Package 'googleAnalyticsR'

October 16, 2022

Type Package

Version 1.1.0

Title Google Analytics API into R

Description Interact with the Google Analytics APIs <https://developers.google.com/analytics/>, including the Core Reporting API (v3 and v4), Management API, User Activity API GA4's Data API and Admin API and Multi-Channel Funnel API.

URL https://code.markedmondson.me/googleAnalyticsR/

BugReports https://github.com/MarkEdmondson1234/googleAnalyticsR/issues

Depends R (>= 3.3.0)

Imports assertthat (>= 0.2.0), cli (>= 2.0.2), dplyr (>= 0.8.0), googleAuthR (>= 1.4.0), httr (>= 1.3.1), jsonlite (>= 1.5), magrittr (>= 1.5), measurementProtocol, memoise, methods, purrr (>= 0.2.2), rlang (>= 0.4.7), stats, tibble (>= 2.0.1), tidyr (>= 1.0.0), usethis, utils, whisker

Suggests bigQueryR (>= 0.3.1), covr, formatR, ganalytics, googleCloudStorageR (>= 0.2.0), htmlwidgets, knitr, lifecycle (>= 1.0.0), miniUI (>= 0.1.1), rmarkdown, shiny (>= 1.6.0), testthat

License MIT + file LICENSE

LazyData TRUE

RoxygenNote 7.2.1

Config/testthat/edition 3

Config/testthat/parallel true

Encoding UTF-8

NeedsCompilation no

Author Mark Edmondson [aut, cre] (<https://orcid.org/0000-0002-8434-3881>), Artem Klevtsov [ctb], Johann deBoer [ctb], David Watkins [ctb],

Olivia Brode-Roger [ctb],
Jas Sohi [ctb],
Zoran Selinger [ctb],
Octavian Corlade [ctb],
Maegan Whytock [ctb]

Maintainer Mark Edmondson <m@sunholo.com>

Repository CRAN

Date/Publication 2022-10-15 22:12:34 UTC

R topics documented:

`accountPickerUI` *accountPicker UI Shiny Module - pick GA4 accounts/webProperties in Shiny*

Description

Makes a dropdown row for use for authentication with GA4 web properties.

Shiny Module for use with accountPickerUI

Usage

```
accountPickerUI(id, width = NULL, inColumns = FALSE)

accountPicker(id, ga_table, id_only = TRUE)
```

Arguments

`id`	Shiny id
`width`	The width of the input
`inColumns`	Whether to wrap selectInputs in width=4 columns
`ga_table`	A table GA4 accounts/web properties from `ga_account_summary("ga4")`
`id_only`	Whether to return just the id, not the row

Value

If id_only=FALSE, the row of ga_table for the selected GA4 web property e.g. use `ga_table$propertyId` to send to ga_data calls. If id_only=TRUE, just the propertyId

See Also

Other Shiny modules: `authDropdownUI()`, `authDropdown()`, `metricDimensionSelectUI()`, `multi_selectUI()`, `multi_select()`

Examples

```
## Not run:

ui <- fluidPage(title = "Shiny App",
                accountPickerUI("auth_menu", inColumns = TRUE))
server <- function(input, output, session){
  token <- gar_shiny_auth(session)

  accs <- reactive({
    req(token)
    ga_account_list("ga4")
   })

  # module for authentication
  property_id <- accountPicker("auth_menu", ga_table = accs, id_only = TRUE)
 }

 shinyApp(gar_shiny_ui(ui, login_ui = silent_auth), server)


## End(Not run)
```

---

authDropdown *authDropdown Shiny Module*

Description

Shiny Module for use with authDropdownUI

Usage

```
authDropdown(input, output, session, ga.table, viewIdOnly = TRUE, rmNA = TRUE)
```

Arguments

input	shiny input
output	shiny output
session	shiny session
ga.table	A table of GA tables
viewIdOnly	Default only returns the viewId, set to FALSE to return the row of ga.table satisfying the selections
rmNA	Will remove any rows that have NA listed for the columns. Set to FALSE to return all rows.

Details

Call via `shiny::callModule(authDropdown, "your_id")`

Value

GA View Id selected

See Also

Other Shiny modules: `accountPickerUI()`, `authDropdownUI()`, `metricDimensionSelectUI()`, `multi_selectUI()`, `multi_select()`

---

authDropdownUI *authDropdown UI Shiny Module*

Description

Makes a dropdown row for use for authentication.

Usage

```
authDropdownUI(id, width = NULL, inColumns = FALSE)
```

Arguments

id	Shiny id.
width	The width of the input
inColumns	whether to wrap selectInputs in width=4 columns.
	Shiny Module for use with authDropdown.

