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.

As the Tableau administrator, part of setting up your server is to build a *content management* framework that meets the following goals:

- Makes your permissions model predictable and scalable as your Tableau community grows.
- Helps users to help themselves.

Note: Although this article is created for Tableau Server admins, permissions and projects work the same on Tableau Online, so you can use most of these guidelines for your Tableau Online site as well.

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.

  Tableau comes with a few pre-defined *permissions roles*. These are sets of capabilities for typical ways of using content. Applying a permissions role is easier to manage than granting or denying each capability manually.

  Projects, data sources, and workbooks each have their own selection of permissions roles. We'll take advantage of these in the walkthrough later.

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).

Projects are a great place to help users help themselves. You can set them up so that project names clearly indicate the type of content they hold, and that, of the total list of projects, each user sees only the projects they need to work with.

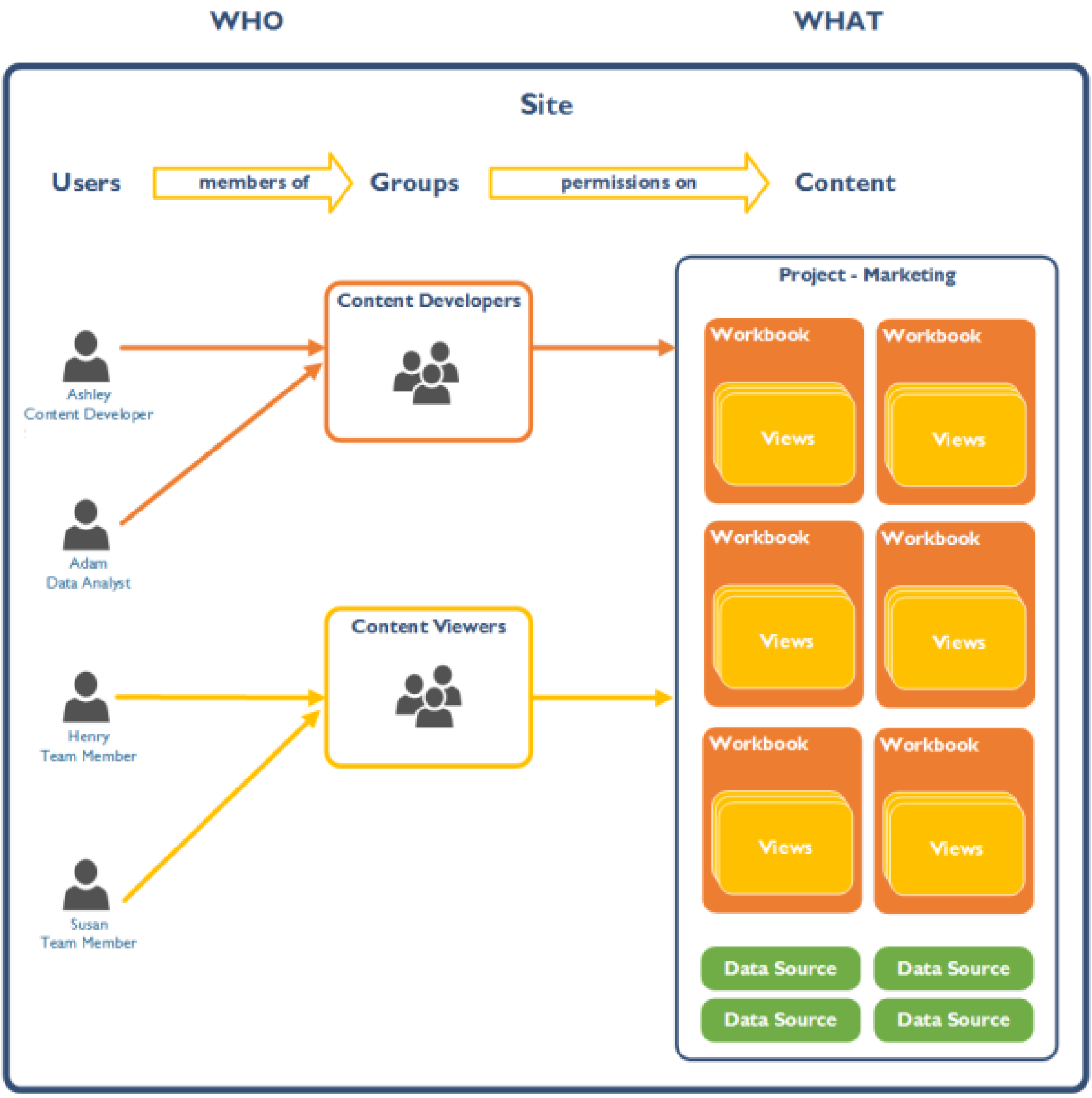
You can also create project hierarchies to sub-divide content within a top-level category. To learn more, see [Use Projects to Manage Content Access[(Link opens in a new window)]].

