays the help for the command.

`-c, --use-certificate`

Use client certificate to sign in. Required when mutual SSL is enabled.

For information about configuring the certificate, start with the following topic appropriate for your Tableau Server OS:

- **Windows:** [Configure Mutual SSL](#)
- **Linux:** [Configure Mutual SSL](#)

Global options

`-s, --server`

The Tableau Server URL, which is required at least once to begin session.

`-u, --user`

The Tableau Server username, which is required at least once to begin session.

`-p, --password`

The Tableau Server password, which is required at least once to begin session.

`--password-file`

Allows the password to be stored in the given `.txt` file rather than the command line for increased security.

`-t, --site`

Indicates that the command applies to the site specified by the Tableau Server site ID, surrounded by single quotes or double quotes. To specify the Default site, use either an empty string with single or double quotes (" or "") or use Default in double quotes ("Default"). Site ID is case-sensitive when using a cached authentication token. If you do not match case you may be prompted for a password even if the token is still valid.

`-x, --proxy`

Host:Port

Uses the specified HTTP proxy.

`--no-prompt`

When specified, the command will not prompt for a password. If no valid password is provided the command will fail.

--no-proxy

When specified, an HTTP proxy will not be used.

--no-certcheck

When specified, tabcmd (the client) does not validate the server's SSL certificate.

--[no-]cookie

When specified, the session ID is saved on login so subsequent commands will not need to log in.
Use the no- prefix to not save the session ID. By default the session is saved.

--timeout

Waits the specified number of seconds for the server to complete processing the command. By default the process will timeout in 30 seconds.

Global options

--

Specifies the end of options on the command line. You can use -- to indicate to `tabcmd` that anything that follows -- should not be interpreted as an option setting and can instead be interpreted as a value for the command. This is useful if you need to specify a value in the command that includes a hyphen. The following example shows how you might use -- in a `tabcmd` command, where `-430105/sheet1` is a required value for the `export` command.

```
tabcmd export --csv -f "D:\export10.csv" -- -430105/sheet1
```

createextracts

Creates extracts for a published workbook or data source.

Options

`-d, --datasource`

The name of the target data source for extract creation.

`--embedded-datasources`

A space-separated list of embedded data source names within the target workbook. Enclose data source names with double quotes if they contain spaces. Only available when creating extracts for a workbook.

`--encrypt`

Create encrypted extract.

--include-all

Include all embedded data sources within target workbook. Only available when creating extracts for workbook.

--parent-project-path

Path of the project that is the parent of the project that contains the target resource. Must specify the project name with --project.

--project

The name of the project that contains the target resource. Only necessary if --workbook or --datasource is specified. If unspecified, the default project 'Default' is used.

-u, -url

The canonical name for the resource as it appears in the URL.

-w, -workbook

The name of the target workbook for extract creation.

`creategroup group-name`

Creates a group. Use `addusers` (for local groups) and `syncgroup` (for Active Directory groups) commands to add users after the group has been created.

Example

```
tabcmd creategroup "Development"
```

```
createproject project-name
```

Creates a project.

Example

```
tabcmd createproject -n "Quarterly_Reports" -d  
"Workbooks showing quarterly sales reports."
```

Options

`-n, --name`

Specifies the name of the project that you want to create.

`--parent-project-path`

Specifies the name of the parent project for the nested project as specified with the `-n` option. For example, to specify a project called "Nested" that exists in a "Main" project, use the following syntax: `--parent-project-path "Main" -n "Nested"`.

`-d, --description`

Specifies a description for the project.

createsite site-name

Creates a site.

Examples

Create a site named West Coast Sales. A site ID of `westcoastsales` will be automatically created, the site will have no storage quota limit, and site administrators will be able to add and remove users:

```
tabcmd createsite "West Coast Sales"
```

Create a site named `West Coast Sales` with a site ID of `wsales`:

```
tabcmd createsite "West Coast Sales" -r "wsales"
```

Prevent site administrators from adding users to the site:

```
tabcmd createsite "West Coast Sales" --no-site-mode
```

Set a storage quota, in MB:

```
tabcmd createsite "West Coast Sales" --storage-quota 100
```

createsiteusers filename.csv

- Adds users to a site, based on information supplied in a comma-separated values (CSV) file.
- If the user is not already created on the server, the command creates the user before adding that user to the site.
- The CSV file must contain one or more user names and can also include (for each user) a password, full name, license type, administrator level, publisher (yes/no), and email address.

Improving performance for large CSV files

- A server administrator can use the tabadmin set command to enable settings that help to improve performance for large CSV files.
- For more information, see Improve performance for large CSV files passed through tabcmd in the CSV Import File Guidelines topic.

Active Directory authentication

- If the server is configured to use Active Directory authentication, user information is imported from Active Directory, and password and friendly name information in the CSV file is ignored.
- Further, if a user is specified in the CSV file but no corresponding user exists in Active Directory, the user is not added to Tableau Server.
- For Active Directory users, because the user name is not guaranteed to be unique across domains, you must include the domain as part of the user name.

createusers filename.csv

- Create users in Tableau Server, based on information supplied in a comma-separated values (CSV) file.
- The CSV file must contain one or more user names and can also include (for each user) a password, full name, license type, administrator level, publisher (yes/no), and email address.
- For information about the format of the CSV file, see CSV Import File Guidelines.

Active Directory authentication

- If the server is configured to use Active Directory authentication, user information is imported from Active Directory, and password and friendly name information in the CSV file is ignored.
- Further, if a user is specified in the CSV file but no corresponding user exists in Active Directory, the user is not added to Tableau Server.
- For Active Directory users, because the user name is not guaranteed to be unique across domains, you must include the domain as part of the user name.

decryptextracts

- Decrypt all extracts on a site. If no site is specified, extracts on the default site will be decrypted.
- For more information, see Extract Encryption at Rest.
- Depending on the number and size of extracts, this operation may consume significant server resources. Consider running this command outside of normal business hours.

Example

`tabcmd decryptextracts "West Coast Sales"`

delete workbook-name or datasource-name

- Deletes the specified workbook or data source from the server.
- This command takes the name of the workbook or data source as it is on the server, not the file name when it was published.

Example

tabcmd delete "Sales_Analysis"

Options

`-r, --project`

The name of the project containing the workbook or data source you want to delete. If not specified, the "Default" project is assumed.

`--parent-project-path`

Specifies the name of the parent project for the nested project as specified with the `-r` option. For example, to specify a project called "Nested" that exists in a "Main" project, use the following syntax: `--parent-project-path "Main" -r "Nested"`.

deleteextracts

- Deletes extracts for a published workbook or data source.

Options

-d, --datasource

- The name of the target data source for extract deletion.

`deletegroup group-name`

- Deletes the specified group from the server.

Example

`tabcmd deletegroup "Development"`

Deletes the specified project from the server.

- Using tabcmd, you can specify only a top-level project in a project hierarchy.
- To automate tasks you want to perform on a project within a parent project, use the equivalent Tableau REST API([Link opens in a new window](#)) call.

Example

```
tabcmd deleteproject "Designs"
```

deletesite site-name

- Deletes the specified site from the server.

Example

tabcmd deletesite "Development"

deletesiteusers filename.csv

- Removes users from from the site that you are logged in to.
- The users to be removed are specified in a file that contains a simple list of one user name per line.
- (No additional information is required beyond the user name.)
- By default, if the server has only one site, or if the user belongs to only one site, the user is also removed from the server.

Improving performance for large CSV files

- A server administrator can use the tabadmin set command to enable settings that help to improve performance for large CSV files.
- For more information, see Improve performance for large CSV files passed through tabcmd in the CSV Import File Guidelines topic

deleteusers filename.csv

- Deletes the users listed in the specified comma-separated values (.csv) file.
- The .csv file should contain a simple list of one user name per line.

Example

```
tabcmd deleteusers "users.csv"
```

editdomain

- Changes the nickname or full domain name of an Active Directory domain on the server.
- A domain “nickname” is the Windows NetBIOS domain name.
- You can modify the nickname for any domain the server is using.
- In general, you can modify the full domain name for any domain except the one that you used to sign in.

editsite site-name

- Changes the name of a site or its web folder name.
- You can also use this command to allow or deny site administrators the ability to add and remove users, or prevent users from running certain tasks manually.
- If site administrators have user management rights, you can specify how many users they can add to a site.

encryptextracts

- Encrypt all extracts on a site. If no site is specified, extracts on the default site will be encrypted.
- For more information, see Extract Encryption at Rest.
- Depending on the number and size of extracts, this operation may consume significant server resources. Consider running this command outside of normal business hours.

Example

```
tabcmd encryptextracts "West Coast Sales"
```

export

- Exports a view or workbook from Tableau Server and saves it to a file.
- This command can also export just the data used for a view.

Clearing the Cache to Use Real-Time Data

- You can optionally add the URL parameter `?:refresh=yes` to force a fresh data query instead of pulling the results from the cache.
- If you are using `tabcmd` with your own scripting and the refresh URL parameter is being used a great deal, this can have a negative impact on performance.
- It's recommended that you use refresh only when real-time data is required—for example, on a single dashboard instead of on an entire workbook.

get url

Gets the resource from Tableau Server that's represented by the specified (partial) URL. The result is returned as a file.

Clearing the cache to use real-time data

- You can optionally add the URL parameter `?:refresh=yes` to force a fresh data query instead of pulling the results from the cache.
- If you are using `tabcmd` with your own scripting, using the refresh parameter a great deal can have a negative impact on performance.
- It's recommended that you use refresh only when real-time data is required—for example, on a single dashboard instead of on an entire workbook.

initialuser

- Create the initial administrative user on a server that does not have an initial administrative user defined.

Examples

```
tabcmd initialuser --username "admin" --password  
"password" --server http://localhost
```

```
tabcmd initialuser --username "admin" --password  
"password" --friendly "Tableau Admin" --server  
http://localhost
```

listdomains

- Displays a list of the Active Directory domains that are in use on the server, along with their nicknames and IDs.
- If the server is configured to use local authentication, the command returns only the domain name local.

Example

`tabcmd listdomains`

listsites

- Returns a list of sites to which the logged in user belongs.

Example

```
tabcmd listsites --username adam --password  
mypassword
```

Login

- Logs in a Tableau Server user.
- Use the --server, --site, --username, --password global options to create a session.
- If you want to log in using the same information you've already used to create a session, just specify the --password option. The server and user name stored in the cookie will be used.

logout

- Logs out of the server.

Example

tabcmd logout

publish filename.twb(x), filename.tds(x), or filename.hyper

- Publishes the specified workbook (.twb(x)), data source (.tds(x)), or extract (.hyper) to Tableau Server.
- If you are publishing a workbook, by default, all sheets in the workbook are published without database user names or passwords.
- The permissions initially assigned to the workbook or data source are copied from the project that the file is published to.
- Permissions for the published resource can be changed after the file has been published.

publishsamples

Description

- Publishes Tableau Sample workbooks to the specified project.
- Any existing samples will be overwritten.

Syntax

- `tabcmd publishsamples -n [project name] [Global options]`

reencryptextracts

- Reencrypt all extracts on a site with new encryption keys. This command will regenerate the key encryption key and data encryption key. You must specify a site.
- For more information, see Extract Encryption at Rest.
- Depending on the number and size of extracts, this operation may consume significant server resources.
- Consider running this command outside of normal business hours.

Improving performance for large CSV files

- refreshextracts workbook-name or datasource-name
- Performs a full or incremental refresh of extracts belonging to the specified workbook or data source.
- This command takes the name of the workbook or data source as it appears on the server, not the file name when it was published.
- Only an administrator or the owner of the workbook or data source is allowed to perform this operation.

reset_openid_sub

- Clears OpenID Connect identifiers (sub values) that have already been associated with Tableau Server identities.
- See Changing IdPs in Tableau Server for OpenID Connect.

