
Enterprise Steam User Guide

Release 0.9.1.2

H2O.ai

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Enterprise Steam is an “instant on” platform that streamlines the entire process of building and deploying applications. It is the industry’s first data science hub that lets data scientists and developers collaboratively build, deploy, and refine predictive applications across large scale datasets. Data scientists can publish Python and R code as REST APIs and easily integrate with production applications.

This document describes how to start and use Enterprise Steam. Note that this document assumes that an admin has successfully installed and started Enterprise Steam on a YARN edge node using the instructions provided in the Enterprise Steam Installation and Setup steps.

Note: Before you begin using Enterprise Steam, be sure that your minimum version of H2O is 3.10.4.1. If necessary, follow the instructions on the [H2O Download page](#) for your platform to upgrade H2O. For current customers with enterprise support, earlier versions can be supported. Contact H2O.ai if you require support for an earlier version.

LOGGING IN TO ENTERPRISE STEAM

In a Chrome web browser, navigate to the Enterprise Steam web server using the login credentials provided by your Admin and/or Enterprise Steam Admin. This Enterprise Steam web server is the server on which an admin has installed Enterprise Steam (for example, <http://192.16.2.182:9000>). Contact your Admin for the IP address and for login credentials.

1.1 The Enterprise Steam UI

The first time you log in to Enterprise Steam, an empty Enterprise Steam page will display.

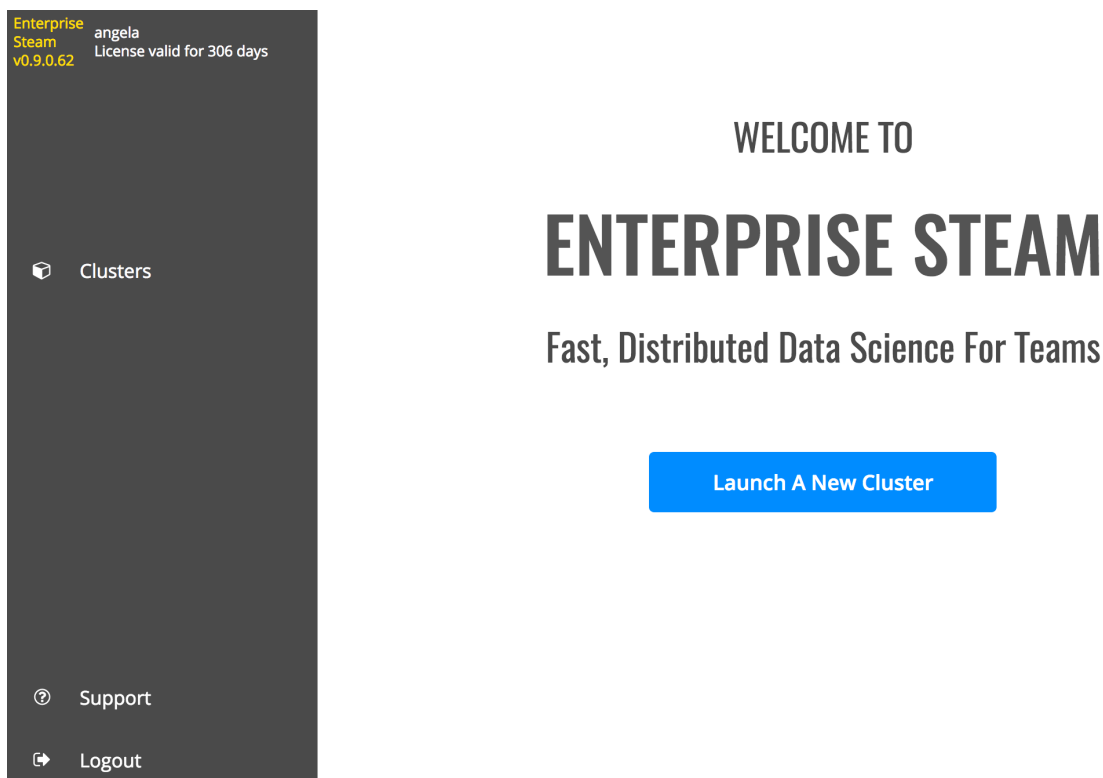


Fig. 1.1: Welcome page

The left navigation provides quick links for all the following:

- Cluster details

- User page (if Kerberos is enabled)
- An e-mail link to Enterprise Steam support at H2O
- A logout button

Note: When Enterprise Steam is started for the first time, no clusters will appear in the UI.

