

# Server-side simulation

If you work with Teamwork Cloud projects, you can simulate them on the server without using a modeling tool. You can execute your models using REST API, or the Cameo Collaborator for Teamwork Cloud user interface (if there are Cameo Collaborator documents published from those models). You can also run your models using the Resources application and Python client (pyST.py).

The following demo shows the server-side simulation in action:

## Installation information



The server-side simulation service is installed automatically alongside Web Application Platform while using Teamwork Cloud or Magic Collaboration Studio installer. If you install Web Application Platform on a separate machine and use the Advanced Install option, select the server-side simulation service during installation. To learn more, refer to [Installation and upgrade guide](#).

Server-side simulation service is one of many Web Application Platform services provided as a separate application.

To install the Server-side simulation

1. Install Web Application Platform.
2. Open the `<wap_install_root>\apache-tomcat\shared\conf\webappplatform.properties` file and set the **sim.license.checkout** property to *true*.
3. Restart Web Application Platform.

## Licensing information

The server-side simulation functionality works only with a floating Cameo Simulation Toolkit license managed by the FlexNet license server.



### Concurrent simulations

When executing multiple simulations at the same time, every new concurrent simulation requires an additional Cameo Simulation Toolkit license.

## Preparing projects for server-side simulation

To simulate a project on the web, it must meet the following criteria:

- A project has to be added to Teamwork Cloud.
- For simulation results to be saved, you need to specify the **Result Location** property of a Simulation Configuration.
- When simulating via Cameo Collaborator for Teamwork Cloud user interface, the executable model should not require any user input. This means that the simulation needs to be performed automatically.

## Required permissions

To perform server-side simulation, you need to have the following Teamwork Cloud permissions:

- **Read Resources** - allows you to simulate resources.
- **Edit Resources** - allows you to commit the simulation results to a resource.
- **Configure Server** - allows you to manage all simulations, including the ability to obtain and review simulation results and terminate simulations executed by other users.



If you want to be able to manage all simulations, in addition to the Configure Server permission, you also need to have the Read Resources permission for the related resources.

## Server-side simulation limitations

There are several limitations related to server-side simulation:

- Project options cannot be read, so default option values are always used instead of the actual ones.
- Math engine integrations (Matlab, Mathematica, etc.) are not available.
- FMU/FMU co-simulation with Windows binaries is not available.
- UseCase Execution is not available.
- DSL stereotypes are not applied to created Slot and InstanceSpecification elements.
- Finding elements by Name (e.g Signals, Operations with ALH, mapping with ExcelHelper) is not available.
- Charts as UI are not available.