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. Or even combine functional category with department; something like Marketing Viewers and Marketing Creators. The point is to create groups whose members need to work with content in the same way. If you need to add a user to multiple groups, they get the permissions from all of those groups.

The following image shows a couple of groups for users who need different types of access to a project called Marketing.



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]

Remember that site roles determine maximum permissions, and you can assign a unique site role to each user on each site. In this example, you can put Susan and Henry in the same group and grant their group [Explorer]

In the walkthrough, we'll explain further how to set the permissions roles to accommodate these three user types.

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

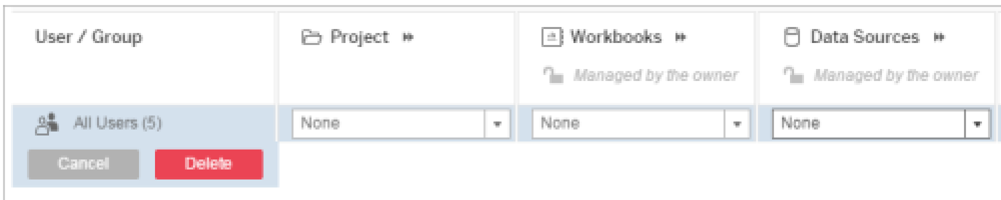
7. Lock project permissions

To follow along with these steps, you must be signed in to Tableau Server as an administrator.

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.

1. 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].
2. Open the permissions for the [Default] project. On the [Actions] menu (...), select [Permissions].
3. Next to [All Users] (a default group), select the `...` button and then [Edit].
4. Under [Project], [Workbooks], and [Data Sources], select [None].
5. Click [Delete] to apply the changes.



Why *removing* some default permissions makes your life easier

The [All Users] group deserves special mention because every site has an [All Users] group. And every user that you add to a site becomes a member of the [All Users] group. Every new project you create includes permissions for the [All Users] group.

In very simple or specific scenarios, the [All Users] group can make your life easier. The group has predefined permissions, meaning every user on the site already has a set of permissions out of the gate. The idea is that even if you don't do anything with permissions, users can start publishing and using content on the server.

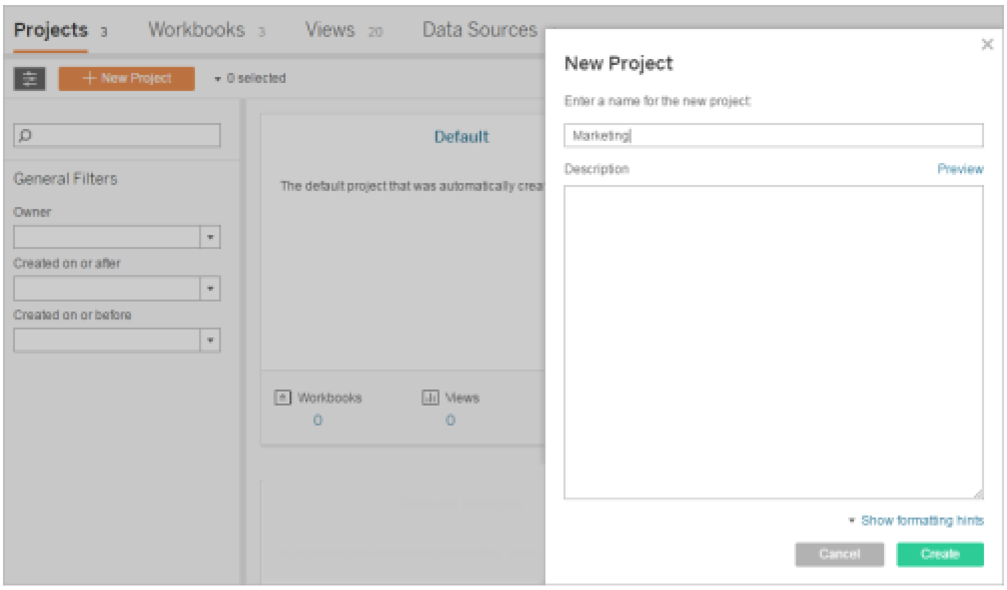
In our example, though, we want to show how to grant each group only the permissions they need. If users of those groups also get permissions from the [All Users] group, it's hard to tell exactly what they will be able to do, and they might end up with permissions you don't intend.