CLUSTERS

The **Clusters** page shows all H2O clusters that Enterprise Steam is connected to along with the status of the cluster, the number of nodes available on the cluster, and the version of H2O currently running on the cluster. From this page, you can click the cluster name to access H2O Flow (see Using Enterprise Steam with H2O Flow), launch or connect to a new cluster, or delete a cluster.

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Home > Clusters

CLUSTERS

CONNECT TO CLUSTER LAUNCH NEW CLUSTER

docs-cluster -- 128 cores

STATUS	VERSION
● Healthy ● Started	3.10.3.4

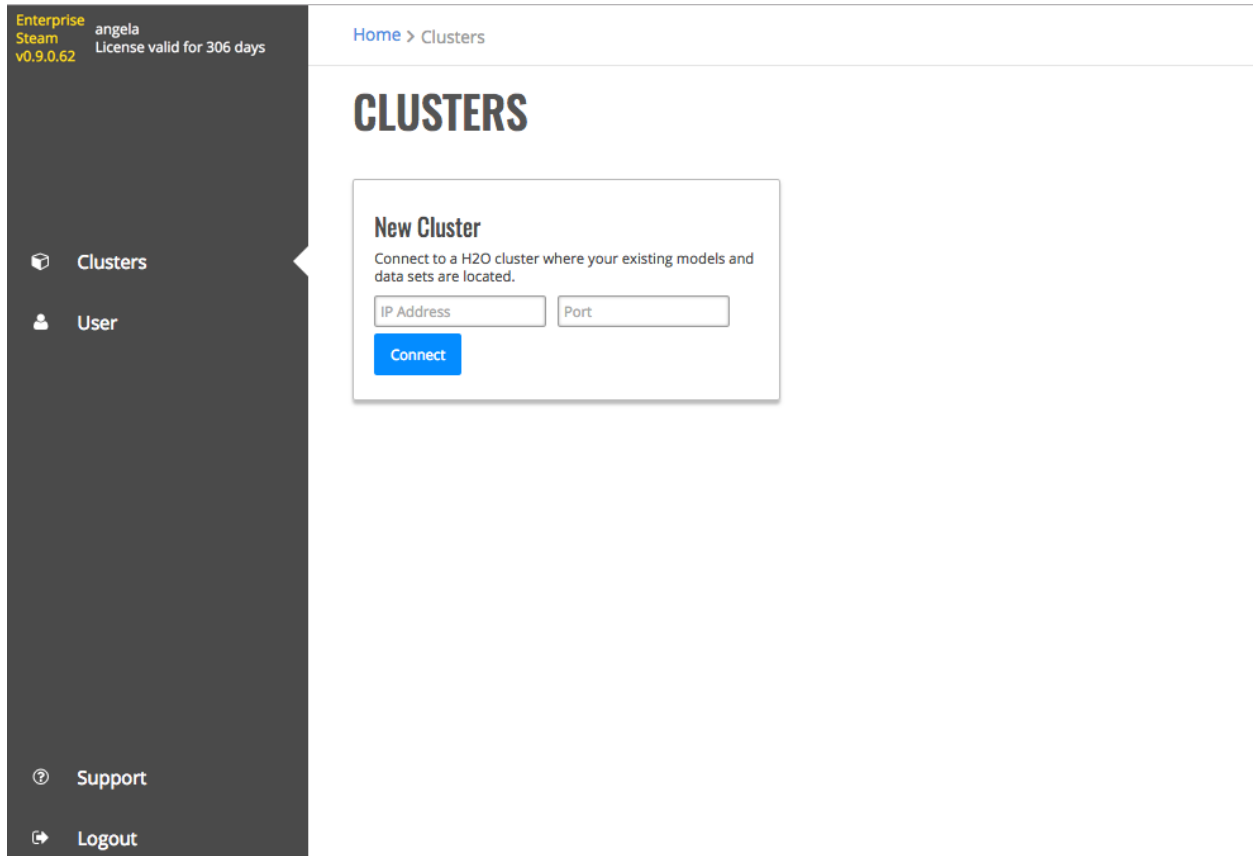
Clusters
User
Support
Logout

2.1 Connect to a Cluster

If your YARN environment is already H2O on one or more clusters, you can use Enterprise Steam to securely connect to that cluster.

1. On the Clusters page, click the **Connect to Cluster** button.

2. Enter the IP address and port for the cluster that is currently running H2O.
3. Click **Connect** to connect to the cluster.




2.2 Launch a New Cluster


You can create a new cluster and start H2O on that cluster by clicking the **Launch New Cluster** button.


1. On the Launch New Cluster form, enter the following information:
 - Cluster Name
 - Number of Nodes
 - Memory per Node (in GB)
 - YARN Queue (optional)
 - H2O version (select a jar file from the dropdown). Note that the Enterprise Steam Admin is responsible for adding engines to Enterprise Steam.
2. Click **Launch New Clusters** when you are done.


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 Clusters

 User

 Support

 Logout

[Home](#) > [Clusters](#)

LAUNCH NEW CLUSTER

CLUSTER NAME 

NUMBER OF NODES

MEMORY PER NODE GB

YARN QUEUE 

H2O VERSION

Launch New Clusters

USER

Keytab files are used for authenticating to remote systems that use [Kerberos](#) authentication without requiring a password. A keytab file includes pairs of Kerberos principals and encrypted keys. When using Enterprise Steam with Kerberos Authentication, individual users will be required to submit their client keytab file in order to launch YARN clusters.

The **User** page allows you to upload a keytab file for launching YARN clusters. Contact your Enterprise Steam Admin if you need assistance in creating or locating your keytab file for Enterprise Steam.

Notes:

- This page is only visible if your Enterprise Steam Admin has enabled Kerberos.
- This keytab is only required the first time you log in to an Enterprise Steam environment that has Kerberos Authentication enabled. However, if you change your Kerberos password, then you must recreate your keytab.