Example

```
tabcmd reset_openid_sub --target-username jsmith
```

removeusers group-name

- Removes users from the specified group.

Example

```
tabcmd removeusers "Development" --users "users.csv"
```

`runschedule schedule-name`

- Runs the specified schedule.
- This command takes the name of the schedule as it is on the server.
- This command is not available for Tableau Online.

Example

```
tabcmd runschedule "5AM Sales Refresh"
```

set setting

- Enables the specified setting on the server. Details about each setting can be seen on the Maintenance page on the server.

Use an exclamation mark in front of the setting name to disable the setting. You can enable or disable the following settings:

- allow_scheduling
- embedded_credentials
- remember_passwords_forever

syncgroup group-name

- Synchronizes a Tableau Server group with an Active Directory group.
- If the Tableau Server group does not already exist, it is created and synchronized with the specified Active Directory group.
- If the group name itself includes an "@" (other than as the domain separator) you need to refer to the symbol using the hex format "\0x40".

upgradethumbnails

Starts and stops the Upgrade Thumbnails job. To learn more, see Upgrade Thumbnails Job.

Examples

To start the Upgrade Thumbnail job:

tabcmd upgradethumbnails --server<serverURL>

To stop the in progress Upgrade Thumbnail job:

tabcmd upgradethumbnails --server<serverURL> --stop

version

- Displays the version information for the current installation of the tabcmd utility.

Example

tabcmd version

9. tsm Command Line Reference



tsm Command Line Reference

- The topics in this section include reference content for Tableau Services Manager (TSM) command line interface (CLI) to support Tableau Server.
- TSM is used to manage installation and configuration of Tableau Server.
- To learn more about TSM, see Tableau Services Manager Overview.

Using the tsm CLI

- Open Windows Command Prompt with an account that is a member of the Administrators group on a node in the cluster.
- Run the command you want. If you are running the command from a node other than the initial node, include the -s option to specify the URL of the initial node by name (not IP address), and include the TSM port, 8850.

To see the version of TSM and Tableau Server from the initial node:

`tsm version`

To see the version of TSM and Tableau Server from an additional node:

`tsm version -s https://<initial_node_name>:8850`

For example:

`tsm version -s https://myTableauHost:8850`

Authenticating with tsm CLI

- Beginning in the 2019.2 release of Tableau Server, running tsm commands will not require you to enter a password if the following are true:
- The account you are running commands with is a member of the TSM-authorized group, which is the local Administrators group on the Windows computer.
- You are running commands locally on the Tableau Server that is running the Tableau Server Administration Controller service.

Logging into tsm CLI locally

- If you are running tsm commands on the local computer with user account that is a member of a TSM-authorized group, then you will not need to specify a password.
- In this case, just run the command, for example:

`tsm version`

Logging into tsm CLI remotely

- If you are running TSM commands from a node in a cluster where the Tableau Server Administration Controller service is not running, then you must authenticate a session with the Tableau Server Administration Controller service on the remote computer before you can run commands.
- For example, run the following command:

```
tsm login -s <server_name> -u <account_name>
```

Scripting and automating with tsm CLI

- TSM is a batch file. To run TSM commands in another batch file, use the call command. For example "call tsm maintenance ziplogs". Doing this will return control to the batch file.
- To run automation on a Tableau Server without a password in the script file, run the script on the initial node and with an account in the proper TSM-authorized group. See the "Authenticating" section above.

Viewing help content in the shell

- To view minimal help content from a command line, use the tsm help category.

Synopsis

`tsm help [category] [command]`

Commands

`tsm help`

- Help for all tsm commands

10. Manage Sites



What is a site

- You might be used to using the term site to mean “a collection of connected computers,” or perhaps as the short form of “website.”
- In Tableau-speak, we use site to mean a collection of users, groups, and content (workbooks, data sources) that’s walled off from any other groups and content on the same instance of Tableau Server.
- Another way to say this is that Tableau Server supports multi-tenancy by allowing server administrators to create sites on the server for multiple sets of users and content.

Site administrator tasks

- Where the Server Administrator site role gives a user unrestricted access to the entire Tableau Server deployment, the Site Administrator site roles give a user unrestricted or minimally restricted access at the site level.
- The differences between Site Administrator Creator and Site Administrator Explorer are in the level of data connection and publishing access. Both site roles allow administering the site itself and managing site users.

Steps for setting up your site

- The table below shows a loose sequence of steps for setting up a site, along with links to topics where you can get more information.
- You can complete the steps in any order that makes sense for you.
- However, before you perform the steps to configure the site, we recommend spending some time with the lessons in this section, learning about site authentication, site roles, projects, and permissions.

Plan	To supplement the recommendations above this table, get an overview of how the site components work together in Planning a Site .
Configure access	Work with the server administrator to determine how users sign in to the site, and configure the site appropriately. For example, if the server is configured for single sign-on using SAML, you might configure SAML authentication at the site level as well.
Create projects and the permissions structure	Projects help you organize content, delegate project-level content management, and manage permissions effectively. To get started, see Use Projects to Manage Content Access .
Add users	Determine the users who can sign into the site. See Add Users to a Site .
Get your data to Tableau Server	After you create your projects and permissions structure, designate approved users for publishing and managing vetted data sources to the appropriate projects on the site. In some organizations, people serve in multiple Tableau roles. Site administrators commonly also are data stewards. By that, we mean they create, publish, and manage the Tableau data connections. If this is you, make sure you are assigned the Site Administrator Creator site role. After content is published to the site, you can maintain connection information (credentials, access tokens) and refresh schedules. For more information, see Refresh Data on a Schedule .
Analyze site usage and performance	Monitor usage, performance, and other metrics. See Administrative Views .

Planning a Site

Before you add users and content to a site, we recommend that you plan the following aspects of the site.

- Projects
- Users and groups
- Site roles and permissions
- Extract refresh schedules

Projects

- You can create projects on a site, which act as containers in which you can organize related content assets (such as data sources and workbooks).
- For example, you might set up a project to contain all of the certified data sources and workbooks your organization uses for mission-critical decisions. Or you might set up projects by department.

Users and groups

- Any user who will publish content or access published content on a site must be able to sign in to the site. If the user already has an account on the server, you'll need to add that user to the appropriate site.
- You can add a user to more than one site as well.
- If the user doesn't already exist, you need to create a user account.
- Either way, make a list of the users who will need to be able to sign in to each site.

Site roles and permissions

- Each user has a site role that determines the maximum permissions that they can have on the site.
- As part of your site planning, you need to decide each user's site role.
- A user with a site role that's too restrictive might not be able to do the work they need.
- By the same token, a security best practice is to limit users' capabilities to only those that they need to do their work. This is referred to as following the principle of least privilege.

Extract refresh schedules

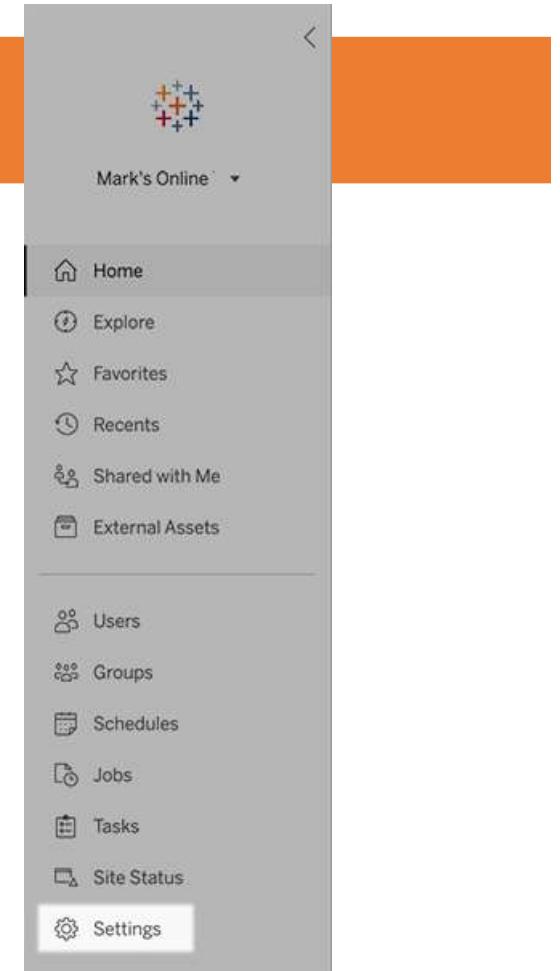
- If users publish data sources or workbooks that include extracts, you usually want to make sure that the extracts are refreshed, so that they contain the latest data.
- Users can manually refresh an extract, but this isn't always a good idea if the extract is large, and the refresh takes a long time.
- Instead, you can set up schedules for when an extract should be refreshed.

Site Settings Reference

- As a Tableau site administrator, you can customize a site for your organization using the settings below.
- The settings available to you depend on your site configuration, and whether you use Tableau Online or Tableau Server.

Accessing site settings

- (Tableau Online) From the Home page, expand the side pane, and click Settings at bottom.



Accessing site settings

The screenshot shows the SharePoint 'Sites' list page. At the top, there is a button labeled '+ New Site' and a status indicator '1 selected'. Below the header, there is a search bar with a magnifying glass icon. The main area displays a list of sites with columns for Name, Last modified, ... (More Options), and Users. The 'Development' site is selected, indicated by a blue background and a checked checkbox in the first column. A context menu is open over the 'Development' site, titled 'Actions'. The menu items are: 'Activate...', 'Suspend...', 'Edit Settings...', and 'Delete...'. A hand cursor is pointing at the 'Edit Settings...' option. The 'Edit Settings...' option is highlighted with a light gray background.

	Name	Last modified	...	Users
<input checked="" type="checkbox"/>	Development	1 hour ago	...	4
<input type="checkbox"/>	Documentation - 20 User Limit	1 hour ago	...	5
<input type="checkbox"/>	Finance	1 hour ago	...	13

General section

Setting	Description
Site Name and ID (Tableau Server only)	<p>Specifies the site name seen in the user interface and the ID seen in the site URL. (If you are editing the Default site, you cannot change the ID.)</p> <p>You can't change the “#/site” portion of the URL (for example, http://localhost/#/site/sales). In multi-site server environments, these segments appear in the URL for sites other than the Default site.</p>
Storage (Tableau Server only)	<p>Select either Server Limit or GB, and for the latter enter the number of gigabytes you want as a limit for storage space for published workbooks, extracts, and other data sources.</p> <p>If you set a server limit and the site exceeds it, publishers will be prevented from uploading new content until the site is under the limit again. Server administrators can track where the site is relative to its limit using the Max Storage and Storage Used columns on the Sites page.</p>

Revision History (Tableau Server only)	Specifies the number of previous versions of workbooks, flows, and data sources that are stored on the server.
Tableau Prep Conductor	Controls whether users with appropriate permissions can schedule and monitor flows. Tableau Prep Conductor is part of the Tableau Data Management Add-on. For more information, see About Tableau Prep Conductor
Web Authoring	Controls whether browser-based authoring is enabled for the site. When web authoring for workbooks is disabled, users can't create or edit published workbooks from the server web environment but instead must use Tableau Desktop to republish the workbook. When web authoring for flows is disabled, users can't create or edit published flows from the server web environment but instead must use Tableau Prep Builder to re-publish the flow. For more information, see Set a Site's Web Authoring Access and Functions in Tableau Online Help.

Managing Users (Tableau Server only)

Determines whether only server administrators can add and remove users and change their site roles, or whether site administrators can too.