So if you decide to use this process in the future, just remember to remove permissions from the [All Users] group *before* you set any other permissions.

2. Create a new project for a hypothetical Marketing department

For the purpose of this walkthrough, you'll create a project named Marketing.

1. In the menu at the top of the page, click [Projects], and then click [New Project].
2. Name the project [Marketing], and then click [Create].



Plan your groups and permissions

In your real world, before you start creating groups and assigning permissions, we recommend that you create a table or spreadsheet that lists groups for people who need access to content, and what you expect each group to be able to do. You can then refer back to your permissions plan later if needed.

3. Create groups based on users' content needs

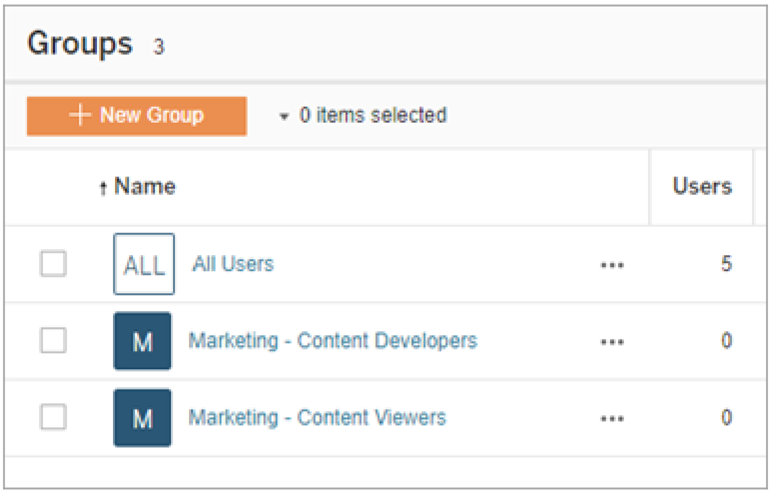
Next, you'll create two groups for these users. The groups will let you assign permissions to the users, based on what the users need to be able to do in the Marketing project. These are the groups you'll be creating:

- **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.

As with the user names, we give verbose names for purposes of the walkthrough. But notice that we include the functional role of the members (Content Developers).

Always use descriptive, meaningful language for your group names.

1. In the menu at the top of the page, select [Groups].
2. Click [New Group] and then name the group [Marketing -- Content Developers].
3. Repeat these steps to create the other group. When you're done, your list of groups look like the list in the following image.



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.

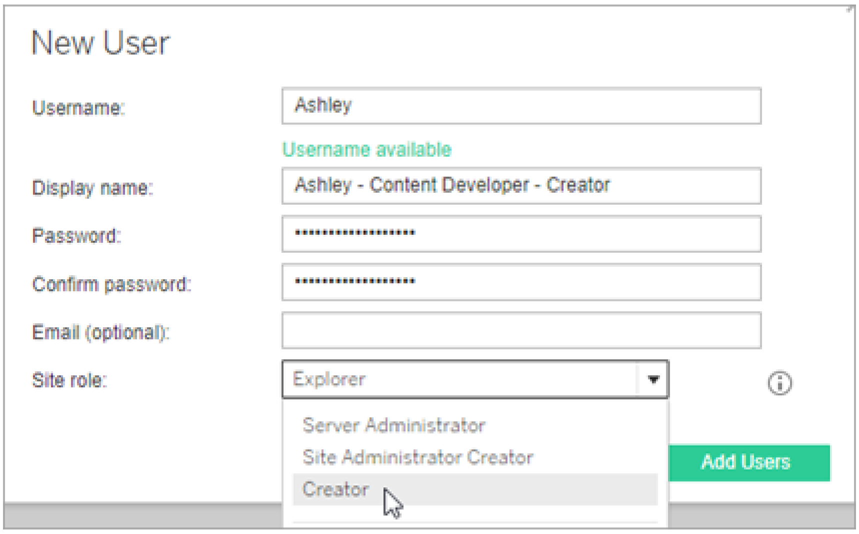
What if you're using Active Directory?

