

Package ‘alterryx’

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Type Package

Title An 'API' Client for the 'Alteryx' Gallery

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Description A tool to access each of the 'Alteryx' Gallery 'API' endpoints. Users can queue jobs, poll job status, and retrieve application output as a data frame. You will need an 'Alteryx' Server license and have 'Alteryx' Gallery running to utilize this package. The 'API' is accessed through the 'URL' that you setup for the server running 'Alteryx' Gallery and more information on the endpoints can be found at <<https://gallery.alteryx.com/api-docs/>>.

URL <https://github.com/mtreadwell/alterryx>,
<https://gallery.alteryx.com/api-docs/>

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alterryx

alterryx: An API client for the Alteryx Gallery

Description

alterryx provides access to each of the Alteryx Gallery API endpoints. With alterryx users can:

Details

* Retrieve information on Alteryx Gallery resources like apps, workflows, and macros * Queue jobs for applications * Retrieve the status and output of jobs

For more information about the Alteryx Gallery API, see the documentation: <https://gallery.alteryx.com/api-docs/>

To learn more about alterryx, start with the vignettes: `browseVignettes(package = "alterryx")`

app_jobs

Get App Jobs

Description

A job is a single run of an app. To queue a job for an app use `queue_app`. Once queued, there are two ways to poll the gallery for an update on the job status: `get_app_jobs` or `get_job`.

`get_app_jobs` will return all jobs for a given app. `get_job` will return a single job and is mostly used for polling the status of a job.

Usage

```
get_app_jobs(app, request_params = list(),
             gallery = getOption("alteryx_gallery"))
```

```
get_job(job, gallery = getOption("alteryx_gallery"))
```

Arguments

<code>app</code>	A single <code>alteryx_app</code> returned from <code>get_app</code>
<code>request_params</code>	List of app search parameters. For more information on parameters, visit the Alteryx Gallery API documentation https://gallery.alteryx.com/api-docs/ and see the parameters under the 'Find workflows in a subscription' section.
<code>gallery</code>	URL for your Alteryx Gallery
<code>job</code>	An Alteryx job returned from <code>get_app_jobs</code> or <code>queue_jobs</code>

See Also

Once a job is complete, use `get_job_output` to retrieve the results.

Examples

```
## Not run:
# get the five most recently queued jobs for an app
request_params <- list(
  sortField = "createdate",
  limit = "5"
)

get_app_jobs(app, request_params)

# queue a job and poll the job's status until it is "Completed"
job <- queue_job(app, answers)

while(job$status != "Completed") {
  job <- get_job(job)
  Sys.sleep(2)
}
```

```

}
## End(Not run)

```

as.alteryx_app *Alteryx Applications*

Description

Handling of application resources returned by the Alteryx Gallery API. For more information, see [get_app](#)

Usage

```

as.alteryx_app(x)

is.alteryx_app(object)

```

Arguments

x	A list of values pertaining to an Alteryx app returned from the Alteryx Gallery API
object	An R object

as.alteryx_job *Alteryx Jobs*

Description

Handling of job information returned by the Alteryx Gallery API. For more information, see [get_job](#).

Usage

```

as.alteryx_job(x, parent)

is.alteryx_job(object)

```

Arguments

x	A list of values pertaining to an Alteryx job returned from the Alteryx Gallery API
parent	An <code>alteryx_app</code> or <code>alteryx_job</code> containing the id and name information of the parent application for a job.
object	An R object

`build_base_string` *Create the base string to be signed*

Description

Create the base string to be signed

Usage

```
build_base_string(request_method, base_url, normalized_request_params)
```

Arguments

`request_method` Character vector containing an HTTP request verb
`base_url` Base URL created with `build_base_url`
`normalized_request_params`
 Normalized request parameters created with `normalize_request_params`

`build_base_url` *Create and percent encode the base URL, part of the base string to be signed*

Description

Create and percent encode the base URL, part of the base string to be signed

Usage

```
build_base_url(gallery, endpoint)
```

Arguments

`gallery` URL of an Alteryx Gallery
`endpoint` API endpoint beginning and ending with "/"

build_request_url	<i>Build Request URL</i>
-------------------	--------------------------

Description

Build Request URL

Usage

```
build_request_url(gallery, endpoint, request_method, request_params)
```

Arguments

gallery	URL for your Alteryx Gallery
endpoint	The api endpoint beginning and ending with "/"
request_method	HTTP request verb
request_params	List of request parameters

build_signature	<i>Make Signature</i>
-----------------	-----------------------

Description

Make Signature

Usage

```
build_signature(gallery, endpoint, request_method, required_headers,
               request_params)
```

