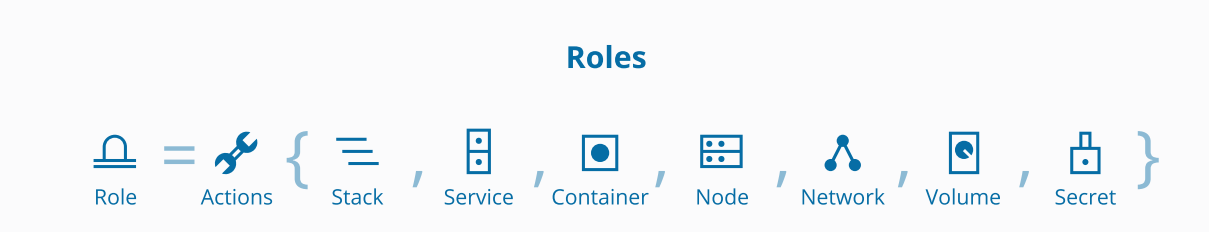
Roles and permission levels

Estimated reading time: 3 minutes

> **These are the docs for UCP version 2.2.18**
>
> To select a different version, use the selector below.
>
> 2.2.18 ▾

Docker Universal Control Plane has two types of users: administrators and regular users. Administrators can make changes to the UCP swarm, while regular users have permissions that range from no access to full control over resources like volumes, networks, images, and containers. Users are grouped into teams and organizations.



Administrators create *grants* to users, teams, and organizations to give permissions to swarm resources.

Administrator users

In Docker UCP, only users with administrator privileges can make changes to swarm settings. This includes:

- Managing user permissions by creating grants.
- Managing swarm configurations, like adding and removing nodes.

Roles

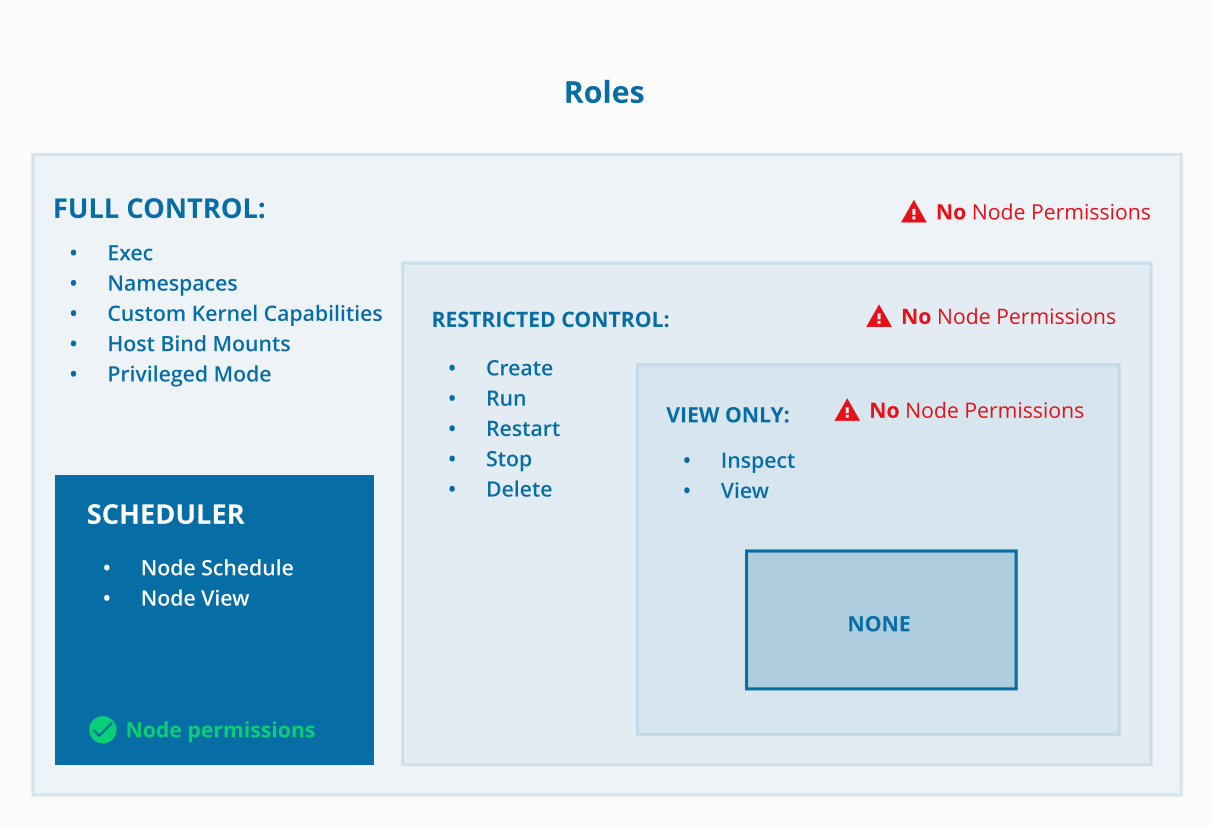
A role is a set of permitted API operations on a collection that you can assign to a specific user, team, or organization by using a grant.