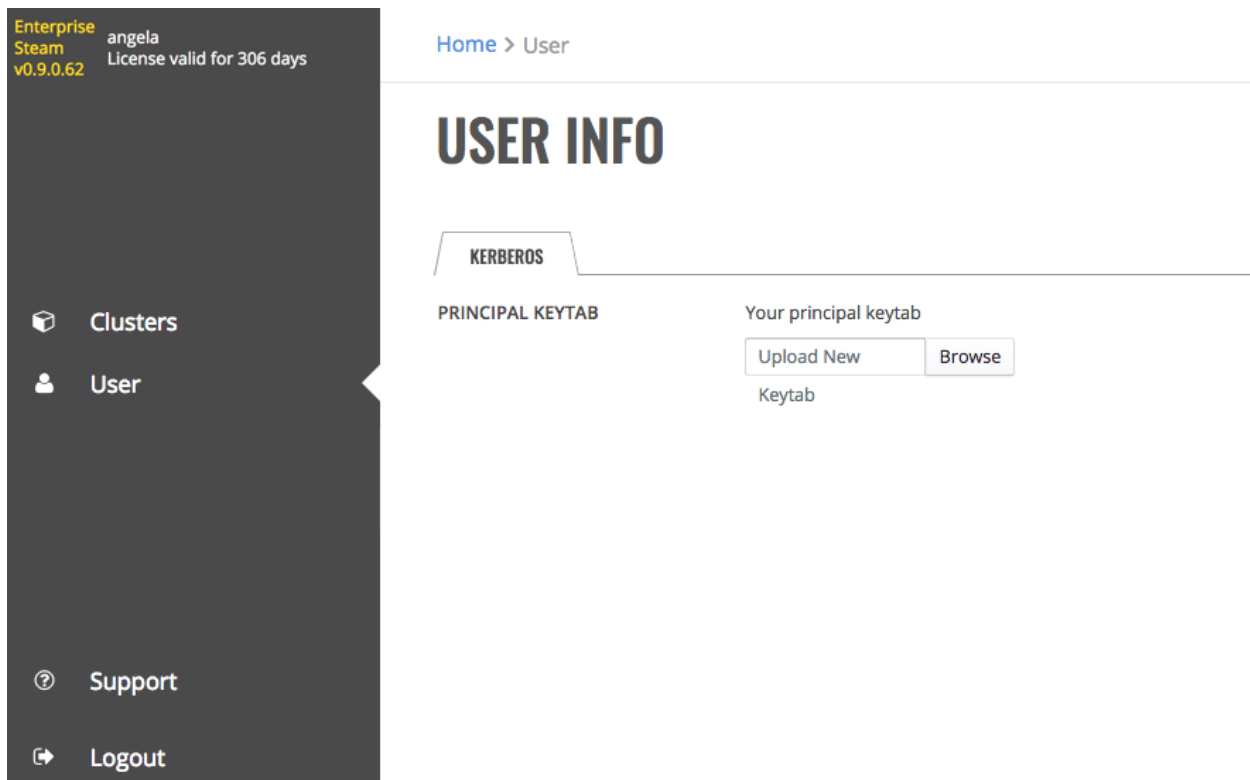
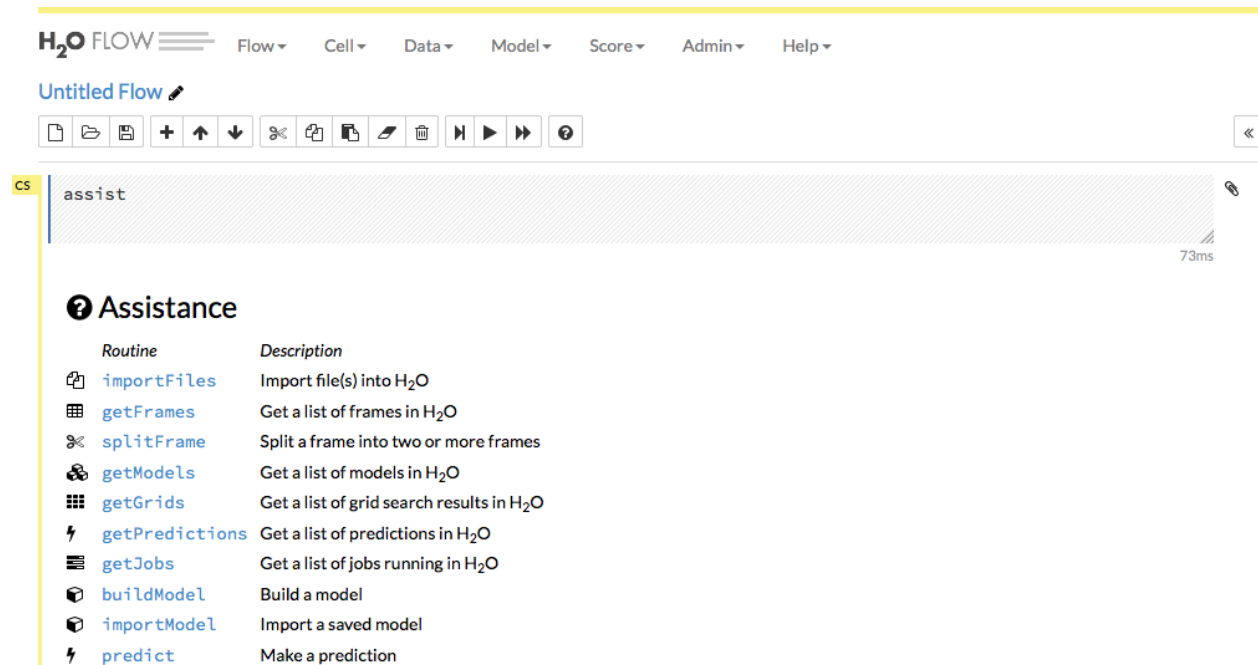