If you've already configured [Tableau Server] to use Active Directory, you could have your Active Directory administrator to create these temporary users for you to use in this walkthrough. You'll also need to import them to [Tableau Server]. After you have finished the walkthrough and feel confident that you can configure real users, you can delete the temporary users.

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*>:

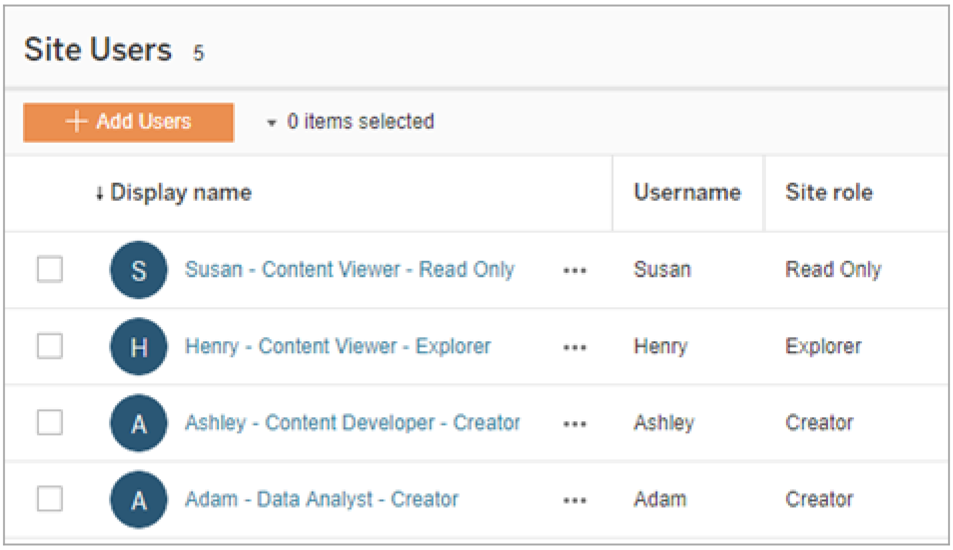
- Ashley - Content Developer - Creator
- Adam - Data Analyst - Creator
- Henry - Content Viewer - Explorer
- Susan - Content Viewer - Viewer

1. In the menu at the top of the page, select [Users].
2. Click [Add Users].
3. Click [Local User], and then enter the user details for Ashley. For [Display name], use the verbose name, for [Username], enter **Ashley**. Skip [Email], and set Ashley's site role as described above step 1.



4. Do the same to create the other three users, and assigning them the site roles that are suggested in their verbose names.

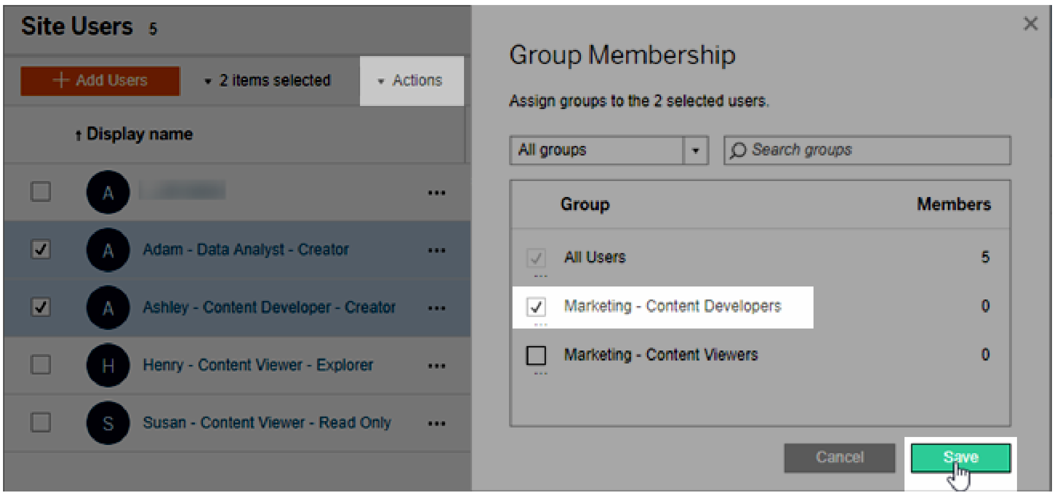
   When you're done, you'll see a list of users like the one in the following image.