If you allow site administrators to manage users, specify how many users they can add to the site by selecting one of the following:

- Server Limit adds the number of available server seat licenses. For a server with core-based licensing, there is no limit.
- Site Limit lets site administrators add users up to a limit you specify.
- Site Role Limit lets site administrators add users of each site role up to the license limit you specify for the site.

For more information, see [View Server Licenses](#).

Guest Access

Lets people who lack a Tableau Server account see views that have guest access permissions.

Tableau Catalog	Turns off Catalog capabilities when Tableau Server or a Tableau Online site is licensed with the Data Management Add-on. For more information, see Disable Catalog
Workbook Performance after a Scheduled Refresh (Tableau Server only)	Pre-computes recently viewed workbooks with scheduled refreshes to open them faster. For more information, see Configure Workbook Performance after a Scheduled Refresh .
Workbook Performance Metrics (Tableau Server only)	Lets site users collect metrics on how workbooks perform, such as how quickly they load. To initiate recording, users must add a parameter to the workbook's URL. For more information, see Create a Performance Recording
Managed Keychain Clean Up	Lets site administrators manage saved credential keychains for OAuth connections on the site. For more information, see OAuth Connections

Automatically Suspend Extract Refresh Tasks	To save resources, Tableau can automatically suspend extract refresh tasks for inactive workbooks. This feature applies only to refresh schedules that run weekly or more often. For more information, see Automatically Suspend Extract Refreshes for Inactive Workbooks in Tableau Online Help.
Email Settings (Tableau Server only)	Specifies the From address and message footer seen in automatic emails for alerts and subscriptions.
Site Invite Notification (Tableau Online only)	For sites with single-sign-on authentication, sends an invite email when new users are added to the site.
Site Logo	Specifies the image that appears with the site name.
Start Page	Controls which site page appears when users sign in. By default, the Home page appears, but you can instead open All Projects, All Workbooks, or other pages. For more information, see Set the Default Start Page in Tableau Online Help.

User Visibility	Controls what user and group names are visible to other users. For more information, see Manage User Visibility in Tableau Online Help.
Availability of Ask Data	Controls whether Ask Data is enabled or disabled by default for data sources. Ask Data lets users query data using conversational language and automatically see visualizations. For more information, see Automatically Build Views with Ask Data in Tableau user Help.
Automatic Access to Metadata about Databases and Tables	Automatically grants users certain capabilities to external assets using derived permissions. For more information, see Turn off derived permissions in Tableau Online Help.
Sensitive Lineage Data	Specifies whether sensitive lineage data should be obfuscated or filtered when users don't have the appropriate permissions to related metadata. For more information, see Sensitive lineage data .

Cross-Database Joins	Determines where the join process happens when joining data from multiple sources. For more information, see Combine Tables from Different Databases in Tableau user Help.
Notifications for Extract Jobs and Flow Runs	Sends email notifications to inform data source, flow, and workbook owners when there are updates to extract jobs or scheduled refreshes. Also sends encryption failure notices if the site encryption mode is set to Enable. For more information, see in Tableau Online Help and Enable Extract Refresh Scheduling and Failure Notification in Tableau Server Help.
Extract Encryption at Rest (Tableau Server only)	Lets you encrypt .hyper extracts while they are stored on Tableau Server. Server administrators can enforce encryption of all extracts on their site or allow users to encrypt all extracts associated with particular published workbooks or data sources. For more information, see Extract Encryption at Rest

Tableau Mobile – Enable offline favorites (Tableau Server only)	Controls whether offline previews of users' favorite views are generated for display when users access the site on Tableau Mobile. For more information, see Manage Tableau Mobile Data on Devices in the Tableau Mobile Deployment Guide.
Tableau Mobile – Enable app lock (Appears under Authentication tab for Tableau Online)	Requires a biometric method or device passcode for users to open the site on Tableau Mobile. For more information, see Enable App Lock for Added Security in the Tableau Mobile Deployment Guide.
Tableau Support Access (Tableau Online only)	Allows Tableau Support technicians access to the site to help troubleshoot support cases. By default, this feature is disabled. For more information, see Enable Support Access
Sharing	Allows users to share items directly with other users. When an item is shared, the recipients get a notification and the item is added to their Shared with Me page. If this is not enabled, users can only copy a link to share. For more information, see Share Web Content in Tableau user Help.

Comments	Controls whether users can add remarks in a Comments side pane for each view and @mention other Tableau users to notify them via email. For more information, see Comment on Views in Tableau user Help.
Data-Driven Alerts	Lets users automatically receive emails when data reaches key thresholds. For more information, see Send Data-Driven Alerts in Tableau user Help.
Subscriptions	Lets site users subscribe to views and receive regular emails of them. On Tableau Server, these options are available only if you first configure subscription settings
Recommendations for Views	Controls whether recommendations show on the site and whether the names of users who have looked at recommended items show on recommendation tooltips.

Request Access	Lets users send access requests to content or project owners. For more information, see Let Site Users Request Access to Content in Tableau Online Help.
Metrics Content Type	Controls whether metrics are available on the site. When enabled, users can create metrics from views and metrics appear as a content type. When disabled, metrics won't appear on the site or continue to sync; however, you can re-enable the feature to bring back previously created metrics. For more information, see "Set Up for Metrics" in Tableau Online Help or Tableau Server Help .
Web Page Objects	Controls whether these dashboard objects can display target URLs. For more information, see Security for Web Page objects in Tableau user Help.
Set Time Zone for Extracts	The default time zone for extract-based data sources in a site is Coordinated Universal Time (UTC). Site administrators can set a different time zone. For more information, see Set the Site Time Zone for Extracts in Tableau Online Help.

Extract Quota Limit Notifications	Sends email alerts to all site administrators when extract refresh jobs are canceled because of extract job capacity issues.
Run Now	Controls who can run jobs manually using the Run Now option from the web, Rest API, and Tabcmd. By default, this option is selected to allow users to run jobs manually. Clear the check box if only administrators should be allowed to run jobs manually.

Authentication section (Tableau Online)

Setting	Description
Authentication Types	<p>Specifies how users can sign in to the site, and how they access it after signing in the first time.</p> <p>Authentication verifies a user's identity. For more information, see Authentication.</p>
Default Authentication Type for Embedded Views	<p>Specifies how users can sign in to embedded views.</p> <p>By default, Tableau authentication is selected.</p>
Manage Users	<p>Lets you add new users to the site or change the site role and authentication method for existing users.</p>

Automatic Provisioning and Group Synchronization (SCIM)	Allows you to manage users on the site through a third-party identity provider (IdP). When enabled, the Base URL and Secret boxes are populated with values to use in the IdP SCIM configuration. For more information, see Automate User Provisioning and Group Synchronization through an External Identity Provider
Connected Clients	Allows Tableau clients such as Tableau Mobile, Tableau Bridge, and others to stay authenticated to the server after a user provides sign-in credentials the first time. When turned off, users are required to sign in explicitly each time they visit Tableau Online. For more information, see Access Sites from Connected Clients
App Lock for Tableau Mobile	Requires a biometric method or device passcode for users to open this site on Tableau Mobile. For more information, see Enable App Lock for Added Security in the Tableau Mobile Deployment Guide.

Bridge section (Tableau Online)

Setting	Description
Client Not Running Notifications	Sends email alerts to data source owners when a client appears to be disconnected from the site.
Allow Load Balancing (Pooling)	Distributes live queries and refresh jobs across all clients in a pool. For more information, see Enable pooling

Extensions section

Setting	Description
Dashboard Extensions	<p>Manage and control dashboard extensions. Dashboard extensions are web applications that run in custom dashboard zones and can interact with the rest of the dashboard. For more information, see "Manage Dashboard Extensions" in Tableau Online Help(Link opens in a new window) or Tableau Server Help</p>
Analytics Extensions	<p>Enables a set of functions that your users can use to pass expressions to analytics extensions for integration with R and Python. For more information, see "Configure Connection with Analytics Extensions" in Tableau Online Help(Link opens in a new window) or Tableau Server Help</p>

Manage Users and Groups

- You can add users to your Tableau sites and set their site roles, which determines each user's level of access.
- In addition, you can create groups of users, and enable guest access to your sites

Add Users to a Site

- Add a local user account or a user account from Active Directory, described later in this lesson.
- You can also add users by importing an Active Directory group. See Create Groups via Active Directory.
- Import Users via a CSV file that you create using the CSV Import File Guidelines.

Site administrator access to user management

- By default site administrators can add and remove users on a site.
- On the site's Settings page, server administrators can revoke that capability, so that only server administrators can manage the site's users.
- A site administrator can edit an existing local user account only if the administrator has access to all of the sites the user is a member of.

Add local users to a site

The screenshot shows the Tableau Server interface for managing site users. At the top, there's a navigation bar with a plus sign icon, the text "Default", and a dropdown arrow. To the right, it says "Site Users 8" and has a button "+ Add Users" with a count of "0 items selected". Below this is a modal window titled "Add Users to this Site". The modal contains two buttons: "New User" (with the sub-instruction "Create a new user account on Tableau Server.") and "Import From File" (with the sub-instruction "Import users from a CSV file."). Below the modal, the main "Site Users" list is visible, showing two entries:

<input type="checkbox"/>	A	AllSites-Admin	...	allsitesadmin	S
<input type="checkbox"/>	HW	Henry Wilson	...	hwilson	E

Add local users to a site

New User

Username:

Username available

Display name:

Password:

Confirm password:

Email (optional):

Site role:

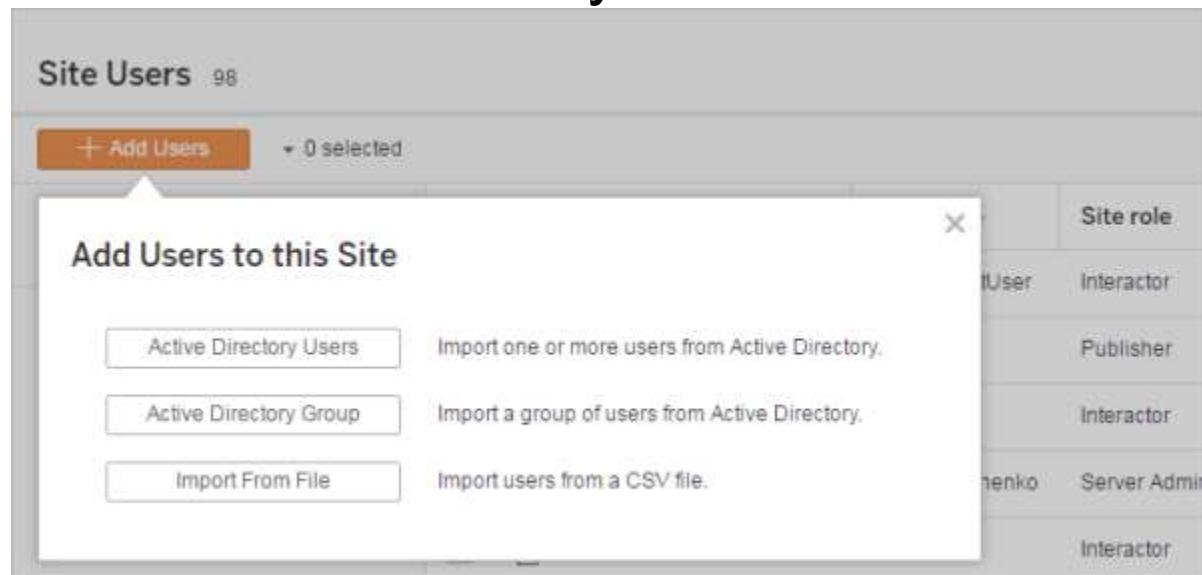
 

[Cancel](#)

[Add User](#)

Add Active Directory users to a site

- In a site, click Users, and then click Add Users, and then click Active Directory User



Add Active Directory users to a site

- Enter one or more user names (separated by semicolons).