Value

Shiny UI

See Also

Other Shiny modules: accountPickerUI(), authDropdown(), metricDimensionSelectUI(), multi_selectUI(), multi_select()

---

dim_filter *Make a dimension filter object*

Description

Make a dimension filter object

Usage

```
dim_filter(
  dimension,
 operator = c("REGEXP", "BEGINS_WITH", "ENDS_WITH", "PARTIAL", "EXACT", "NUMERIC_EQUAL",
    "NUMERIC_GREATER_THAN", "NUMERIC_LESS_THAN", "IN_LIST"),
  expressions,
  caseSensitive = FALSE,
  not = FALSE
)
```

Arguments

dimension	dimension name to filter on.
operator	How to match the dimension.
expressions	What to match. A character vector if operator is "IN_LIST"
caseSensitive	Boolean.
not	Logical NOT operator. Boolean.

Value

An object of class dim_fil_ga4 for use in filter_clause_ga4()

See Also

Other filter functions: filter_clause_ga4(), met_filter()

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()
```

```
## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']

## create filters on metrics
mf <- met_filter("bounces", "GREATER_THAN", 0)
mf2 <- met_filter("sessions", "GREATER", 2)

## create filters on dimensions
df <- dim_filter("source","BEGINS_WITH","1",not = TRUE)
df2 <- dim_filter("source","BEGINS_WITH","a",not = TRUE)

## construct filter objects
fc2 <- filter_clause_ga4(list(df, df2), operator = "AND")
fc <- filter_clause_ga4(list(mf, mf2), operator = "AND")

## make v4 request
ga_data1 <- google_analytics_4(ga_id,
                               date_range = c("2015-07-30","2015-10-01"),
                               dimensions=c('source','medium'),
                               metrics = c('sessions','bounces'),
                               met_filters = fc,
                               dim_filters = fc2,
                               filtersExpression = "ga:source!=(direct)")


## End(Not run)
```

`filter_clause_ga4` *Make a dimension or metric filter clause object*

Description

Make a dimension or metric filter clause object

Usage

```
filter_clause_ga4(filters, operator = c("OR", "AND"))
```

Arguments

`filters`	a list of dim_filter or met_filter. Only one type allowed.
`operator`	combination of filter.

Details

If you have dimension and metric filters, make the clauses in two separate calls

Value

An object of class `dim_fil_ga4` or `met_fil_ga4`

See Also

Other filter functions: `dim_filter()`, `met_filter()`

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()

## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']

## create filters on metrics
mf <- met_filter("bounces", "GREATER_THAN", 0)
mf2 <- met_filter("sessions", "GREATER", 2)

## create filters on dimensions
df <- dim_filter("source","BEGINS_WITH","1",not = TRUE)
df2 <- dim_filter("source","BEGINS_WITH","a",not = TRUE)

## construct filter objects
fc2 <- filter_clause_ga4(list(df, df2), operator = "AND")
fc <- filter_clause_ga4(list(mf, mf2), operator = "AND")

## make v4 request
ga_data1 <- google_analytics(ga_id,
                             date_range = c("2015-07-30","2015-10-01"),
                             dimensions=c('source','medium'),
                             metrics = c('sessions','bounces'),
                             met_filters = fc,
                             dim_filters = fc2,
                             filtersExpression = "ga:source!=(direct)")


## End(Not run)
```

ga_accounts *List account metadata*

Description

This gets a list of account meta data, that can be used in other management API functions.

Usage

```
ga_accounts()
```

Details

This gets the meta data associated with the accounts you have access to with your user. If you want all information such as web properties and viewIds, use ga_account_list instead.

Value

A `data.frame` with accountid, name, an R datetime object (`POSIXct`) when the account was created and last updated, and the effective permissions your user has for those accounts.

See Also

Other account structure functions: `ga_account_list()`, `ga_view_list()`, `ga_view()`, `ga_webproperty_list()`, `ga_webproperty()`

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()
ga_accounts()


## End(Not run)
```

`ga_account_list` *Account summary for all accounts available to your user*

Description

This is the recommended way to get all your account details for your user, including the web property and View IDs. The `$viewId` column contains the ID you need for the data fetching functions such as google_analytics.

Usage

```
ga_account_list(type = c("universal", "ga4", "data"))
```

Arguments

`type`	Whether to get account summary from universal analytics of GA4 (App_Web) properties

Details

Get a summary of all your accounts, web properties and views your authenticated user can see.

Value

a dataframe of all account, webproperty and view data

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/management/accountSummaries/list

Other account structure functions: `ga_accounts()`, `ga_view_list()`, `ga_view()`, `ga_webproperty_list()`, `ga_webproperty()`

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()
al <- ga_account_list()
al$viewId

## get account summary of GA4 properties
ga_account_list("ga4")

## End(Not run)
```

ga_adwords *Get AdWords Link meta data*

Description

Get AdWords Link meta data

Usage

```
ga_adwords(accountId, webPropertyId, webPropertyAdWordsLinkId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
webPropertyAdWordsLinkId	AdWords Link Id

Value

AdWords Meta data

See Also

Other Google Ad management functions: ga_adwords_add_linkid(), ga_adwords_delete_linkid(), ga_adwords_list()

ga_adwords_add_linkid *Creates a Google Analytics webProperty-Google Ads link*

Description

Creates a link between and Adwords (Google ads) account and a Google Analytics property so that Adwords data can be accessed via Google Analytics and vice versa.

Usage