Fig. 3.1: User page

USING ENTERPRISE STEAM WITH H2O FLOW

As with other H2O products, Flow can be used alongside Enterprise Steam when performing machine learning tasks. On the **Clusters** page, click the cluster name of the H2O cluster that you want to open.

This opens H2O Flow in a new tab.



4.1 The H2O Flow UI

Use the menu items at the top to import/upload your data into Flow and to build and score models.

- The **Data** dropdown allows you import or upload a dataset, to split or merge frames, and to impute data.

The screenshot shows the H2O FLOW web interface. At the top, there is a navigation bar with the H2O FLOW logo and several dropdown menus: Flow, Cell, Data, Model, Score, Admin, and Help. The 'Data' dropdown menu is open, displaying the following options: Import Files..., Upload File..., Split Frame..., Merge Frames..., List All Frames, and Impute... Below the navigation bar, the main workspace is titled 'Untitled Flow' and contains a toolbar with icons for file operations and frame management. On the left side, there is a sidebar with a 'CS' tab and a section titled 'assist' containing a table of assistance routines.

Routine	Description
<code>importFiles</code>	Import file(s) into H ₂ O
<code>getFrames</code>	Get a list of frames in H ₂ O
<code>splitFrame</code>	Split a frame into two or more frames
<code>mergeFrames</code>	Merge two frames into one
<code>getModels</code>	Get a list of models in H ₂ O
<code>getGrids</code>	Get a list of grid search results in H ₂ O
<code>getPredictions</code>	Get a list of predictions in H ₂ O
<code>getJobs</code>	Get a list of jobs running in H ₂ O
<code>buildModel</code>	Build a model
<code>importModel</code>	Import a saved model
<code>predict</code>	Make a prediction

- Use the **Model** dropdown to select an algorithm and begin building models or to import/export models.

The screenshot shows the H2O Flow web interface. At the top, there is a navigation bar with the H2O logo and a hamburger menu icon, followed by tabs for Flow, Cell, Data, Model, Score, Admin, and Help. The 'Model' tab is currently selected and highlighted in yellow. Below the navigation bar, the page title is 'Untitled Flow'. A toolbar contains various icons for file operations (new, open, save, copy, paste, delete) and a play button. On the left side, there is a search bar with the text 'assist' and a yellow 'CS' label. Below the search bar, a table titled 'Assistance' is displayed, listing various routines and their descriptions. On the right side, a dropdown menu is open, showing a list of machine learning models and actions related to models.

Model Menu:

- Aggregator...
- Deep Learning...
- Distributed Random Forest...
- Gradient Boosting Machine...
- Generalized Linear Modeling...
- Generalized Low Rank Modeling...
- K-means...
- Naive Bayes...
- Principal Components Analysis...
- Word2Vec...
- List All Models
- List Grid Search Results
- Import Model...
- Export Model...

Assistance Routine Table:

Routine	Description
<code>importFiles</code>	Import file(s) into H ₂ O
<code>getFrames</code>	Get a list of frames in H ₂ O
<code>splitFrame</code>	Split a frame into two or more
<code>mergeFrames</code>	Merge two frames into one
<code>getModels</code>	Get a list of models in H ₂ O
<code>getGrids</code>	Get a list of grid search results
<code>getPredictions</code>	Get a list of predictions in H ₂ O
<code>getJobs</code>	Get a list of jobs running in H ₂ O
<code>buildModel</code>	Build a model
<code>importModel</code>	Import a saved model
<code>predict</code>	Make a prediction

Refer to the H2O Flow documentation for more information on how to use Flow.