Arguments

gallery	URL of an Alteryx Gallery
endpoint	API endpoint beginning and ending with "/"
request_method	HTTP request verb
required_headers	Required headers created with build_required_headers
request_params	List of request parameters

check_class	<i>Error handling for incorrect object inputs to api.R calls</i>
-------------	--

Description

Error handling for incorrect object inputs to api.R calls

Usage

```
check_class(object, type)
```

Arguments

object	An R object
type	Expected class of object

check_keys	<i>Check Keys</i>
------------	-------------------

Description

Check Keys

Usage

```
check_keys()
```

check_status	<i>Error handling for non-200 status codes</i>
--------------	--

Description

Error handling for non-200 status codes

Usage

```
check_status(response)
```

Arguments

response	Response generated by a request such as <code>httr::GET</code> or <code>httr::POST</code>
----------	---

download_app	<i>Download App</i>
--------------	---------------------

Description

Download an app as a .yxzp file

Usage

```
download_app(app, destfile, gallery = getOption("alteryx_gallery"))
```

Arguments

app	A single alteryx_app returned from get_app
destfile	A character string with the directory and name of where the downloaded file is to be saved.
gallery	URL for your Alteryx Gallery

empty_answer	<i>Empty Answer</i>
--------------	---------------------

Description

Utility function used to queue a job for an app that has no questions

Usage

```
empty_answer()
```

Examples

```
## Not run:  
job <- queue_job(app, answer = empty_answer())  
  
## End(Not run)
```

encode_list	<i>Percent encode all values in a list using <code>utils::URLencode</code></i>
-------------	--

Description

Percent encode all values in a list using `utils::URLencode`

Usage

```
encode_list(l, reserved = TRUE)
```

Arguments

l	A list
reserved	logical: should 'reserved' characters be encoded?

generate_nonce	<i>Generate Nonce</i>
----------------	-----------------------

Description

Generate Nonce

Usage

```
generate_nonce()
```

generate_required_headers	<i>Generate the request headers required by Alteryx Gallery</i>
---------------------------	---

Description

Generate the request headers required by Alteryx Gallery

Usage

```
generate_required_headers()
```

`get_app`*Get Applications*

Description

An Alteryx application is a workflow that has been designed to run based on user input to questions. In order to run these resources using `alterryx` you must first obtain the application that you want to run.

To search the workflows you can access from your studio (subscription), use `get_app`. Subscription is tied to API key. You cannot request workflows for any other subscription without that subscription's API keys.

Usage

```
get_app(request_params = list(), gallery = getOption("alteryx_gallery"))
```

Arguments

`request_params` List of app search parameters. For more information on parameters, visit the Alteryx Gallery API documentation <https://gallery.alteryx.com/api-docs/> and see the parameters under the 'Find workflows in a subscription' section.

`gallery` URL for your Alteryx Gallery

Value

`get_app` returns a list of `alteryx_apps`

WARNING

`get_app` will return all resources in the Gallery tied to your subscription including macros and workflows in addition to applications. You cannot run workflows or macros using the Alteryx Gallery API and if you try to do so you will receive an error.

Examples

```
## Not run:
# get the five most recently uploaded apps in your studio

request_params <- list(
  packageType = "0",
  limit = "5",
  sortField = "uploaddate"
)

get_app(request_params)

## End(Not run)
```

get_app_questions	<i>Get App Questions</i>
-------------------	--------------------------

Description

Get the questions for the given Alteryx Analytic App. Only app workflows can be used.

Usage

```
get_app_questions(app, gallery = getOption("alteryx_gallery"))
```

Arguments

app	A single alteryx_app returned from get_app
gallery	URL for your Alteryx Gallery

Details

Most Alteryx apps have questions, user input that defines how the application should run. The answers to these questions need to be sent as answers when queueing an application on Gallery with queue_job. get_app_questions returns the names, types, and default values of the questions for an app.

WARNING

Trees, Maps, and File Browse are unsupported question types. This is a limitation of Alteryx Gallery and not this API client.

get_info	<i>Get Resource Information</i>
----------	---------------------------------

Description

Retrieves all metadata about an Alteryx resource including but not limited to upload date, version, and author

Usage

```
get_info(resource, full_info = FALSE)
```

Arguments

resource	An Alteryx app or job
full_info	If TRUE, returns all info retrieved from Gallery. The default, FALSE, removes extraneous information to make it easier to read.