```
ga_adwords_add_linkid(adwordsAccountId, linkName, accountId, webPropertyId)
```

Arguments

adwordsAccountId	the customer id of the Adwords account visible within the Adwords account UI on the top right corner -or accessible via the Adwords API
linkName	a user defined way to call the link between the Adwords and Google Analytics accounts
accountId	Account Id
webPropertyId	Web Property Id

Value

confirmation message if successful

See Also

Google documentation

Other Google Ad management functions: ga_adwords_delete_linkid(), ga_adwords_list(), ga_adwords()

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()

ga_adwords_add_linkid("280-234-7592", "Google Ads Link", "65973592", "UA-65973592-1")

## End(Not run)
```

---

ga_adwords_delete_linkid

Deletes a Google Analytics webProperty-Google Ads link

Description

Removes a link between and Adwords (Google ads) account and a Google Analytics property

Usage

```
ga_adwords_delete_linkid(accountId, webPropertyId, webPropertyAdWordsLinkId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
webPropertyAdWordsLinkId	webPropertyAdWordsLinkId

Value

HTTP Status Code 204 with empty response body, if successful

See Also

Google documentation

Other Google Ad management functions: ga_adwords_add_linkid(), ga_adwords_list(), ga_adwords()

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()

# get the ID of the Adwords- Google Analytics link that you want to delete
# ID corresponding to the webPropertyAdWordsLinkId field
ga_adwords_list(65973592, "UA-65973592-1")

ga_adwords_delete_linkid(65973592, "UA-65973592-1", "ezW2dyaiQcGheWRAo69nCw")


# check its gone
ga_adwords_list(65973592, "UA-65973592-1")

## End(Not run)
```

`ga_adwords_list` *List AdWords*

Description

List AdWords

Usage

```
ga_adwords_list(accountId, webPropertyId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id

Value

AdWords Links

See Also

Other Google Ad management functions: `ga_adwords_add_linkid()`, `ga_adwords_delete_linkid()`, `ga_adwords()`

ga_aggregate *Aggregate a Google Analytics dataframe over inputted columns*

Description

A helper function to aggregate over dimensions

Usage

```
ga_aggregate(
  ga_data,
  agg_names = NULL,
  mean_regex = "^avg|^percent|Rate$|^CPC$|^CTR$|^CPM$|^RPC$|^ROI$|^ROAS$|Per"
)
```

Arguments

ga_data	A dataframe of data to aggregate
agg_names	The columns to aggregate over
mean_regex	The regex for column names to do mean() rather than sum()

Details

Will auto select metrics if they are numeric class columns. Will auto perform mean aggregation it metric names match `mean_regex` argument If agg_names is NULL will aggregate over all

Examples

```
## Not run:

# use `aggregateGAData` so you can on the fly create summary data
ga_data <- google_analytics(81416156,
                            date_range = c("10daysAgo", "yesterday"),
                            metrics = "sessions", dimensions = c("hour","date"))

# if we want totals per hour over the dates:
ga_aggregate(ga_data[,c("hour","sessions")], agg_names = "hour")

# it knows not to sum metrics that are rates:
ga_aggregate(ga_data[,c("hour","bounceRate")], agg_names = "hour")



## End(Not run)
```

ga_allowed_metric_dim *Create named list of allowed GA metrics/dimensions*

Description

Create named list of allowed GA metrics/dimensions

Usage

```
ga_allowed_metric_dim(
  type = c("METRIC", "DIMENSION"),
  subType = c("all", "segment", "cohort"),
  callAPI = FALSE
)
```

Arguments

type	Type of parameter to create
subType	to restrict to only those in this type
callAPI	This will update the meta table (Requires online authorization) This is useful to expand goalXCompletions to all the possibilities, as well as restricting to those that variables that work with your API call. Use internal meta table, but you have option to update to the latest version.

Value

A named list of parameters for use in API calls

ga_auth *Authenticate with Google Analytics OAuth2*

Description

A wrapper for gar_auth and gar_auth_service

Usage