UCP administrators view and manage roles by navigating to the **Roles** page.

The system provides the following default roles:

Built-in role	Description
`None`	The user has no access to swarm resources. This maps to the `No Access` role in UCP 2.1.x.
`View Only`	The user can view resources like services, volumes, and networks but can't create them.
`Restricted Control`	The user can view and edit volumes, networks, and images but can't run a service or container in a way that might affect the node where it's running. The user can't mount a node directory and can't `exec` into containers. Also, The user can't run containers in privileged mode or with additional kernel capabilities.
`Scheduler`	The user can view nodes and schedule workloads on them. Worker nodes and manager nodes are affected by `Scheduler` grants. Having `Scheduler` access doesn't allow the user to view workloads on these nodes. They need the appropriate resource permissions, like `Container View`. By default, all users get a grant with the `Scheduler` role against the `/Shared` collection.

Built-in role	Description
`Full Control`	The user can view and edit volumes, networks, and images. They can create containers without any restriction, but can't see other users' containers.

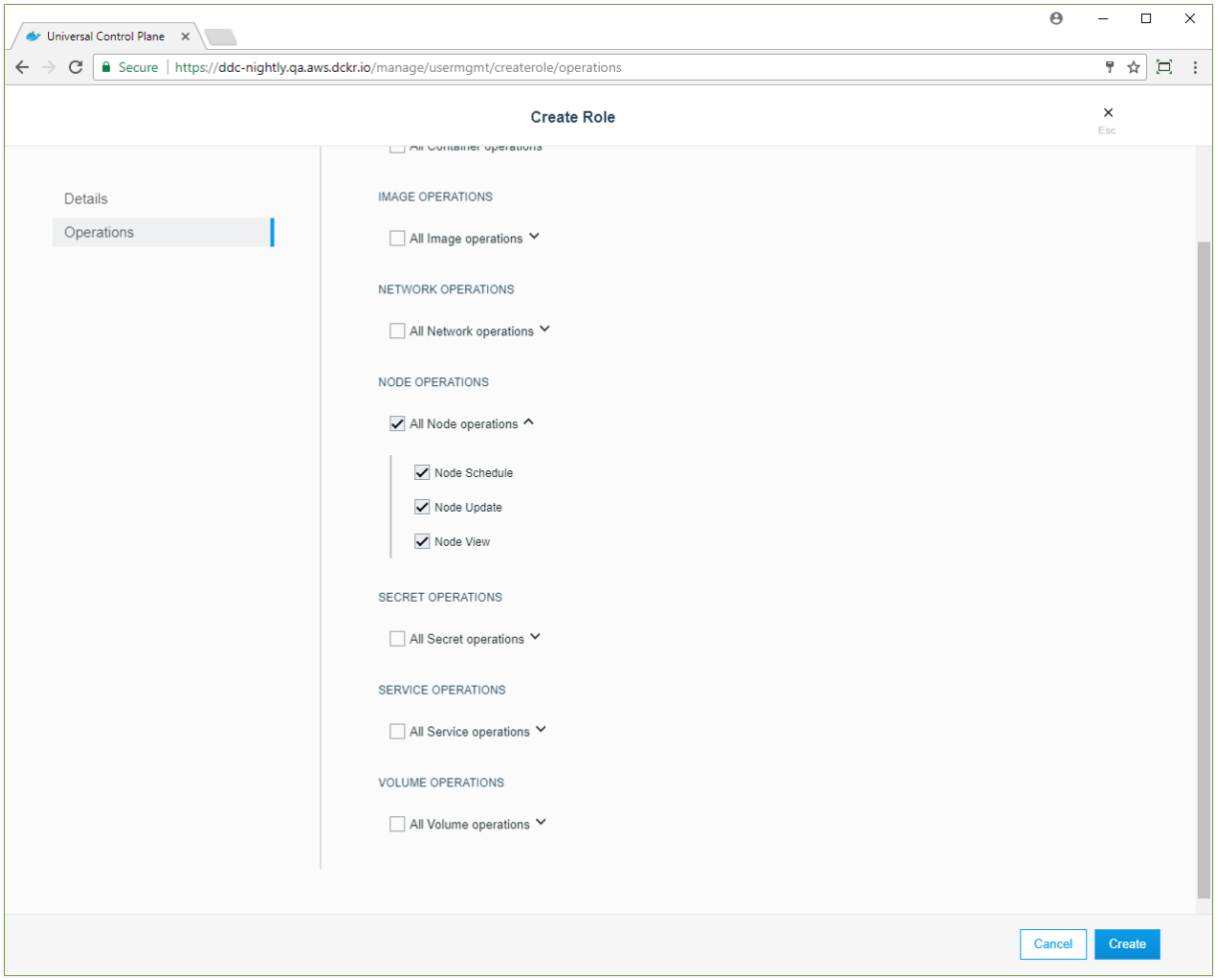


Administrators can create a custom role that has Docker API permissions that specify the API actions that a subject may perform.

The **Roles** page lists the available roles, including the default roles and any custom roles that administrators have created. In the **Roles** list, click a role to see the API operations that it uses. For example, the `Scheduler` role has two of the node operations, `Schedule` and `View`.

