

# Scaling RStudio Server Pro with Kubernetes

RStudio Server Pro version 1.2.5 includes (optional) Named User editions of RStudio Server Pro and related functionality to launch R sessions and jobs on external clusters and resource managers, such as Kubernetes and Slurm.

## Run R Sessions Across a Scalable Cluster

The Launcher functionality in RStudio Server Pro provides the capability to remotely spawn interactive R sessions across one or more clusters with no change in the developer's workflow or user experience. Each R session can be customized in terms of CPU/RAM resources and the Docker image that will be used for each session.

## Run R Jobs on External Cluster Resources

Launcher allows developers to specify any R script in RStudio Server Pro along with the desired resources, then run the job independently from the current interactive R session. This is useful for running scripts that perform large data transformations or execute model training workloads.

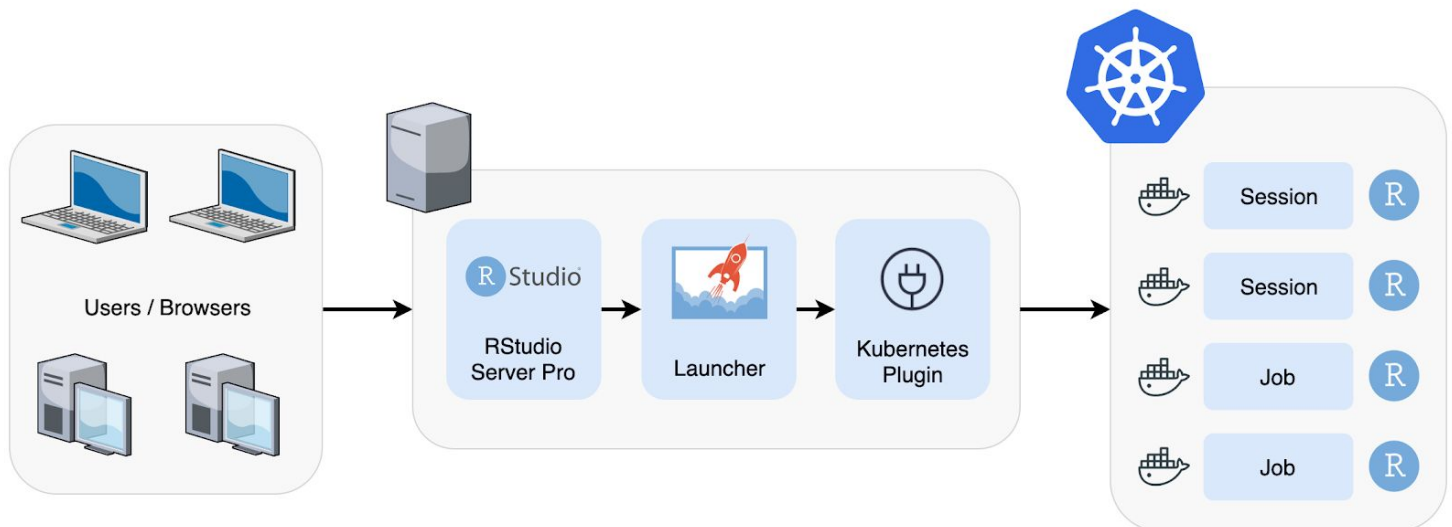
## Use RStudio with Docker and Kubernetes

RStudio Server Pro and Launcher combined with Kubernetes allows you to use a container-based approach to help your development environment scale out as your data science team and computational needs grow.

Coupled with an elastic infrastructure, this functionality helps solve the problem of manually scaling RStudio Server Pro along with a growing user base. Launcher allows RStudio Server Pro to connect to additional compute resources on the underlying cluster infrastructure without needing to maintain additional servers.

## Use with other Cluster Resource Managers

In addition to Kubernetes, Launcher can be configured to work with the Slurm workload manager. Launcher can also be extended to work with other cluster resource managers using its pluggable architecture.



# FAQs

## Will Launcher work with my Kubernetes provider?

The Kubernetes plugin for Launcher was developed against the vanilla Kubernetes API. As a result, provider-specific Kubernetes plugins are not necessary, and the plugin does not require additional vendor-specific configuration.

## Is there a separate license for Launcher?

RStudio Server Pro version 1.2.5 is available without Launcher in existing server-based licensing. RStudio Server Pro version 1.2.5 with Launcher requires the purchase of Named User licenses. Get in touch with us at [sales@rstudio.com](mailto:sales@rstudio.com) to discuss how to get started with Launcher.

## Will users have access to the same packages, shared storage, and data sources when using R with Kubernetes?

Yes, Launcher provides the same RStudio Server Pro experience when users run R sessions and R jobs across a cluster, including the same packages and access to shared storage for projects.

## Can RStudio help me provision or configure a Kubernetes cluster?

Support for Launcher is limited to the configuration and functionality of RStudio Pro products. For hands-on support for Launcher and Kubernetes, we can refer you to one of our full-service certified partners.

## Can I create custom Docker images with R packages and libraries?

Yes, you can create multiple, custom Docker images with the packages you need. Then a specific Docker image can be selected when an R session is started. This workflow can be combined with RStudio Package Manager so you always get the exact versions of packages that you expect for reproducibility.

## If the Open Source version of RStudio IDE has a Jobs pane, why do I need Launcher?

Background jobs in the RStudio IDE are R processes that run independently from the current R session, but can only run on the same machine. Whereas Launcher allows the R process to run remotely on a cluster, outside of the machine where the R job was created.



## About RStudio

RStudio open source and enterprise-ready, professional software combines robust and reproducible data analysis with tools to effectively share data products. Our flagship professional products RStudio Server Pro, RStudio Connect, and RStudio Package Manager equip professional data science teams to develop and share their work at scale.