```
ga_auth(token = NULL, email = NULL, json_file = NULL)
```

Arguments

token	An existing token or file location of a token to authenticate with
email	An existing cached email to authenticate with or TRUE to authenticate with only email available. If not set then you will get an interactive prompt asking you to choose which email to authenticate with.
json_file	Authentication service key you have downloaded from your Google Project - an alternative to OAuth2 email authentication

Details

Run this function first time to authenticate with Google in your browser.

After initial authentication, your authentication details will be kept globally for use later, tied to your email, and the next time you authenticate you will be given a prompt to choose which email to authentcate from. Set `email="your@email.com"` to skip the interactive prompt.

Value

Invisibly, the token that has been saved to the session

Multiple accounts

You can authenticate with a new email for each account. Supply a different email to use those details for your session.

Service accounts

If you use the service account JSON, you will need to add the service account email to your Google Analytics users to see data e.g. `xxxx@yyyyyy.iam.gserviceaccount.com`

Auto-authentication

You can choose to auto-authenticate by creating a Google OAuth service account JSON file.

Specify an environment variable in R via a `.Renviron` file or using Sys.setenv which points to the file location of your chosen authentication file. See Startup

Once you have set the environment variable `GA_AUTH_FILE` to a valid file location, the function will look there for authentication details upon loading the library meaning you will not need to call `ga_auth()` yourself as you would normally.

An example `.Renviron` file is below:

```
GA_AUTH_FILE = "/Users/bob/auth/googleAnalyticsR.json"
```

`GA_AUTH_FILE` can be a service account JSON ending with file extension `.json`. Make sure to give the service account email access to your Google Analytics account as mentioned above.

Your own Google Project

Be default the Google Project used is shared by all users, so you may find it runs out of API calls. To mitigate that, create your own Google Project and turn on the Analytics APIs.

The best way to do this is to use gar_set_client by downloading your JSON client credentials and setting them to be found on package startup via the `GAR_CLIENT_JSON` environment argument. See `?googleAuthR::gar_set_client` function help pages for details.

Or you can then copy your Google Cloud Project's client ID and client secret, to place in options or environment arguments (whichever is easiest)

The environment args are below. Similar to auto-authentication, you can place your entries in an `.Renviron` file

```
GA_CLIENT_ID="XXXX" GA_CLIENT_SECRET="XXX" GA_WEB_CLIENT_ID="XXX" GA_WEB_CLIENT_SECRET="XXX"
```

Examples

```
## Not run:

# to use default package credentials (for testing)
library(googleAnalyticsR)
ga_auth()

# to use your own Google Cloud Project credentials
# go to GCP console and download client credentials JSON
# ideally set this in .Renviron file, not here but just for demonstration
Sys.setenv("GAR_CLIENT_JSON" = "location/of/file.json")
library(googleAnalyticsR)
# should now be able to log in via your own GCP project
ga_auth()

# reauthentication
# Once you have authenticated, set email to skip the interactive message
ga_auth(email = "my@email.com")

# or leave unset to bring up menu on which email to auth with
ga_auth()
# The googleAnalyticsR package is requesting access to your Google account.
# Select a pre-authorised account or enter '0' to obtain a new token.
# Press Esc/Ctrl + C to abort.
#1: my@email.com
#2: work@mybusiness.com
# you can set authentication for many emails, then switch between them e.g.
ga_auth(email = "my@email.com")
ga_account_list() # lists one set of accounts
ga_auth(email = "work@mybusiness.com")
ga_account_list() # lists second set of accounts

# or authenticate via the service key, that has been added to the GA as a user
ga_auth(json_file = "service-key.json")


## End(Not run)
```

---

ga_auth_setup *Setup wizard for authentication options*

Description

Setup wizard for authentication options

Usage

```
ga_auth_setup()
```

ga_cache_call *Setup caching of API calls*

Description

Lets you cache API calls to disk

Usage

```
ga_cache_call(cache_location)
```

Arguments

cache_location	If RAM will save to memory, or specify a file folder location

Details

By default this is turned on upon package load to RAM. Should you want to cache calls to a folder then run this function to specify where.

ga_clientid_activity *User Activity Request*

Description

Get activity on an individual user

Usage

```
ga_clientid_activity(
  ids,
  viewId,
  id_type = c("CLIENT_ID", "USER_ID"),
  activity_type = NULL,
  date_range = NULL
)
```

Arguments

ids	The userId or clientId. You can send in a vector of them
viewId	The viewId
id_type	Whether its userId or clientId
activity_type	If specified, filters down response to the activity type. Choice between "PAGEVIEW","SCREENVIEW","GOA
date_range	A vector of start and end dates. If not used will default to a week.

Details

The User Activity API lets you query an individual user's movement through your website, by sending in the individual `clientId` or `userId`.

Bear in mind each call will count against your API quota, so fetching a large amount of client ids will be limited by that.

Use ga_clientid_activity_unnest to unnest deeply nested data in the hits data.

The timestamps are available to millisecond level but you will need to set your R options to see them e.g. `options(digits.secs=3)`

Value

A list of data.frames: `$sessions` contains session level data. `$hits` contains individual activity data

See Also

https://developers.google.com/analytics/devguides/reporting/core/v4/rest/v4/userActivity/search

Other clientid functions: `ga_clientid_activity_unnest()`, `ga_clientid_deletion()`, `ga_clientid_hash()`

Examples

