

Package ‘h2osteam’

July 29, 2021

Version 1.8.7

License Apache License (== 2.0)

Title R Client for Enterprise Steam

Description Enterprise Steam is a service for securely using H2O.ai products such as H2O, Sparkling Water and Driverless AI in an enterprise environment. Enterprise Steam offers security, resource control, and resource monitoring out of the box in a multi-tenant architecture so that organizations can focus on the core of their data science practice. Enterprise Steam enables streamlined adoption of H2O.ai products in a secure manner that complies with company policies. This is a R Client for Enterprise Steam.

Author Ondrej Bilek

Maintainer Ondrej Bilek <ondrej@h2o.ai>

Date 2021-07-29

Depends R (>= 2.13.0)

Imports RCurl, jsonlite, utils, urltools, methods, markdown

Suggests h2o, knitr

Collate backend.r core.r h2o.r login.r

Encoding UTF-8

RoxygenNote 7.1.1

VignetteBuilder knitr

R topics documented:

h2osteam.delete_h2o_cluster	2
h2osteam.get_h2o_cluster	2
h2osteam.get_h2o_clusters	3
h2osteam.get_h2o_engines	4
h2osteam.get_profiles	4
h2osteam.import_h2o_engine	5
h2osteam.launch_h2o_cluster	6
h2osteam.login	7
h2osteam.stop_h2o_cluster	8

Index	9
--------------	----------

```
h2osteam.delete_h2o_cluster
```

Delete (Terminate) a stopped H2O cluster.

Description

Delete (Terminate) a stopped H2O cluster.

Usage

```
h2osteam.delete_h2o_cluster(conn, name)
```

Arguments

conn	The SteamConnection object obtained by h2osteam.login.
name	The name of the H2O cluster.

Value

None

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
h2osteam.delete_h2o_cluster(conn, "my-cluster")

## End(Not run)
```

```
h2osteam.get_h2o_cluster
```

Get connection configuration of H2O cluster.

Description

Get connection configuration of H2O cluster.

Usage

```
h2osteam.get_h2o_cluster(conn, name)
```

Arguments

conn	The SteamConnection object obtained by h2osteam.login.
name	The name of the H2O cluster.

Value

H2O cluster connection configuration that can be passed to `h2o.connect(config = config)`.

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
config <- h2osteam.get_h2o_cluster(conn, "my-cluster")
h2o.connect(config = config)

## End(Not run)
```

`h2osteam.get_h2o_clusters`

Get information about all clusters from the Enterprise Steam interface

Description

Get information about all clusters from the Enterprise Steam interface

Usage

```
h2osteam.get_h2o_clusters(conn)
```

Arguments

`conn` The `SteamConnection` object obtained by `h2osteam.login`.

Value

The list of H2O clusters.

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
clusters <- h2osteam.get_h2o_clusters(conn)
print(clusters)

## End(Not run)
```

```
h2osteam.get_h2o_engines
```

Lists H2O engines from Enterprise Steam server.

Description

Lists H2O engines from Enterprise Steam server.

Usage

```
h2osteam.get_h2o_engines(conn)
```

Arguments

conn The SteamConnection object obtained by h2osteam.login.

Value

list of available H2O engines

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
h2osteam.get_h2o_engines(conn)

## End(Not run)
```

```
h2osteam.get_profiles
```

Get details about the profiles available to the logged-in user.

Description

Get details about the profiles available to the logged-in user.

Usage

```
h2osteam.get_profiles(conn)
```

Arguments

conn The SteamConnection object obtained by h2osteam.login.

Value

Profiles available to the logged-in user.

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
profiles <- h2osteam.get_profiles(conn)
print(profiles)

## End(Not run)
```

```
h2osteam.import_h2o_engine
```

Import H2O engine from Enterprise Steam server and makes it available to users.

Description

Only Enterprise Steam administrators are authorized to call this method.

Usage

```
h2osteam.import_h2o_engine(conn, path)
```

Arguments

conn	The SteamConnection object obtained by h2osteam.login.
path	Full path to the H2O engine on disk of the Enterprise Steam server.

Value

None

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
h2osteam.import_h2o_engine(conn, "/tmp/h2o-3.26.0.6-cdh6.3.zip")

## End(Not run)
```

```
h2osteam.launch_h2o_cluster
```

Launch a new H2O cluster.