For example, tdavis; jjohnson; hwilson

- Select a site role.

For site role definitions, see Set Users' Site Roles.

- Click Import Users.

Remove local users

1. Sign in to Tableau Server as an administrator, select the site, and open the Users page.
2. Select the check boxes next to the users' names, and on the Actions menu, select Remove.

Related information

- You can also Add Users to Tableau Server, without site affiliation.
- Upgrading Tableau Server to version 2018.1 or later from a pre-2018.1 version, without activating user-based licenses, affects users who were assigned the Viewer site role in the pre-2018.1 server version.

Set Users' Site Roles

- When you add users to a site on Tableau Server or Tableau Online, independent of their license type, you must apply a site role to them.
- The site role signifies the maximum level of access a user can have on the site.
- Along with content permissions, the site role determines who can publish, interact with, or only view published content, or who can manage the site's users and administer the site itself.

How user licenses, site roles, and content permissions work together

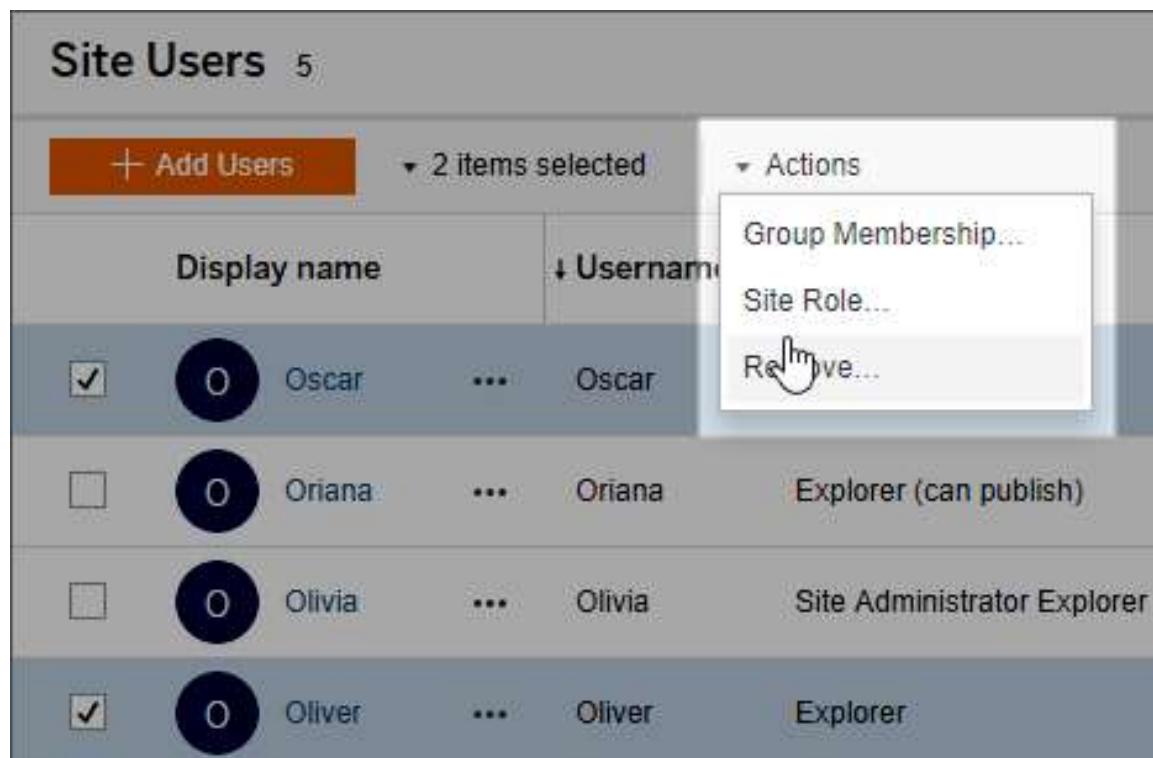
- The intersection of a user's license type, site role, and content permissions determines the level of access a user has on the Tableau site.
- The license type is associated with the user. The site role you want to assign to the user determines the license type they will require.
- In a multi-site environment on Tableau Server, a user's license applies to all sites the user is a member of.

Change a user's site role

Site Users 5

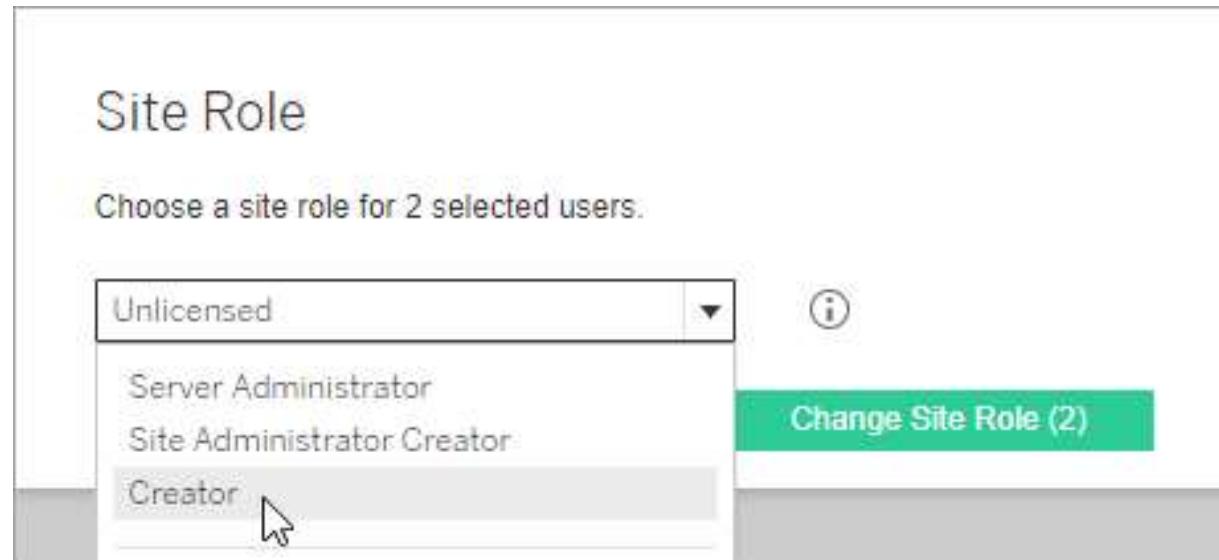
+ Add Users ▾ 2 items selected

Display name	Username	Actions
Oscar	Oscar	Group Membership... Site Role... Remove...
Oriana	Oriana	Explorer (can publish)
Olivia	Olivia	Site Administrator Explorer
Oliver	Oliver	Explorer



Change a user's site role

- Select the new site role, and then click Change Site Role.



General capabilities allowed with each site role

- The following table lists the license types as of version 2018.1, the highest level of site role allowed with each, how each site role maps to its pre-2018.1 equivalent; and summarizes the maximum capabilities each site role allows

Site role name as of version 2018.1	Previous site role name	Maximum capabilities this site role allows
Site roles that use a Creator license		
—Users with these site roles have access to Tableau clients such as Tableau Prep, Tableau Desktop, Tableau Bridge, and Tableau Mobile.		
Server Administrator	Server Administrator	<p>Available on Tableau Server only; not applicable to Tableau Online.</p> <p>This site role always occupies the highest license activated on the server between Creator and Explorer. It allows unrestricted access to the configuration settings for the Tableau Server browser environment, all sites on the server, users and groups, and all content assets, such as flows, projects, data sources (including connection information), and workbooks.</p> <p>Connect to Tableau published data sources or external data, from the browser, Tableau Desktop, or Tableau Prep; create and publish new data sources; author and publish workbooks.</p>

Site Administrator	--	This is the highest level of access for Tableau Online.
Creator	--	<p>Unrestricted access to content as described above, but at the site level. Connect to Tableau or external data in the browser, Tableau Desktop, or Tableau Prep; create new data sources; build and publish content.</p> <p>On Tableau Server, server administrators can determine whether or not to allow site administrators to manage users and assign site roles and site membership. By default, on Tableau Server, and always on Tableau Online, site administrators are allowed these capabilities.</p>
Creator	--	<p>This is similar to the former Publisher site role, but allows new features. This site role offers non-administrators the maximum level of <i>content</i> access.</p> <p>Connect to Tableau or external data in the browser, build and publish flows, data sources and workbooks, have access to Dashboard Starters, and use interaction features on published views. Can also connect to data from Tableau Prep or Tableau Desktop, publish (upload/save) and download flows, workbooks and data sources.</p>

—Users with these site roles can access the server from the browser or Tableau Mobile.

Server Administrator	N/A	<p>Tableau Server only; not applicable to Tableau Online.</p> <p>If Explorer is the highest license type activated on the server when a new server administrator user is created, the user's site role is Server Administrator; however, the user will not have the full connecting and publishing capabilities that come only with the Creator license.</p> <p>With the Explorer license a Server Administrator has unrestricted access to the configuration settings for the Tableau Server browser environment, all sites on the server, users and groups, and all content assets, such as projects, flows, data sources (including connection information), and workbooks.</p> <p>However, with the Explorer license, a Server Administrator can't connect to external data from the browser to create a new data source. They can author or publish workbooks and data sources from Tableau Desktop. (they function as an Explorer (can publish) site role with regards to publishing).</p>
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Site Administrator Explorer	Site Administrator	<p>Same access to site and user configuration as Site Administrator Creator, but can't connect to external data from the web editing environment.</p> <p>Can connect to Tableau published data sources to create new workbooks, and edit and save existing workbooks.</p>
Explorer (can publish)	Publisher	<p>Can publish workbooks from the web using existing data sources, browse and interact with published views, and use all interaction features.</p> <p>In the web editing environment, can edit and save existing workbooks. Cannot save new standalone data sources from data connections embedded in workbooks, and cannot connect to external data and create new data sources.</p>
Explorer	Interactor	<p>Can browse and interact with published views. Can subscribe to content, create data driven alerts, connect to Tableau published data sources and open workbooks in the web authoring environment for ad-hoc queries, but they can't save their work.</p>

Read Only	Viewer	<p>This site role is available only in version 2018.1, for transitioning users to the user-based Viewer (or other) license and site role. Any users in the Read Only site role prior to upgrading to version 2018.2 or later are reassigned to the Viewer site role.</p> <p>In 2018.1 versions, Read Only users can see and subscribe to published views others have created. Can't use other interaction features or save custom views.</p>
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Site roles that use a Viewer license

Viewer	N/A	<p>Can see published views others have created and use most interaction features. Can subscribe to views and download as images or summary data. Can't connect to data, create, edit, or publish content, or set data alerts.</p> <p>For a list of specific capabilities, see the Viewer column in the matrix on the Tableau pricing page.</p>
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Other site roles		
Unlicensed	Unlicensed	<p>Unlicensed users can't sign in to Tableau Server or Tableau Online. Users are assigned the Unlicensed role in the following circumstances:</p> <ul style="list-style-type: none">• You import users from a CSV file and their license level is set to unlicensed.• The number of available licenses is reached at the time you add or import users.• You remove a user who owns content on the site. The user will still own the content but not be able to do anything with it.• A product key(s) has expired. See Refresh Expiration Date for the Product Key.

Who can publish content

The following site roles allow the specified level of publishing access.

- Server Administrator (Tableau Server only); Site Administrator Creator; and Creator allow full connecting and publishing access.

Site roles and Active Directory import and synchronization

- When you import users from an external directory like Active Directory, you can specify the site role.
- If a user is not yet a member of any site on the server, the user is added to the site with the assigned role.
- When you synchronize groups from an external directory, the site role is applied through the Minimum Site Role setting on the Groups - Details page.