```
## Not run:

# access data for individual users
uar <- ga_clientid_activity(c("1106980347.1461227730", "476443645.1541099566"),
                         viewId = 81416156,
                         date_range = c("2019-01-01","2019-02-01"))

# access clientIds for users who have transacted
viewId <- 106249469
date_range <- c("2019-01-01","2019-02-01")
cids <- google_analytics(viewId,
                         date_range = date_range,
                         metrics = "sessions",
                         dimensions = "clientId",
                         met_filters = filter_clause_ga4(
                           list(met_filter("transactions",
                                           "GREATER_THAN",
                                           0)
                                )))
transactors <- ga_clientid_activity(cids$clientId,
                                    viewId = viewId,
                                    date_range = date_range)

# access the data.frames returned:

# the session level data for the users passed in
uar$sessions
```

```
# the hit level activity for the users passed in
uar$hits

# filter the response to only include certain activity types, such as goals:

only_goals <- ga_clientid_activity(c("1106980347.1461227730",
                                     "476443645.1541099566"),
                    viewId = 81416156,
                    date_range = c("2019-01-01","2019-02-01"),
                    activity_types = "GOAL")



## End(Not run)
```

`ga_clientid_activity_unnest` *Unnest user activity columns*

Description

This helper function works with the output of user activity and parses out inner nested structure you may require.

Thanks to @jimmyg3g on GitHub for help with the ecommerce parsing.

Usage

```
ga_clientid_activity_unnest(
  hits,
  column = c("customDimension", "ecommerce", "goals")
)
```

Arguments

`hits`	The hits data.frame with the columns to expand
`column`	Which column to expand - one of `"customDimension","ecommerce","goals"`

Details

A function to help expand data out of nested columns returned by ga_clientid_activity

Value

An unnested data.frame tibble for all hits that matches the column

See Also

Other clientid functions: ga_clientid_activity(), ga_clientid_deletion(), ga_clientid_hash()

Examples

```
## Not run:
# access clientIds for users who have transacted
viewId <- 106249469
date_range <- c("2019-01-01","2019-02-01")
cids <- google_analytics(viewId,
                         date_range = date_range,
                         metrics = "sessions",
                         dimensions = "clientId",
                         met_filters = filter_clause_ga4(
                           list(met_filter("transactions",
                                           "GREATER_THAN",
                                           0)
                                )))

transactors <- ga_clientid_activity(cids$clientId,
                                    viewId = viewId,
                                    date_range = date_range)

# unnest ecommerce activity hits from users
ga_clientid_activity_unnest(transactors$hits, "ecommerce")

# unnest goal activity hits from users
ga_clientid_activity_unnest(transactors$hits, "goals")

# unnest custom dimension activity hits from users
ga_clientid_activity_unnest(transactors$hits, "customDimension")


## End(Not run)
```

---

ga_clientid_deletion *Create or update a user deletion request*

Description

The Google Analytics User Deletion API allows customers to process deletions of data associated with a given user identifier.

Usage

```
ga_clientid_deletion(
  userId,
  propertyId,
```

```
  idType = c("CLIENT_ID", "USER_ID", "APP_INSTANCE_ID"),
  propertyType = c("ga", "firebase")
)
```

Arguments

userId	A character vector of user ID's
propertyId	The Google Analytics Web property or Firebase ProjectId you are deleting the user from.
idType	Type of user. One of APP_INSTANCE_ID, CLIENT_ID or USER_ID.
propertyType	Firebase or Google Analytics

Details

The user explorer report in Google Analytics can give you the client.id you need to test.

A data deletion request can be applied to either a Google Analytics web property (specified by propertyType="ga") or Firebase application (propertyType="firebase"). A user whose data will be deleted can be specified by setting one of the identifiers the userId field. The type of the identifier must be specified inside idType field.

There is a quota of 500 queries per day per cloud project.

The API returns a User Deletion Request Resource with deletionRequestTime field set. This field is the point in time up to which all user data will be deleted. This means that all user data for the specified user identifier and Google Analytics property or Firebase project will be deleted up to this date and time - if the user with the same identifier returns after this date/time, they will reappear in reporting.

Value

a data.frame with a row for each userID you sent in, plus a column with its deletionRequestTime

See Also

https://developers.google.com/analytics/devguides/config/userdeletion/v3/

Other clientid functions: ga_clientid_activity_unnest(), ga_clientid_activity(), ga_clientid_hash()

Examples

```
## Not run:

# make sure you are authenticated with user deletion scopes
options(googleAuthR.scopes.selected = "https://www.googleapis.com/auth/analytics.user.deletion")
ga_auth()