5. Add the users to the groups

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

1. In the menu at the top of the page, click [Users].
2. Select Adam and Ashley, and then in the [Actions] menu (...), click [Group Membership].
3. Select [Marketing -- Content Developers], and then click [Save].



4. Follow the same steps to assign Henry and Susan to the [Marketing -- Content Viewers] group.

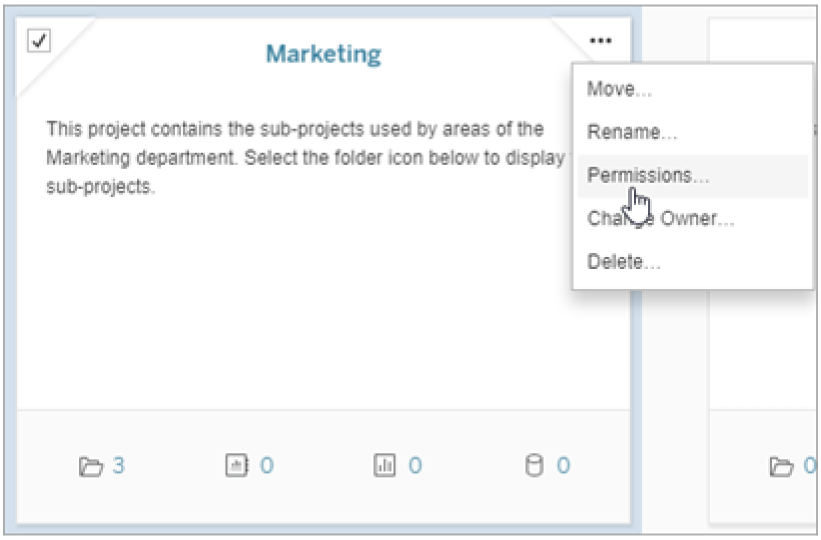
6. Assign permissions to the groups at the project level

Now we can establish who can do what.

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.

1. In Tableau Server, go to [Content]> [Projects].

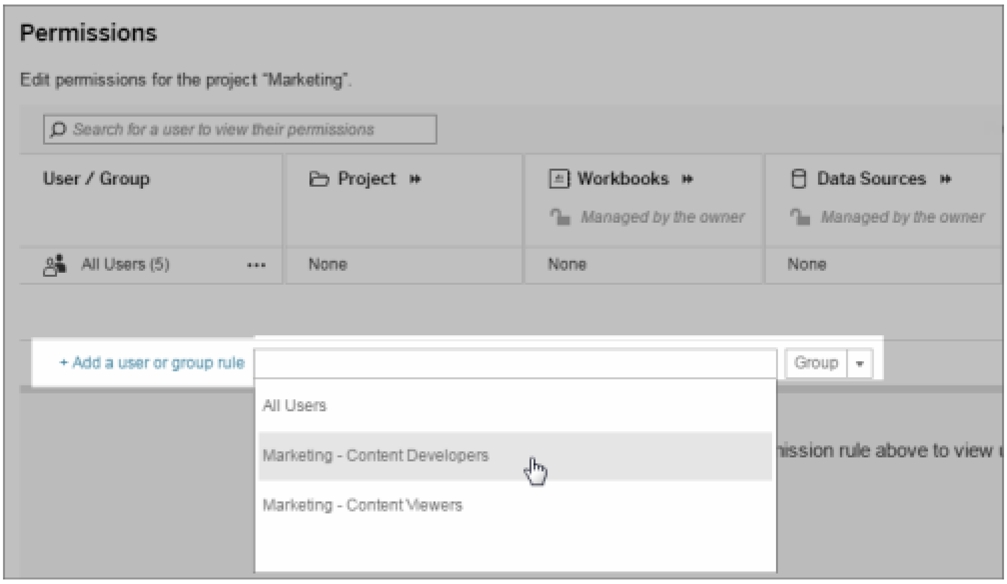
2. On the [Marketing] project, open the [Actions] menu (...), and select [Permissions].