Current Site Role								
Import Site Role	SC	C	SE	EP	E	V	U	
Site Administrator Creator (SC)	SC							
Site Administrator Explorer (SE)	SE							
Creator (C)	SC	C	SE	C	C	C	C	
Explorer (Can Publish) (EP)	SC	C	SE	EP	EP	EP	EP	EP
Explorer (E)	SE	C	SE	EP	E	E	E	E
Viewer (V)	SE	C	SE	EP	E	V	V	
Unlicensed (U)	SE	C	SE	EP	E	V	U	

View, Manage, or Remove Users

- Administrators can manage a site's users such as adding and removing users, setting the groups they're members of, setting their site roles, and so on.
- On Tableau Server, server administrators can manage users on multiple sites at a time on the All Sites page.

View and manage users on a site

Sign in to a site as an administrator, and then select Users. On this page you can do any of the following to manage users:

- Set group membership, set site role, or remove the user from the site.
- If you've configured the site for SAML single sign-on, you can set the selected users' authentication type.

The screenshot shows the 'Site Users' list in SharePoint. On the left, there's a navigation bar with icons for Home, Explore, Favorites, Recents, and Users. The 'Users' icon is highlighted. The main area has a header with '+ Add Users' and '2 items selected'. A dropdown menu titled 'Actions' is open over two selected users: 'AD Adam Davis' and 'AS Adam Smith'. The 'Actions' menu includes options: 'Group Membership...', 'Site Role...' (which is highlighted), 'Remove...', 'Force Password Update...', and 'Unlock Account Access...'. Below the menu, the list continues with other users: 'admin' (Server Administrator), 'AllSites-Admin' (Site Administrator Creator), and 'HW Henry Wilson' (Explorer (can publish)).

	Display name	User	Actions
<input checked="" type="checkbox"/>	AD Adam Davis	... adav	Group Membership... Site Role... Remove... Force Password Update... Unlock Account Access...
<input checked="" type="checkbox"/>	AS Adam Smith	... asm	(publish) (publish)
<input type="checkbox"/>	A admin	... admin	Server Administrator
<input type="checkbox"/>	A AllSites-Admin	... allsitesadmin	Site Administrator Creator
<input type="checkbox"/>	HW Henry Wilson	... hwilson	Explorer (can publish)

View and manage users on a site

Select a user name to see details about them, such as content they own, views they subscribe to, and their account settings.

- The user Settings page is available when the following conditions are true:
- The user is a member only of sites that the site administrator controls

All Site Users > Jill



Jill

USER

• [REDACTED].com • Site role: Site Administrator • Last sign in: Apr 5, 2018, 5:02 PM • [REDACTED].com

Projects 5

Workbooks 4

Views 19

Data Sources 2

Alerts 0

Subscriptions 1

Settings

Username [REDACTED].com

Display name Jill

Email [REDACTED].com

[Change Password](#)

Saved credentials

[Clear All Save](#)

ServiceNow ITSM

Add

Anaplan

Add

View and edit server users

The screenshot shows a user interface for managing server users. At the top left is a title bar with "Server Users" and the number "77". Below it is a toolbar with a "Add Users" button and a "1 selected" indicator. To the right is a search bar and a "General Filters" section with a dropdown for "Max Site Role" set to "Any site role". On the far right is a table with columns for "Actions", "Username", and user details. A context menu is open over the row for "Andrew Smith", showing options like "Site Membership..." and "Delete...". The user "Andrew Smith" has a checked checkbox next to their name.

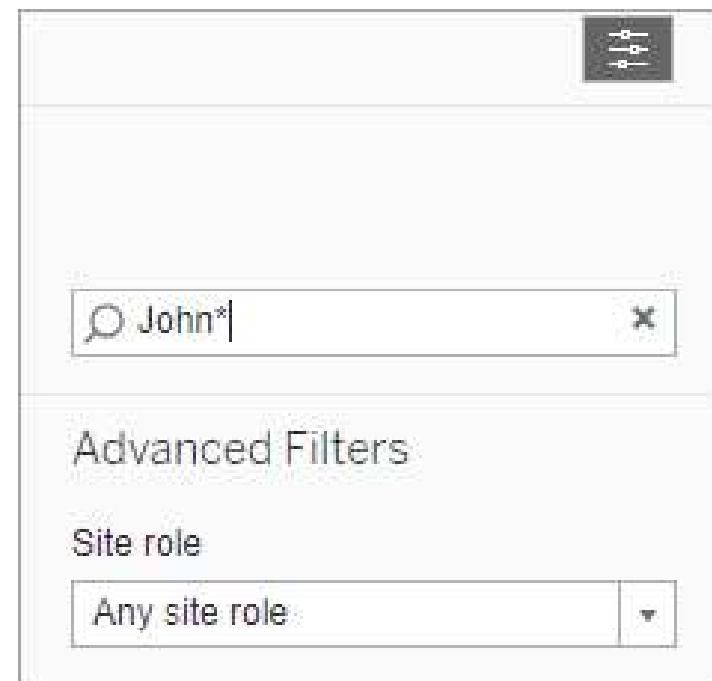
Actions	Username	
Site Membership...	adavis	...
Delete...	Admin	...
Site Membership...	agrove	...
Delete...	aallen	...
Site Membership...	asmith	...

Manage users' site membership

1. In the site menu, select Manage All Sites, and then select Users.
2. On the Server Users page, select the check boxes next to the users, and then select Actions > Site Membership.
3. Select one or more sites, and a site role for each site, and then click Save.

Search for users

- You can use the asterisk (*) character as a search wildcard.
- For example, searching for John* will return all user names that start with John.

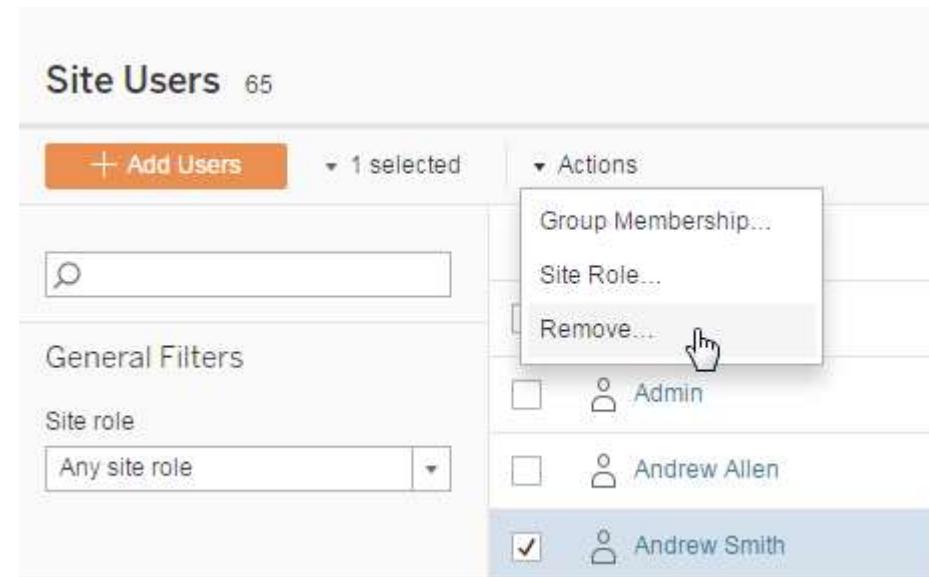


Remove users from a site

- You can remove a user only if the user does not own any content (projects, workbooks, views, or data sources).
- If you attempt to remove a user who owns content, the user site role will be set to Unlicensed, but the user will not be removed.

Remove users from a site

- Sign in to a site as an administrator, and go to the Users area.
- Select one or more users to remove, and then select Actions > Remove.



Remove users from the server

- You can remove a user only if the user does not own any content (projects, workbooks, views, or data sources).
- If you attempt to remove a user who owns content, the user site role will be set to Unlicensed, but the user will not removed.

Remove users from the server

- Select one or more users to delete, and then click Actions > Delete.

The screenshot shows the 'Server Users' page with 77 users listed. At the top, there are buttons for '+ Add Users' and 'Actions'. A dropdown menu under 'Actions' shows 'Site Membership...' and 'Delete...', with a cursor pointing at 'Delete...'. Below this, a list of users is shown with checkboxes next to their names. The user 'Adam Davis' has a checkbox next to it. The user 'Andrew Smith' has a checked checkbox next to it, indicating it is selected for deletion. Other users listed include 'Admin', 'Alejandro Grove', and 'Andrew Allen'.

Change passwords for users of a single site

- Ensure that the correct site is selected in the menu.
- Click Users.
- Click the display name of a user.
- Click Settings.

Change passwords for users of a single site

The screenshot shows the Tableau User Management interface. At the top, it displays "All Site Users > Andrew Smith". Below this, there is a profile picture of Andrew Smith and his name "Andrew Smith". Underneath his name, it shows "USER • local\asmith • Site role" and "Last sign in: Jun 8, 2016, 3:04 PM". A navigation bar below these details includes "Workbooks", "Views", "Data Sources", "Subscriptions", and "Settings", with "Settings" being the active tab. In the main content area, there are three input fields: "Username" (asmith), "Display name" (Andrew Smith), and "Email" (empty). At the bottom of this section is a "Change Password" button.

Change passwords for users of multiple sites

1. In the site menu, click Manage All Sites.
2. Click Users.
3. Click the display name of a user.
4. Click the Change Password link, edit the password, and then click Save Password.

Change passwords for users of multiple sites



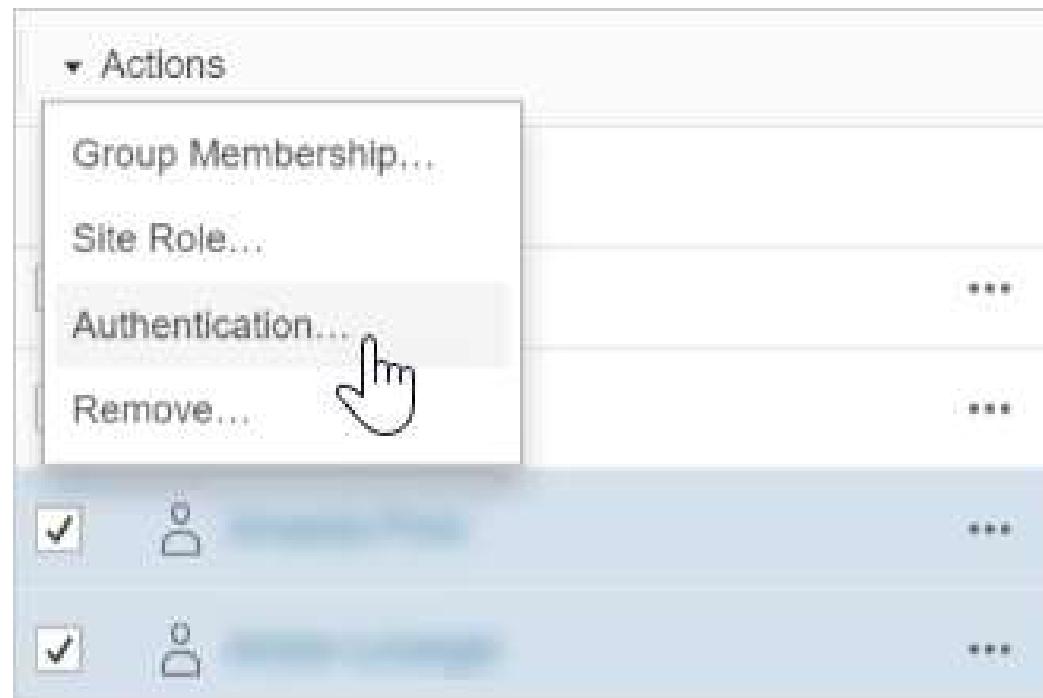
The screenshot shows a user profile page for "Andrew Smith". At the top, it displays "All Server Users > Andrew Smith". Below the name, there is a blue circular icon with a white person symbol. The user information includes "USER: local\asmith" and "Max site role: [redacted]". The last sign-in date is listed as "Jun 8, 2016, 3:04 PM". A "Settings" section follows, containing fields for "Username" (asmith), "Display name" (Andrew Smith), and "Email" (empty). A "Change Password" button is located at the bottom of this section.