# a vector of ids
ids <- c("1489547420.1526330722", "1138076389.1526568883")

# do the deletions
```

```
ga_clientid_deletion(ids, "UA-1234-2")
#                 userId   id_type  property      deletionRequestTime
#1 1489547420.1526330722 CLIENT_ID UA-1234-2 2018-05-20T19:43:33.540Z
#2 1138076389.1526568883 CLIENT_ID UA-1234-2 2018-05-20T19:43:36.218Z


## End(Not run)
```

`ga_clientid_hash` *Get hashed version of client id (also known as hashClientId, hashedClientId, or BigQuery's fullVisitorId)*

Description

Get hashed version of client id (also known as hashClientId, hashedClientId, or BigQuery's fullVisitorId)

Usage

```
ga_clientid_hash(webPropertyId, clientId)
```

Arguments

`webPropertyId`	Web Property Id
`clientId`	Client Id

Value

hashedClientId object list

See Also

Other clientid functions: `ga_clientid_activity_unnest()`, `ga_clientid_activity()`, `ga_clientid_deletion()`

`ga_custom_datasource` *List Custom Data Sources*

Description

Get a list of custom data sources you have configured in Google Analytics web UI.

Usage

```
ga_custom_datasource(accountId, webPropertyId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id

Details

You primarily need this to get the customDataSourceId for the uploads via ga_custom_upload_file

Value

Custom Data Source

See Also

Other custom datasource functions: ga_custom_upload_delete(), ga_custom_upload_file(), ga_custom_upload_list(), ga_custom_upload()

---

ga_custom_upload *Custom Data Source Upload Status*

Description

Get the status of a custom upload

Usage

```
ga_custom_upload(
  accountId,
  webPropertyId,
  customDataSourceId,
  uploadId,
  upload_object
)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
customDataSourceId	Custom data source Id
uploadId	upload Id
upload_object	A custom upload Id object. Supply this or the other arguments.

Details

You can supply either upload_object generated via function or ga_custom_upload_file, or make an

Value

An object of class ga_custom_data_source_upload

See Also

Other custom datasource functions: ga_custom_datasource(), ga_custom_upload_delete(), ga_custom_upload_file(), ga_custom_upload_list()

Examples

```
## Not run:

upload_me <- data.frame(medium = "shinyapps",
                        source = "referral",
                        adCost = 1,
                        date = "20160801")

obj <- ga_custom_upload_file(47850439,
                             "UA-4748043-2",
                             "_jDsJHSFSU-uw038Bh8fUg",
                             upload_me)

## obj will initially have status = PENDING
obj
==Google Analytics Custom Data Source Upload==
Custom Data Source ID:  _jDsJHSFSU-uw038Bh8fUg
Account ID:             47850439
Web Property Id:        UA-4748043-2
Upload ID:              7yHLAkeLSiK1zveVTiWZwA
Status:                 PENDING

## Send obj to ga_custom_upload() to check and renew status
obj <- ga_custom_upload(upload_object = obj)
obj

==Google Analytics Custom Data Source Upload==
Custom Data Source ID:  _jDsJHSFSU-uw038Bh8fUg
Account ID:             47850439
Web Property Id:        UA-4748043-2
Upload ID:              7yHLAkeLSiK1zveVTiWZwA
Status:                 COMPLETED


## End(Not run)
```

`ga_custom_upload_delete` *Deletes custom upload files for a given ids vector*

Description

Deletes custom upload files for a given ids vector

Usage

```
ga_custom_upload_delete(
  accountId,
  webPropertyId,
  customDataSourceId,
  customDataImportUids
)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`customDataSourceId`	Custom data source Id
`customDataImportUids`	vector of file upload ids.

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/management/uploads/deleteUploadData

Other custom datasource functions: `ga_custom_datasource()`, `ga_custom_upload_file()`, `ga_custom_upload_list()`, `ga_custom_upload()`

`ga_custom_upload_file` *Upload data to Google Analytics*

Description

Upload external data up to 1GB to Google Analytics via the management API.

Usage

```
ga_custom_upload_file(accountId, webPropertyId, customDataSourceId, upload)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
customDataSourceId	Custom data source Id
upload	An R data.frame or a file path location (character)

Details

You need to create a custom data source in the web UI first.

If you are uploading an R data frame, the function will prefix the column names with "ga:" for you if necessary.

After upload check the status by querying data sources using ga_custom_upload and examining the status field.

Currently only supports simple uploads (not resumable).

Value

An object of class ga_custom_data_source_upload

See Also

A guide for preparing the data is available: from Google here.

The dev guide for this function: Data Import Developer Guide

Other custom datasource functions: ga_custom_datasource(), ga_custom_upload_delete(), ga_custom_upload_list(), ga_custom_upload()

Examples

```
## Not run:

upload_me <- data.frame(medium = "shinyapps",
                        source = "referral",
                        adCost = 1,
                        date = "20160801")

obj <- ga_custom_upload_file(47850439,
                             "UA-4748043-2",
                             "_jDsJHSFSU-uw038Bh8fUg",
                             upload_me)