Create a custom role

Click **Create role** to create a custom role and define the API operations that it uses. When you create a custom role, all of the APIs that you can use are listed on the **Create Role** page. For example, you can create a custom role that uses the node operations, `Schedule`, `Update`, and `View`, and you might give it a name like "Node Operator".



You can give a role a global name, like “Remove Images”, which might enable the Remove and Force Remove operations for images. You can apply a role with the same name to different collections.

Only an administrator can create and remove roles. Roles are always enabled. Roles can’t be edited, so to change a role’s API operations, you must delete it and create it again.

You can’t delete a custom role if it’s used in a grant. You must first delete the grants that use the role.

Where to go next

- Create and manage users (https://docs.docker.com/datacenter/ucp/2.2/guides/access-control/create-and-manage-users/)
- Create and manage teams (https://docs.docker.com/datacenter/ucp/2.2/guides/access-control/create-and-manage-teams/)
- Docker Reference Architecture: Securing Docker EE and Security Best Practices (https://success.docker.com/Architecture/Docker_Reference_Architecture%3A_Securing_Docker_EE_and_Security_Best_Pr

authorization (https://docs.docker.com/glossary/?term=authorization), authentication (https://docs.docker.com/glossary/?term=authentication), users (https://docs.docker.com/glossary/?term=users), teams (https://docs.docker.com/glossary/?term=teams), UCP (https://docs.docker.com/glossary/?term=UCP)