Set the User Authentication Type for SAML

You can assign authentication type at the time you add users to Tableau Server, as well as any time afterward.

- When you're signed in to the Tableau Server site, select Users.
- On the Site Users page, select the check boxes next to the users you want to assign an authentication type.
- On the Actions menu, select Authentication.

Set the User Authentication Type for SAML



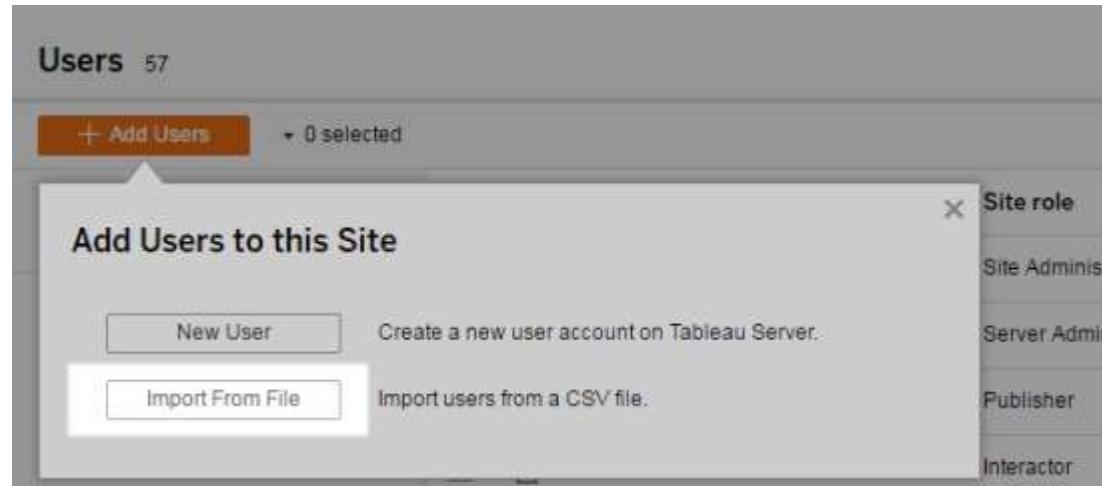
Import Users

- To automate the process of adding users to a site, you can create a CSV file that contains user information, and then import the file.
- Site administrators can import users to a particular site; server administrators (Tableau Server only) can import users at the server level, to later add them to multiple sites.

Add users from a CSV file

Do one of the following:

- To add users at the site level, select Users, and then Add Users.



Add users from a CSV file

- Click Import From File, click Browse and navigate to the file, and then click Import Users.



Add users from a CSV file

- Tableau displays the results of the import process (names in this image are blurred).



How users' site roles are assigned or maintained

- When you import at the site level or on a single-site server using tabcmd, you can specify the site role for all users in the CSV file.
- If a user already exists in the Tableau Server site, the site role assigned during the import process will be applied, even if it is more restrictive than users' existing site role.
- The exception is that you cannot affect a server administrator's site role.

Importing at the server level in multi-site environments

The screenshot shows the 'Server Users' page with the following details:

Server Users 77

+ Add Users ▾ 0 selected

General Filters

Max Site Role

Any site role

Display name	Username	Max site role	Sites	Last sign-in
Adam Davis	adavis	Site Administrator	7	Jul 21, 2023
Admin	Admin	Server Administrator	9	Aug 5, 2023
Alejandro Grove	agrove	Interactor	1	

Importing at the server level in multi-site environments

- The Site Users page.

Site Users 65						
+ Add Users		0 selected				
		Display name	Username	Site role	Groups	Last signed in
<input type="checkbox"/>	 Adam Davis	...	adavis	Site Administrator	2	Jul 21, 2016, 5:12
<input type="checkbox"/>	 Admin	...	Admin	Server Administrator	3	Aug 5, 2016, 9:19
<input type="checkbox"/>	 Andrew Allen	...	aallen	Publisher	2	Jul 21, 2016, 5:35

Importing to a single-site environment

- Server and site administrators on a single-site server perform CSV user imports from the Users page in a site.

Users 57						
+ Add Users		0 selected				
		Display name	Username	Site role	Groups	Last signed
<input type="checkbox"/>	 Adam Davis	...	adavis	Site Administrator	4	May 13, 2016
<input type="checkbox"/>	 Admin	...	Admin	Server Administrator	2	Aug 5, 2016
<input type="checkbox"/>	 Alan Wang	...	awang	Publisher	4	

Multi-site versus single-site import

- Users can belong to more than one site on the same server, but they must use the same credentials for each site.
- This becomes important when you're adding users to a site and those users might already be members of a different site.
- If you try to import a user who already exists, and if the user's credentials in the CSV file don't match the existing credentials, the import fails for that user.

CSV Import File Guidelines

- You can automate adding users by creating a comma-separated values (CSV) file with user information and then importing the file.
- You can include attributes in the CSV file, such as license level and the publishing access, to apply to the users at the same time you import them.

CSV file format requirements

When you create the CSV file for importing users, make sure that the file meets the following formatting requirements:

- The file does not include column headings. Tableau Server assumes that every line in the file represents a user.
- The file is in UTF-8 format, and includes the byte-order mark (BOM).
- Character encodings such as BIG-5 have been converted to UTF-8. You can do this by opening the file in a text editor and using the Save As command.

Required columns in the CSV file

The following values are required for each user:

- User name
- Password: If Tableau Server is configured to use Active Directory authentication, there must be a Password column, but the column itself should be empty. If the server is using local authentication, you must provide passwords for new users.

Additional import file options

The CSV file can contain the following fields, in the order shown here:

- **User name.** The user name. If the server is configured to use Active Directory, this value must match a user defined in Active Directory. If the user name is not unique across domains, you must include the domain as part of the user name (for example, example\Adam or adam@example). This is the only required field.
- **Password.** A password for the user. If the server is configured to use Active Directory, this value is not used.

Improve performance for large CSV files passed through tabcmd

- A server administrator can enable server settings that help to improve performance for importing large CSV files through tabcmd commands.
- You can do this using the tsm configuration set command with the following options:

vizportal.csv_user_mgmt.index_site_users
vizportal.csv_user_mgmt.bulk_index_users
searchserver.index.bulk_query_user_groups

CSV settings and site roles

CSV settings	Site role
License level=(any) Administrator=System Publisher=true	Server Administrator. This setting applies to Tableau Server only, and it is valid only if you are importing users while managing the server (that is, not signed in to a specific site). The Server Administrator site role always takes a Creator license if one is available. If no Creator license is available, see Troubleshoot Licensing to learn about the way Tableau Server handles this.
License level=Creator or Explorer Administrator=Site Publisher=true	Site Administrator Creator or Site Administrator Explorer. This setting is valid only if you are importing users while signed in to a specific site.

<p>License level=Creator or Explorer</p> <p>Administrator=Site</p> <p>Publisher=true</p>	<p>Site Administrator Creator or Site Administrator Explorer. This setting is valid only if you are importing users while signed in to a specific site.</p>
<p>License level=Creator</p> <p>Administrator=None</p> <p>Publisher=true</p>	<p>Creator</p>
<p>License level=Explorer</p> <p>Administrator=None</p> <p>Publisher=true</p>	<p>Explorer (Can Publish)</p>

License level=Explorer Administrator=None Publisher=false	Explorer
License level=Viewer Administrator=None Publisher=false	Viewer
License level=Unlicensed Administrator=None Publisher=false	Unlicensed

CSV import example for Tableau Server

The following example shows a CSV file that contains information for several users.

```
henryw,henrypassword,Henry  
Wilson,Creator,None,yes,henryw@example.com  
freds,fredpassword,Fred Suzuki,Viewer,None,no,freds@example.com  
alanw,alanpassword,Alan Wang,Explorer,Site,yes,alanw@example.com  
michellek,michellepassword,Michelle  
Kim,Creator,System,yes,michellek@example.com
```

Manage Site User Visibility

- By default, all site users can see aliases, project ownership and comments by other users when permissions allow.
- The User Visibility setting lets administrators manage if users with Viewer and Explorer site roles see other users and groups on the site, which can be important for sites that are used by multiple clients.

Limit user visibility

To limit user visibility for Explorers and Viewers (excluding Site Administrator Explorers):

- Navigate to the site's Settings page
- Select Limited in the User Visibility setting

Area	Impact
Search	User information not displayed
Content owners	User information not displayed (Explorers and Viewers can't see themselves, but can see their content in My Content)
Profile pictures	User information not displayed
Subscriptions	User information not displayed
Recommendations	Similar users not displayed (all users)
Add/Edit Tags	Explorers and Viewers can see tags but cannot delete or modify them
"Who has seen this view?"	Disabled
Ask Data usage analytics	Disabled

Permissions dialogs	Disabled
Named sharing	Disabled (all users)
Alerts	Disabled (all users) Existing alerts paused
Comments	Disabled (all users)
Public Custom Views	Disabled (all users) Existing public custom views appear as private
Request Access	Disabled (all users)
Tableau Desktop	Publishing workbooks disabled from Desktop User information not displayed on user filters
Tableau Catalog (with Data Management Add-on)	User information not displayed

Best practices for limiting user visibility

- Administrators can also check that user and group information is not visible in these ways:
- Configure permissions to only provide content to appropriate parties. For more information, see Permissions.
- Limited User Visibility hides user identification information from search, but might return content that the user published, including when searching by owner name, if the person searching has viewing permission to that content.

Restore Full User Visibility

- When administrators set User Visibility back to Full, features disabled for all users by Limited User Visibility (such as comments and alerts) remain off.
- Administrators can re-enable these features through the site's Settings page.
- Any previous feature settings are not retained when User Visibility is set to Full, and affected features are not automatically turned on.

Guest User

- Core-based licenses of Tableau Server include a Guest user option, which you can use to let people access Tableau views without an account on the server.
- Guest user access is enabled by default when Tableau Server is installed with a core-based license. It is not available with user-based licensing.
- If you do not intend to use Guest user access, you should disable it.

Enable or disable Guest access

1. In the site menu, click Manage All Sites and then click Settings > General.
2. For Guest Access, select or clear Enable guest access.
3. Click Save.

Guest user permissions

A Guest user can have the following maximum capabilities:

- **Workbooks and views:** View, Export Image, Summary Data, View Comments, Filter, Full Data, Web Edit, Download (to save a local copy)
- **Data sources:** View and Download

Enable or disable Guest access

This enables the Guest user on all sites. You can then go to the same setting for a specific site. To disallow Guest access for a site:

1. In the site menu, select a site.
2. Click Settings, and on the General tab, clear the Enable guest access for this site check box.

Additional Guest account characteristics

The Guest user is unique in the following additional ways:

- As a single user account, it represents all unauthenticated users accessing Tableau views.
- When enabled, it is a member of the All Users group.
- You can add it as a member of other groups on a site.
- You cannot edit it or select it as the owner of a content resource.

11. Work with Groups



Work with Groups

You can create and delete user groups, add users to a group, and synchronize groups with Active Directory.

Add Users to a Group

To keep Active Directory group membership up-to-date:

- Site administrators can synchronize selected groups on demand in a site. For more information, see [Synchronize Active Directory Groups on a Site](#).
- Server administrators can synchronize all Active Directory groups on the server based on a schedule or on-demand. For more information, see [Synchronize All Active Directory Groups on the Server](#).