Examples

```
## Not run:
job <- queue_job(app, answers)
get_info(job)

## End(Not run)
```

get_job_log	<i>Job Log</i>
-------------	----------------

Description

Retrieve the log messages for a "Completed" job

Usage

```
get_job_log(job)
```

Arguments

job	An completed Alteryx job returned from get_job
-----	--

get_job_output	<i>Get Job Output</i>
----------------	-----------------------

Description

If an Alteryx app includes one or more output tools inside the application, the output will be available for download once the job is complete.

Use `get_job_output` to get the job outputs as a `data.frame`

Usage

```
get_job_output(job, gallery = getOption("alteryx_gallery"), quiet = FALSE)
```

Arguments

job	An completed Alteryx job returned from get_app_jobs
gallery	URL for your Alteryx Gallery
quiet	Set to TRUE to ignore the warnings of skipped, invalid outputs

Value

A list containing a `data.frame` for each valid output of an Alteryx app. Valid means that the output can be converted as explained in the `WARNING` section.

WARNING

In order to retrieve the results for a job as a `data.frame`, the from the Alteryx app that is published to your gallery must have an output format of `csv` or `yxdb`. Otherwise, it cannot be properly converted. If you have multiple outputs, some of which cannot be converted, this function will issue a warning and skip the invalid outputs. Use `quiet = TRUE` to skip the outputs without warning.

normalize_request_params

Combine, sort, and percent encode headers and param list, part of the base string to be signed

Description

Combine, sort, and percent encode headers and param list, part of the base string to be signed

Usage

```
normalize_request_params(required_headers, request_params)
```

Arguments

`required_headers`

Required headers created with `build_required_headers`

`request_params` List of request parameters

parse_request_response

Parse Request Response

Description

Parse Request Response

Usage

```
parse_request_response(response, as = "text", remove_bom = TRUE,
  parse_JSON = TRUE)
```

Arguments

`response` Response generated by a request such as `httr::GET` or `httr::POST`

`as` Passed to `httr::content(as = as)`

`remove_bom` Remove BOM from response content?

`parse_JSON` Parse response content as JSON?

remove_bom	<i>Remove Byte Order Mark</i>
------------	-------------------------------

Description

Remove Byte Order Mark

Usage

```
remove_bom(content)
```

Arguments

content	Content from response generated by <code>http::content</code>
---------	---

running_jobs	<i>Queue Job for an App</i>
--------------	-----------------------------

Description

Each app has a set of questions that require an answer in order to be run. The answers to the app questions are formatted using `build_answers`. To see the required questions for an app use `get_app_questions`.

Use `queue_job` to queue a job for an app. A job is a single run of an app run according to the answers submitted.

Usage

```
queue_job(app, answers, track_job = FALSE, sleep = 10, timeout = 3600,
  gallery = getOption("alteryx_gallery"))
```

```
build_answers(name_value, ...)
```

Arguments

app	A single <code>alteryx_app</code> returned from <code>get_app</code>
answers	Answers to required app questions created using <code>build_answers</code>
track_job	If TRUE this function will not return a value until the job completes on Alteryx Gallery
sleep	Amount of time to wait between job polls. Ignored if <code>track_job = FALSE</code>
timeout	Maximum amount of time to track job. Ignored if <code>track_job = FALSE</code>
gallery	URL for your Alteryx Gallery
name_value	list containing an app question name and value pair
...	Additional <code>name_value</code> pairs

Value

An alteryx job with status "Queued"

See Also

Use `get_app` to find apps to queue.

Once a job has been queued, use `get_job` to poll the job and check its status.

Examples

```
## Not run:
first_question <- list(name = "a", value = "1")
second_question <- list(name = "b", value = "2")
answers <- build_answers(first_question, second_question)

new_job <- queue_job(app, answers)

## End(Not run)
```

sign_base_string	<i>Sign Base String</i>
------------------	-------------------------

Description

Sign Base String

Usage

```
sign_base_string(base_string)
```

Arguments

`base_string` Base string created with `build_base_string`

submit_get_request	<i>Submit GET Request</i>
--------------------	---------------------------

Description

Submit GET Request

Usage

```
submit_get_request(gallery, endpoint, request_params, ...)
```

Arguments

gallery	URL for your Alteryx Gallery
endpoint	The api endpoint beginning and ending with "/"
request_params	List of request parameters
...	Additional arguments passed to parse_request_response

submit_post_request *Submit POST Request*

Description

Submit POST Request

Usage

```
submit_post_request(gallery, endpoint, request_params, request_body, ...)
```

Arguments

gallery	URL for your Alteryx Gallery
endpoint	The api endpoint beginning and ending with "/"
request_params	List of request parameters
request_body	JSON body of request containing values for app questions
...	Additional arguments passed to parse_request_response

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