The [Permissions] pane shows the groups and users that you've assigned permissions to. When you first set up a site, [All Users] is the only group listed, and it remains listed here even if you remove all permissions from it, as you did earlier.

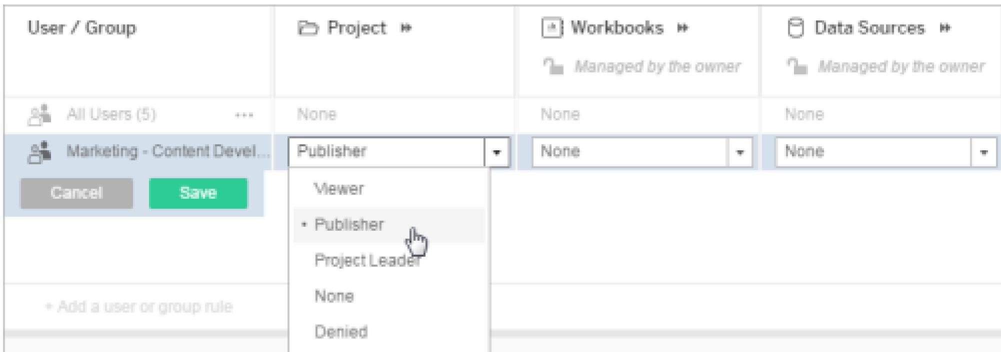
3. Click [Add a user or group rule], and then select the [Marketing -- Content Developers] group.

   If you don't see the group names, make sure [Group] is selected in the drop-down to the right.



Here you create a group permissions *rule* that will be associated with this project and its workbooks and data sources.

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



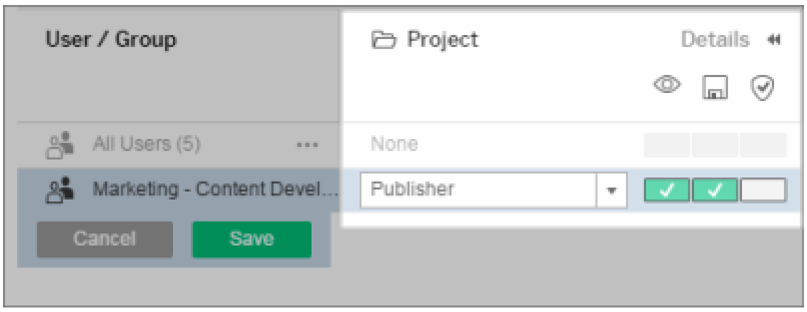
These are the permissions roles we referred to earlier, which are predefined sets of capabilities that make setup easier.

If you select a role, and then assign capabilities to adjust what you want users to be able to do, the role will show as [Custom]. So if you can, try to avoid setting capabilities explicitly.

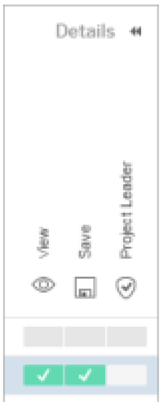
4. Under [Project], select the [Publisher] permission role.

   To see what capabilities are included for the role, click the expand icon next to [Project].