## obj will initially have status = PENDING
obj
==Google Analytics Custom Data Source Upload==
Custom Data Source ID:  _jDsJHSFSU-uw038Bh8fUg
Account ID:             47850439
Web Property Id:        UA-4748043-2
```

```
Upload ID:              7yHLAkeLSiK1zveVTiWZwA
Status:                 PENDING

## Send obj to ga_custom_upload() to check and renew status
obj <- ga_custom_upload(upload_object = obj)
obj

==Google Analytics Custom Data Source Upload==
Custom Data Source ID:  _jDsJHSFSU-uw038Bh8fUg
Account ID:             47850439
Web Property Id:        UA-4748043-2
Upload ID:              7yHLAkeLSiK1zveVTiWZwA
Status:                 COMPLETED


## End(Not run)
```

`ga_custom_upload_list` *List Custom Data Source Uploads*

Description

List Custom Data Source Uploads

Usage

```
ga_custom_upload_list(accountId, webPropertyId, customDataSourceId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`customDataSourceId`	Custom data source Id

Value

Custom Data Source Uploads List

See Also

Other custom datasource functions: `ga_custom_datasource()`, `ga_custom_upload_delete()`, `ga_custom_upload_file()`, `ga_custom_upload()`

ga_custom_vars *Get Custom Dimensions or Metrics*

Description

Get Custom Dimensions or Metrics

Usage

```
ga_custom_vars(
  accountId,
  webPropertyId,
  type = c("customMetrics", "customDimensions"),
  customId
)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
type	A customMetric or customDimension
customId	The customMetricId or customDimensionId

Value

Custom Metric or Dimension meta data

See Also

Other custom variable functions: ga_custom_vars_create(), ga_custom_vars_list(), ga_custom_vars_patch()

ga_custom_vars_create *Create a custom dimension*

Description

Create a dimension by specifying its attributes.

Usage

```
ga_custom_vars_create(
  name,
  index,
  accountId,
  webPropertyId,
  active,
  scope = c("HIT", "SESSION", "USER", "PRODUCT")
)
```

Arguments

name	Name of custom dimension
index	Index of custom dimension - integer between 1 and 20 (200 for GA360)
accountId	AccountId of the custom dimension
webPropertyId	WebPropertyId of the custom dimension
active	TRUE or FALSE if custom dimension is active or not
scope	Scope of custom dimension - one of "HIT","SESSION","USER","PRODUCT"

See Also

Custom dimensions support article

Other custom variable functions: ga_custom_vars_list(), ga_custom_vars_patch(), ga_custom_vars()

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()

# create custom var
ga_custom_vars_create("my_custom_dim",
                      index = 15,
                      accountId = 54019251,
                      webPropertyId = "UA-54019251-4",
                      scope = "HIT",
                      active = FALSE)

# view custom dimension in list
ga_custom_vars_list(54019251, webPropertyId = "UA-54019251-4", type = "customDimensions")


## End(Not run)
```

`ga_custom_vars_list` *List Custom Dimensions or Metrics*

Description

List Custom Dimensions or Metrics

Usage

```
ga_custom_vars_list(
  accountId,
  webPropertyId,
  type = c("customDimensions", "customMetrics")
)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`type`	A customMetric or customDimension

Details

This function lists all the existing custom dimensions or metrics for the web property.

Value

Custom Metric or Dimension List

See Also

Other custom variable functions: `ga_custom_vars_create()`, `ga_custom_vars_patch()`, `ga_custom_vars()`

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()

ga_custom_vars_list(54019251, webPropertyId = "UA-54019251-4", type = "customDimensions")

ga_custom_vars_list(54019251, webPropertyId = "UA-54019251-4", type = "customMetrics")


## End(Not run)
```

`ga_custom_vars_patch` *Modify a custom dimension*

Description

Modify existing custom dimensions

Usage

```
ga_custom_vars_patch(
  id,
  accountId,
  webPropertyId,
  name = NULL,
  active = NULL,
  scope = NULL,
  ignoreCustomDataSourceLinks = FALSE
)
```

Arguments

`id`	The id of the custom dimension
`accountId`	AccountId of the custom dimension
`webPropertyId`	WebPropertyId of the custom dimension
`name`	Name of custom dimension
`active`	`TRUE` or `FALSE` if custom dimension is active or not
`scope`	Scope of custom dimension - one of `"HIT"`, `"SESSION"`, `"USER"`, `"PRODUCT"`
`ignoreCustomDataSourceLinks`	Force the update and ignore any warnings related to the custom dimension being linked to a custom data source / data set.