Add users to a group (Users page)

The screenshot shows the Oracle Database Users page with 57 users listed. A modal dialog box titled "Group Membership" is open, showing a list of groups and their member counts. Five users are selected in the main list, indicated by a blue selection bar.

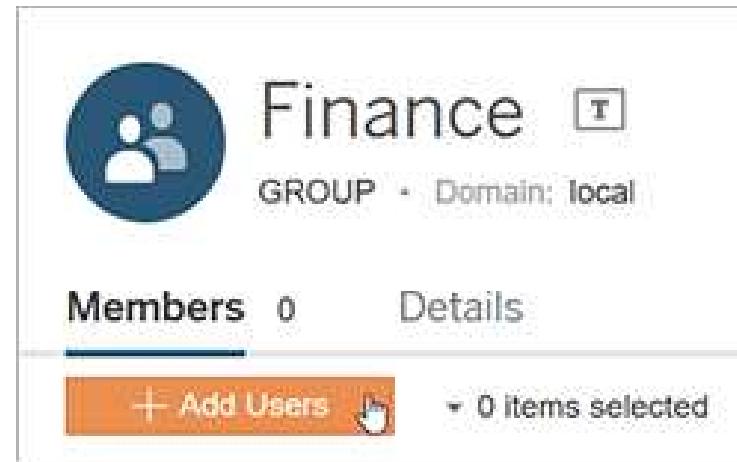
Group Membership
Assign groups to the 5 selected users.

Group	Members
Marketing - All Team	45
<input checked="" type="checkbox"/> Marketing - Approvers	3
Marketing - Data Managers	2
Marketing - Developers	5
Marketing - Project Leaders	2
Marketing - Viewers - Basic	10
Marketing - Viewers - Web Edit	13
Operations	0
Sales	n

Cancel Save

Add users to a group (Groups page)

- In a site, click Groups, and then click the name of the group.
- In the group's page, click Add Users.



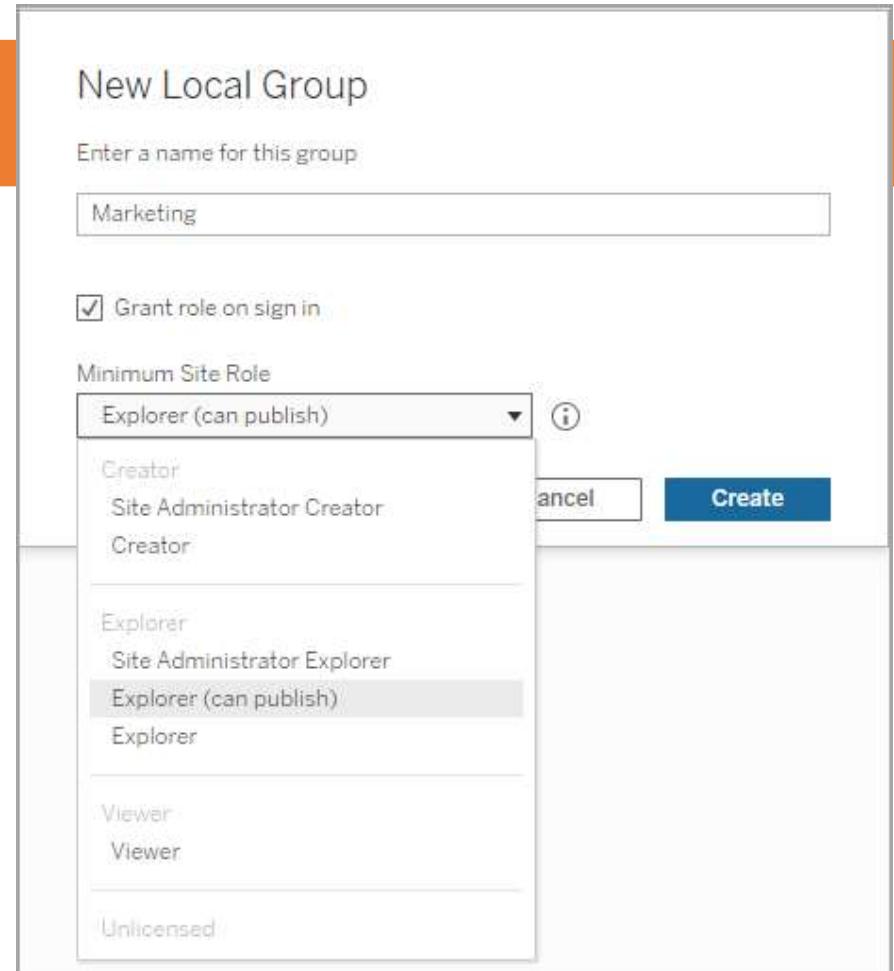
Create a Local Group

- In a site, click Groups, and then click Local Group.



Create a Local Group

- Type a name for the group.
- To set a minimum site role for the group, select Grant site role on sign in and select a minimum site role from the drop-down list.



12. Language and Locale for Tableau Server



Language and Locale for Tableau

- Tableau Server is localized into several languages. Server language and locale settings impact how this affects users.
- The Language setting controls user interface (UI) items such as menus and messages.
- The Locale setting controls items in views such as number formatting and currency.

Supported Languages

- Tableau Server is localized into several languages.
- See the "Internationalization" section of the Tableau Server Technical Specification

Default Settings

- The default language for Tableau Server is determined during Setup.
- If the host computer is configured for a language Tableau Server supports, Tableau Server installs with that language as its default.
- If computer is configured for a language that is not supported, Tableau Server installs with English as its default language.

How Language and Locale are Determined

- Another influence on which language and locale display when a user clicks a view is the user's web browser.
- If a server user has not specified a Language setting on their User Account page, and their web browser is set to a language that Tableau Server supports, the browser's language will be used—even if Tableau Server itself is set to a different language.

How Language and Locale are Determined

Tableau Server uses these settings, in this order of precedence, to determine language and locale:

1. Workbook locale (set in Tableau Desktop)
2. Tableau Server User Account language/locale settings
3. Web browser language/locale
4. Tableau Server Maintenance page language/locale settings
5. Host computer's language/locale settings

13. Configure SMTP Setup



Configure SMTP Setup

- Tableau Server can email server administrators about system failures, and email server users about subscribed views and data-driven alerts.
- First, however, you need to configure the SMTP server that Tableau Server uses to send email.
- After configuring SMTP, complete the steps to configure notifications (Configure Server Event Notification), then when you start or restart the server, it will trigger an email notification, which confirms that you have set up notifications correctly.

Secure SMTP

- To enable and configure TLS for SMTP, you must use the TSM CLI as described in this topic.
- If your organization does not use public certificates for verifying TLS connections, then you can upload a private certificate to Tableau Server to verify trusted connections.
- For more information, see the `tsm security custom-cert add` command.

Use the TSM web interface

- Open TSM in a browser:

<https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI.

- Click Notifications on the Configuration tab and click Email Server.

Enter the SMTP configuration information for your organization:

Notifications

Configure Tableau Server to send email notifications about critical events, processes and server health. Email notifications must be sent through an email (SMTP) server. [Learn More](#)

Email Server Events

Configure email server

Tableau Server must connect to an email server using SMTP (Simple Mail Transfer Protocol) to send email notifications. Contact your organization's IT department to determine what SMTP information you need to configure Tableau Server to send email configurations. [Learn more about configuring SMTP for Tableau Server.](#)

SMTP server address

smtp.example.lan

Username

tableau-notify@example.lan

Password

.....

Port Number

25 (Default)

Type an email address that all emails will be sent from (example: no-reply@example.com)

Send all emails from

no-reply@example.lan

Type email addresses, separated by a comma, that will receive Tableau Server health emails. Tableau Server health emails are typically sent to server administrators or other IT admins.

Send server health email to

tableau-health@example.lan

Choose a footer link to embed in all email alerts and subscriptions. This link is typically the sign-in page of Tableau Server.

Tableau Server URL

<https://tableau.example.lan>

Cancel

Save Pending Changes

Use the TSM web interface

- Click Pending Changes at the top of the page:



Use the TSM CLI

Copy the following json template to a file

```
{  
  "configKeys": {  
    "svcmonitor.notification.smtp.server": "SMTP server host name",  
    "svcmonitor.notification.smtp.send_account": "SMTP user name",  
    "svcmonitor.notification.smtp.port": 443,  
    "svcmonitor.notification.smtp.password": "SMTP server password",  
    "svcmonitor.notification.smtp.ssl_enabled": true,  
    "svcmonitor.notification.smtp.from_address": "From email address",  
    "svcmonitor.notification.smtp.target_addresses": "To email  
address1,address2",  
    "svcmonitor.notification.smtp.canonical_url": "Tableau Server URL"  
  }  
}
```

Configuration file reference

Option	Description
svcmonitor.notification.smtp.server	<p>Address of SMTP server.</p> <p>Example:</p> <pre>"svcmonitor.notification.smtp.server": "mail.example.com"</pre>
svcmonitor.notification.smtp.send_account	User name for SMTP account.
svcmonitor.notification.smtp.port	Port number for SMTP server. The default is 25.
svcmonitor.notification.smtp.password	<p>Password for SMTP server account.</p> <p>Example:</p> <pre>"svcmonitor.notification.smtp.password": "passw ord"</pre>
svcmonitor.notification.smtp.ssl_enabled	Specifies whether the connection to the SMTP server is encrypted. The default is false.

<code>svcmonitor.notification.smtp.ssl_required</code>	If enabled, Tableau Server will refuse to connect to SMTP servers without using TLS. The <code>svcmonitor.notification.smtp.ssl_enabled</code> option must also be set to true. The default is false.
<code>svcmonitor.notification.smtp.ssl_check_server_identity</code>	If set to true, Tableau Server will check the SMTP server identity as specified by RFC 2595 . These additional checks based on the content of the server's certificate are intended to prevent man-in-the-middle attacks. The default is false.
<code>svcmonitor.notification.smtp.ssl_trust_all_hosts</code>	When using TLS, trust certificates from all mail servers, ignoring the validity of the certificate's chain of trust. By setting this key to true, TLS will be used only to encrypt the traffic to the SMTP host.

svcmonitor.notification.smtp.ssl_ciphers	<p>The default and supported sets of cipher suites is defined by the version of JDK that is installed with Tableau Server. See the section below, TLS ciphers, for a list of supported and default ciphers.</p> <p>To update the cipher suites used by Tableau Server for SMTP TLS connections, enter a white space-separated list of cipher suites for this value. For example,</p> <p><code>"TLS_ECDH_ECDSA_WITH_AES_128_CBC_SHA256 TLS_DHE_DSS_WITH_AES_128_GCM_SHA256 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384".</code></p>
svcmonitor.notification.smtp.ssl_versions	<p>The default TLS versions enabled on this version of Tableau Server are TLSv1, TLSv1.1, TLSv1.2 and TLSv1.3.</p> <p>TLS version support is defined by the version of JDK that is installed with Tableau Server.</p> <p>Supported versions of TLS are SSLv2Hello, SSLv3, TLSv1, TLSv1.1, TLSv1.2, TLSv1.3.</p> <p>To update the versions used by Tableau Server for SMTP TLS connections, enter a white space-separated list of versions for this value.</p> <p>For example, <code>"TLSv1.2 TLSv1.3"</code>.</p>
svcmonitor.notification.smtp.from_address	<p>Email address that will send an notification if there's a system failure. The email address must have valid syntax (for example, <code>ITalerts@bigco.com</code> or <code>noreply@mycompany</code>), but it does not have to be an actual email account on Tableau Server. (Some SMTP servers may require an actual email account, however.)</p> <p>Example:</p> <p><code>"svcmonitor.notification.smtp.from_address": "donot-reply@example.com"</code></p>

svcmonitor.notification.smtp.target_addresses	<p>Email address to receive notifications. If email notifications are enabled, you need to include at least one address. Separate multiple addresses with commas.</p> <p>Example:</p> <p><code>"svcmonitor.notification.smtp.target_addresses": "iluvdata@example.com"</code></p>
svcmonitor.notification.smtp.canonical_url	<p>URL of the Tableau Server. Enter http:// or https://, followed by the name or IP address of the Tableau server. Used in the footer of subscription email.</p> <p>Example:</p> <p><code>"svcmonitor.notification.smtp.canonical_url": "http://myserver.example.com"</code></p>