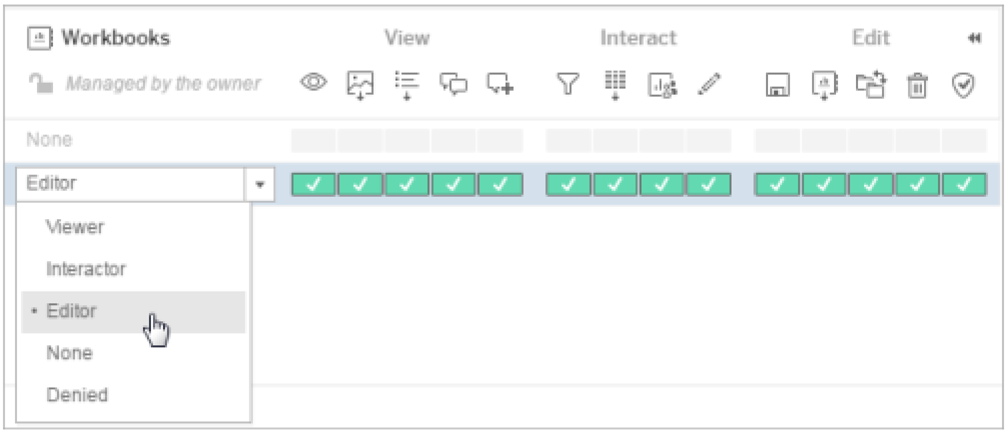
Selecting the [Publisher] role sets the project's [View] and [Save] capabilities to [Allowed], but the [Project Leader] capability is left [Unspecified].



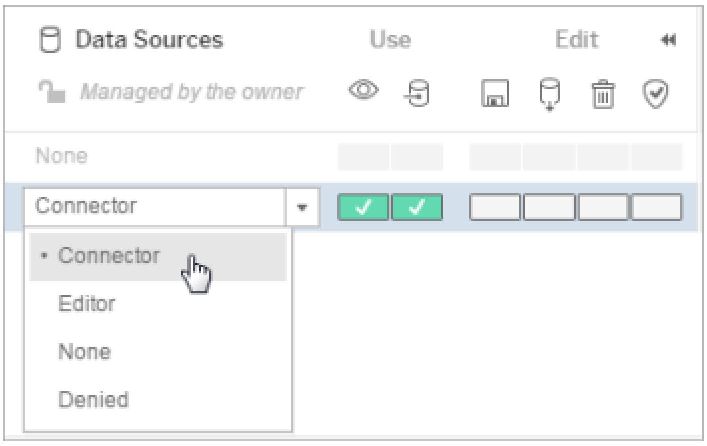
Notice also that individual project capabilities are shown as icons. To see the capability name, hover over the icon. Or click the link above the icons to show capabilities captions.



5. Under [Workbooks], select the [Editor] permissions role.



6. Under [Data Sources], select [Connector].



7. Click [Save] to save the permissions settings.

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

The combination of permissions for this set of permissions roles lets members of the [Marketing -- Content Developers] group create and manage workbooks in the site.

8. 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]

   The combination of permissions that are granted by this set of permissions roles lets members of the [Marketing -- Content Viewers] group view and interact with content in the site, subject to the limitations of their site roles.

   Leave the [Permissions] pane open for the next section.