Description

Launches a new H2O cluster using the parameters described below. You do not need to specify all parameters. In that case they will be filled based on the default value of the selected profile. The process of launching a cluster can take up to 5 minutes.

Usage

```
h2osteam.launch_h2o_cluster(
    conn,
    name = NA_character_,
    version = NA_character_,
    profile_name = NA_character_,
    nodes = NA_integer_,
    node_cpus = NA_integer_,
    yarn_vcores = NA_integer_,
    node_memory_gb = NA_integer_,
    extra_memory_percent = NA_integer_,
    max_idle_h = NA_integer_,
    max_uptime_h = NA_integer_,
    timeout_s = NA_integer_,
    yarn_queue = "",
    leader_node_id = 0
)
```

Arguments

conn	The SteamConnection object obtained by h2osteam.login.
name	Name of the cluster.
version	Version of H2O that will be used in the cluster.
profile_name	(Optional) Specify name of an existing profile that will be used for this cluster.
nodes	(Optional) Number of nodes of the H2O cluster.
node_cpus	(Optional) Number of CPUs/threads used by H2O on a single node. Specify '0' to use all available CPUs/threads.
yarn_vcores	(Optional) Number of YARN virtual cores per cluster node. Should match node_cpus.
node_memory_gb	(Optional) Amount of memory in GB allocated for a single H2O node.
extra_memory_percent	(Optional) Percentage of extra memory that will be allocated outside of H2O JVM for algos like XGBoost.
max_idle_h	(Optional) Maximum amount of time in hours the cluster can be idle before shutting down.
max_uptime_h	(Optional) Maximum amount of time in hours the cluster will be up before shutting down.

`timeout_s` (Optional) Maximum amount of time in seconds to wait for the H2O cluster to start.

`yarn_queue` (Optional) Name of the YARN queue where the cluster will be placed.

`leader_node_id` (Optional) ID of the H2O leader node.

Value

H2O cluster connection configuration that can be passed to `h2o.connect(config = config)`.

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
config <- h2osteam.launch_h2o_cluster(conn, name = "test-cluster", version = "3.30.0.1",
                                     nodes = 5, node_memory_gb = 20)
h2o.connect(config = config)

## End(Not run)
```

h2osteam.login	<i>Connect and login to an existing Enterprise Server server.</i>
----------------	---

Description

Connect and login to an existing Enterprise Server server.

Usage

```
h2osteam.login(
  url = NA_character_,
  username = NA_character_,
  password = NA_character_,
  verify_ssl = TRUE,
  cacert = ""
)
```

Arguments

`url` Object of class `character` representing the Full URL (including schema and port) of the Enterprise Steam server.

`username` Object of class `character` representing the username.

`password` Object of class `character` representing user's password or access token.

`verify_ssl` (Optional) A logical value indicating whether to verify SSL when connecting to the server.

`cacert` (Optional) Path to a CA bundle file with root and intermediate certificates of trusted CAs.

Value

This method will connect to the Enterprise Steam server and return a `SteamConnection` object that must be passed to subsequent methods.

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.example.com:9555",
                      username = "AzureDiamond", password = "hunter2")

## End(Not run)
```

```
h2osteam.stop_h2o_cluster
```

Stop a running H2O cluster.

Description

Stop a running H2O cluster.

Usage

```
h2osteam.stop_h2o_cluster(conn, name)
```

Arguments

<code>conn</code>	The <code>SteamConnection</code> object obtained by <code>h2osteam.login</code> .
<code>name</code>	The name of the H2O cluster.

Value

None

Examples

```
## Not run:
conn <- h2osteam.login(url = "https://steam.h2o.ai:9555",
                      username = "user01", password = "token-here")
h2osteam.stop_h2o_cluster(conn, "my-cluster")

## End(Not run)
```

Index

`h2osteam.delete_h2o_cluster`, [2](#)
`h2osteam.get_h2o_cluster`, [2](#)
`h2osteam.get_h2o_clusters`, [3](#)
`h2osteam.get_h2o_engines`, [4](#)
`h2osteam.get_profiles`, [4](#)
`h2osteam.import_h2o_engine`, [5](#)
`h2osteam.launch_h2o_cluster`, [6](#)
`h2osteam.login`, [7](#)
`h2osteam.stop_h2o_cluster`, [8](#)