TLS ciphers

TLS_RSA_WITH_AES_128_CBC_SHA256	TLS_ECDH_RSA_WITH_AES_256_GCM_SHA384
TLS_DHE_DSS_WITH_AES_256_GCM_SHA384	TLS_ECDH_RSA_WITH_AES_128_GCM_SHA256
TLS_ECDH_RSA_WITH_AES_256_CBC_SHA384	TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA
TLS_ECDH_ECDSA_WITH_AES_128_CBC_SHA	TLS_RSA_WITH_AES_256_CBC_SHA256
TLS_RSA_WITH_AES_128_GCM_SHA256	TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384
TLS_ECDH_RSA_WITH_AES_128_CBC_SHA256	TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
TLS_DHE_DSS_WITH_AES_128_CBC_SHA256	TLS_DHE_DSS_WITH_AES_256_CBC_SHA
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	TLS_DHE_RSA_WITH_AES_256_CBC_SHA256
TLS_RSA_WITH_AES_256_GCM_SHA384	TLS_EMPTY_RENEGOTIATION_INFO_SCSV
TLS_ECDH_ECDSA_WITH_AES_256_CBC_SHA384	TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	TLS_DHE_DSS_WITH_AES_256_CBC_SHA256
TLS_RSA_WITH_AES_256_CBC_SHA	TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256
TLS_ECDH_ECDSA_WITH_AES_128_CBC_SHA256	TLS_DHE_RSA_WITH_AES_256_CBC_SHA
TLS_DHE_DSS_WITH_AES_128_GCM_SHA256	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	TLS_ECDH_RSA_WITH_AES_128_CBC_SHA
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	TLS_DHE_RSA_WITH_AES_128_CBC_SHA
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	TLS_ECDH_ECDSA_WITH_AES_128_GCM_SHA256
TLS_ECDH_RSA_WITH_AES_256_CBC_SHA	TLS_DHE_DSS_WITH_AES_128_CBC_SHA
TLS_ECDH_ECDSA_WITH_AES_256_CBC_SHA	TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
TLS_RSA_WITH_AES_128_CBC_SHA	TLS_ECDH_ECDSA_WITH_AES_256_GCM_SHA384
TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384	TLS_AES_256_GCM_SHA384
TLS_AES_128_GCM_SHA256	

14. Server Crash Reporter



Configure Server Crash Reporter

- Server crash reporting is disabled by default. This topic describes how to enable and configure server crash reporting.
- Crash reports are encrypted and sent to Tableau.
- See Server Crash Reporter for more information.
- If your organization uses a proxy server to connect to the internet then you must configure server crash reporter to use the proxy.

Use the TSM web interface

- Open TSM in a browser:
<https://<tsm-computer-name>:8850>. For more information, see Sign in to Tableau Services Manager Web UI.
- Click the Maintenance tab.
- Under Other Maintenance Tasks, in Server Crash Reporter, select Enable crash reporting

Use the TSM web interface

Server Crash Reporter

Send logs and related files to Tableau when the server has an issue that results in a crash. Do not enable this feature if your organization's data is subject to any privacy regulations.

[Learn more](#)

Enable crash reporting

Daily at

9:00 AM UTC



Use the TSM CLI

- Use the configuration file template below to create a json file.
- After you have filled in the options with the appropriate values, pass the json file and apply settings with the following commands:

```
tsm settings import -f path-to-file.json
```

```
tsm pending-changes apply
```

Crash reporter settings

- The crash reporter settings in the template below specify a range of options for configuring Tableau Server to send crash reports to Tableau.

Configuration template

```
{  
  "configKeys": {  
    "servercrashupload.enabled": "true",  
    "servercrashupload.scheduled_time": "1:00:00 UTC",  
    "servercrashupload.proxy_server_host": "",  
    "servercrashupload.proxy_server_port": "",  
    "servercrashupload.proxy_server_username": "",  
    "servercrashupload.proxy_server_password": "",  
    "servercrashupload.preserve_upload_packages": "false",  
    "servercrashupload.delete_completed_dumps": "false"  
  }  
}
```

Configuration file reference

- This table includes keys that you can set to configure crash reporting.

`servercrashupload.enabled`

Default: false.

- Set to true to enable crash reporting.

`servercrashupload.scheduled_time`

Default: 1:00:00 UTC

Specifies the scheduled time that crash uploads will begin. Enter time of day in 24 hour format.

Server Crash Reporter

- The Tableau Server administrator can enable an option to allow logs and related files to be sent to Tableau when the server has an issue that results in a crash.
- These files are used by Tableau to identify and address issues that cause crashes.
- By default this option is disabled, and it should only be enabled in organizations that are not subject to regulations related to data privacy.

Server Crash Reporter

The encrypted package is made up crash dump files and logs that include the following:

- Crash/core dump files
- Error log files related to the crash
- Manifest files related to the crash

Use the TSM CLI

The files can contain data that includes:

- Machine-specific information (for example: hardware, operating system, domain).
- A snapshot of the contents of memory at the time of the crash, including application activity details like information about data connections, actions taken by the user in Tableau, and data being worked on in Tableau.
- Tableau information including customer-identifiable information.

15. View Server Licenses



Viewing licenses from the Tableau Server web UI

How you navigate to the Licenses page in Tableau Server depends on whether you have a single site, or multiple sites.

- On a server with a single site, click Settings and Licenses:
- On a multi-site server, click Manage all sites on the site menu, Settings, and Licenses

Use the TSM web interface

- Open TSM in a browser:

<http://<tsm-computer-name>:8850>

- Click Configuration , and then click Licensing :

The table displays the product key, expiration date, and expiration of maintenance.

Use the TSM CLI

1. Open a command prompt as administrator on the initial node (the node where TSM is installed).
2. Run the following command:

`tsm licenses list`

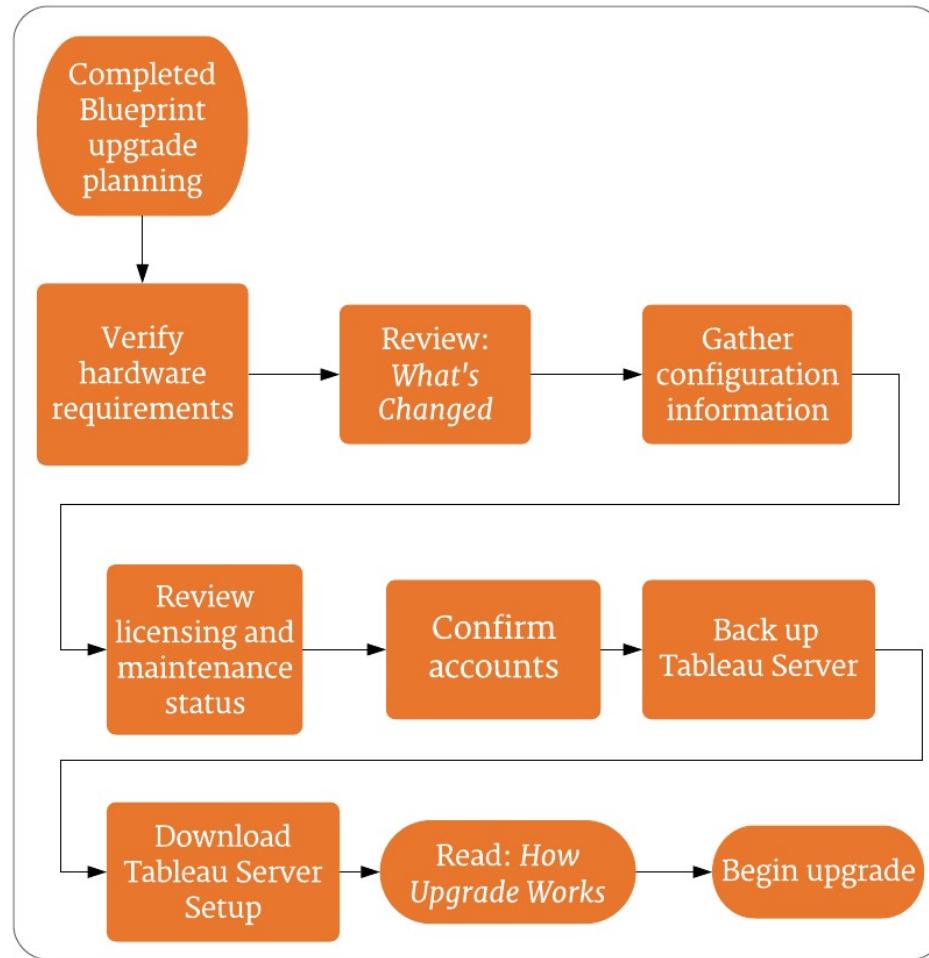
Use the TSM CLI

- For example, a server with five Creator licenses, five Explorer licenses, 100 Viewer licenses, and a Data Management Add-on would provide command output similar to the following:

```
C:\Windows\system32>tsm licenses list
Number of product keys: 4
The following license keys will expire soon. Access renewal resources including information on how to renew your software or change your billing preferences here https://www.tableau.com/support/renew
TS9D-06E2-BEF0-89EA-30EE TSRP-3861-08B0-8C5A-C79D TS49-176C-E840-3410-5EA5 TSQJ-0988-5CF0-FD66-29AF
KEY          TYPE      CREATOR    EXPLORER    VIEWER    DATA MANAGEMENT ADD-ON    GUEST ACCESS    LIC EXP    MAIN EXP    UPDATABLE    LBLM    SERVER MANAGEMENT ADD-ON
TS9D-        Term      0          0           100       false          false        11/30/20    N/A         false        false        false
TSPR-        Term      0          0           0          true          false        11/30/20    N/A         false        false        false
TS49-        Term      0          5           0          false          false        11/30/20    N/A         false        false        false
TSQJ-        Term      5          0           0          false          false        11/30/20    N/A         false        false        false
```

16. Preparing for Upgrade







17. Uninstall Tableau Server



Uninstall Tableau Server

- Do not uninstall Tableau before upgrading.
- For details on upgrading, see Upgrading from 2018.2 and Later (Windows).
- Beginning with version 2018.2, you can have multiple versions of Tableau Server installed at the same time.
- This allows you to run most of an upgrade while an existing version is running, and reduces downtime and impact to users.

Uninstall Tableau Server

There are two primary "uninstall" scenarios that Tableau Server on Windows supports:

- **Uninstall Tableau Server.**
- **Remove Tableau Server.**

Uninstall a Tableau Server version

- When upgrading from one TSM version to another, you must leave the earlier version in place until you have finished the upgrade. Then you can uninstall it.
- Use Control Panel to uninstall an earlier version of Tableau Server after upgrading.
- Starting with version 2018.2, you can have multiple versions of Tableau Server installed at the same time.

Uninstall a Tableau Server version

To uninstall a version of Tableau Server:

- Open Control Panel, click Uninstall a program, and locate the version you want to uninstall.
- Be sure you select the correct version to uninstall:
- Uninstalling previous versions of Tableau Server does not impact the running version and simply removes unnecessary files from those previous versions.

THANK YOU !!!