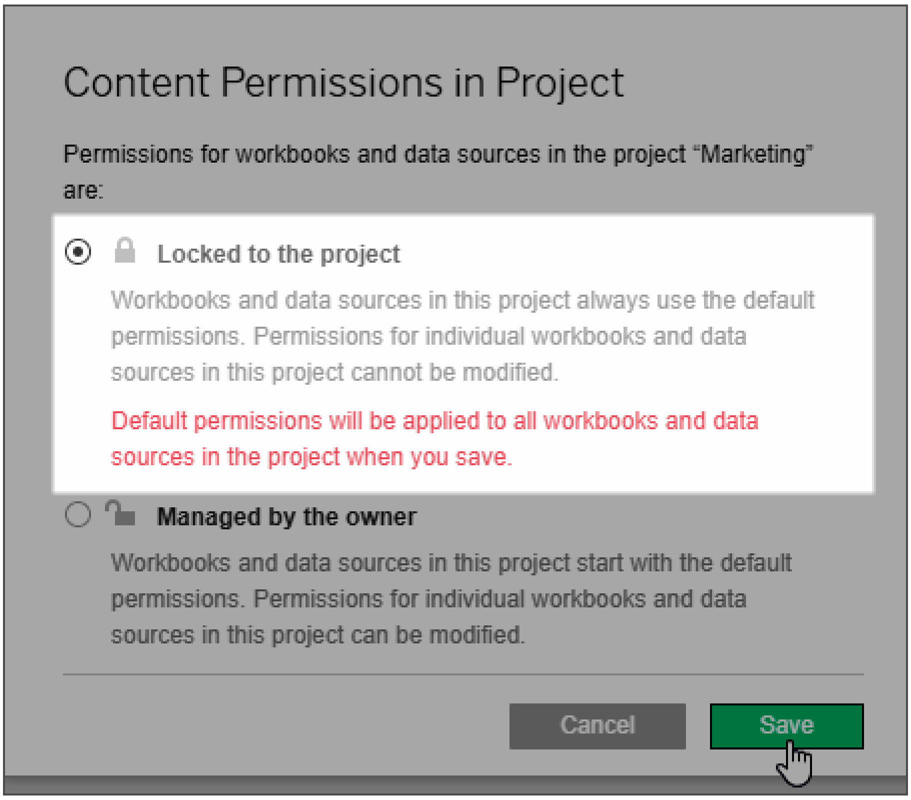
7. Lock project permissions

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. So we are going to lock the permissions to the project, making the option to set permissions inaccessible to publishers, even though they are still the content owners.

1. 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.

   Image: Edit Content Permissions button on the Permissions page

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



Now when someone wants to publish to the Marketing project, they cannot change the default permissions you set on the server.

How does project locking or unlocking affect permissions?

Before we move on, allow us to elaborate on the workings of default permissions. In a perfect world---that is, where content publishers do not mess with permissions during the publishing process---content resources that are published to a project take the permissions set at the project level. Think of the resource getting a permissions stamp upon entry to the project.

But what happens if you change those default permissions set at the project level *after* workbooks and data sources have been published to it?

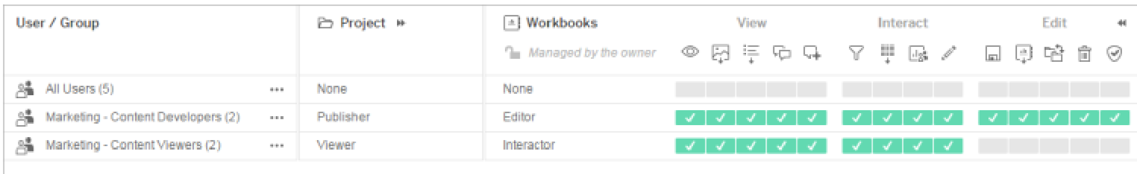
- If you edit the default permissions for a **locked** project, the changes are automatically pushed to all content in the project when you save the changes.
- If you edit default permissions in an **unlocked** project, workbooks and data sources published after the changes will get the new defaults. However, existing workbooks and data sources will retain their initial default permissions--- until you lock the project.

View and test your work

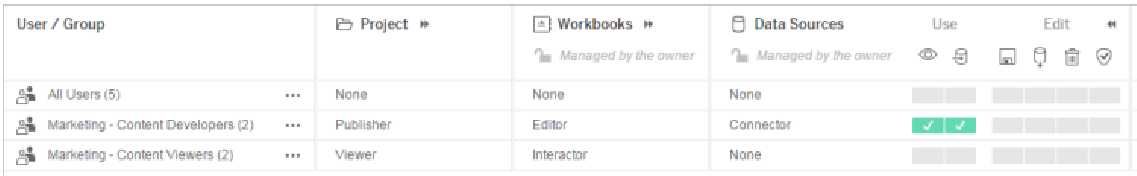
Let's check your work. The following images show what you'll see in the [Permissions] pane when you're done setting permissions for your groups.

When you expand [Project], you see this:

When you expand [Workbooks], you see this:



When you expand [Data Sources], you see this:



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.

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

2. Back in the Tableau Server browser environment, sign in as each user, and test access to editing and saving workbooks, interacting with views, changing ownership, setting permissions.

   You should be able to set permissions only when you are signed in as a server or site administrator.

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.

In particular, here are links to information in the Tableau Server Help about a couple of inconspicuous settings that can affect your workflow significantly:

- Data access is evaluated differently for workbooks that connect to data sources that are published to Tableau Server.

  Learn about: Data access for published Tableau data sources[(Link opens in a new window)]

- The [Project Leader] permissions role can help you delegate content administration to the owners who know it best.

  Learn about Project-level administration[(Link opens in a new window)].

Finally, if you're ready to work your way toward content management zen master, start here: Manage Content Access[(Link opens in a new window)].

Continue to Connecting to Data Sources.