See Also

Custom dimensions support article

Other custom variable functions: `ga_custom_vars_create()`, `ga_custom_vars_list()`, `ga_custom_vars()`

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()

# create custom var
ga_custom_vars_create("my_custom_dim",
                      index = 7,
```

```
                      accountId = 54019251,
                      webPropertyId = "UA-54019251-4",
                      scope = "HIT",
                      active = FALSE)

# view custom dimension in list
ga_custom_vars_list(54019251, webPropertyId = "UA-54019251-4", type = "customDimensions")

# change a custom dimension
ga_custom_vars_patch("ga:dimension7",
                     accountId = 54019251,
                     webPropertyId = "UA-54019251-4",
                     name = "my_custom_dim2",
                     active = TRUE)

# view custom dimensions again to see change
ga_custom_vars_list(54019251, webPropertyId = "UA-54019251-4", type = "customDimensions")


## End(Not run)
```

---

ga_data *Google Analytics Data for GA4 (App+Web)*

Description

[Experimental]

Fetches Google Analytics from the Data API for Google Analytics 4 (Previously App+Web)

Usage

```
ga_data(
  propertyId,
  metrics,
  date_range = NULL,
  dimensions = NULL,
  dim_filters = NULL,
  dimensionDelimiter = "/",
  met_filters = NULL,
  orderBys = NULL,
  limit = 100,
  page_size = 100000L,
  realtime = FALSE,
  metricAggregations = NULL,
  raw_json = NULL
)
```

Arguments

propertyId	A GA4 property Id
metrics	The metrics to request - see ga_meta - set to NULL to only see dimensions
date_range	A vector with start and end dates in YYYY-MM-DD format - can send in up to four date ranges at once
dimensions	The dimensions to request - see ga_meta
dim_filters	Filter on the dimensions of the request - a filter object created by ga_data_filter
dimensionDelimiter	If combining dimensions in one column, the delimiter for the value field
met_filters	Filter on the metrics of the request - a filter object created by ga_data_filter
orderBys	How to order the response - an order object created by ga_data_order
limit	The number of rows to return - use -1 to return all rows
page_size	The size of API pages - default is 100000L rows
realtime	If TRUE then will call the real-time reports, that have a more limited set of dimensions/metrics - see valid real-time dimensions
metricAggregations	Default NULL, pass in character vector of one or multiple of c("TOTAL","MAXIMUM","MINIMUM","COUNT to return extra metadata
raw_json	You can send in the raw JSON string for a Data API request which will skip all checks

Details

This is the main function to call the Google Analytics 4 Data API.

Value

A data.frame tibble, including attributes metadata, metricAggregations and rowCount. Use ga_data_aggregations to extract the data.frames of metricAggregations

See Also

Documentation on Data API

Other GA4 functions: `ga_data_filter()`, `ga_data_order()`

Examples

```
## Not run:

# send up to 4 date ranges
multi_date <- ga_data(
  206670707,
  metrics = c("activeUsers","sessions"),
  dimensions = c("date","city","dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27", "2020-04-30", "2020-05-27"),
```

```
  dim_filters = ga_data_filter("city"=="Copenhagen"),
  limit = 100
  )


# metric and dimension expressions

# create your own named metrics
met_expression <- ga_data(
  206670707,
  metrics = c("activeUsers","sessions",sessionsPerUser = "sessions/activeUsers"),
  dimensions = c("date","city","dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27"),
  limit = 100
  )

# create your own aggregation dimensions
dim_expression <- ga_data(
  206670707,
  metrics = c("activeUsers","sessions"),
  dimensions = c("date","city","dayOfWeek", cdow = "city/dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27"),
  limit = 100
  )

# run a real-time report (no date dimension allowed)
# includes metricAggregation metadata
realtime <- ga_data(
  206670707,
  metrics = "activeUsers",
  dimensions = c("city","unifiedScreenName"),
  limit = 100,
  realtime = TRUE,
  metricAggregations = c("TOTAL","MAXIMUM","MINIMUM"))

# extract meta data from the table
ga_data_aggregations(realtime)

# add ordering
a <- ga_data_order(-sessions)
b <- ga_data_order(-dayOfWeek, type = "NUMERIC")

ga_data(
  206670707,
  metrics = c("activeUsers","sessions"),
  dimensions = c("date","city","dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27"),
  orderBys = c(a, b)
  )

## End(Not run)
```

ga_data_aggregations *Extract metric aggregations from a ga_data result*

Description

[Experimental]

Metric aggregations are available in all requests. This function lets you easily access the data.frames

Usage

```
ga_data_aggregations(
  df,
  type = c("all", "totals", "maximums", "minimums", "count")
)
```

Arguments

df	A data.frame result from ga_data
type	totals, maximums, minimums, counts (if available) or all

Examples

```
## Not run:
#' # send up to 4 date ranges
multi_date <- ga_data(
  206670707,
  metrics = c("activeUsers","sessions"),
  dimensions = c("date","city","dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27", "2020-04-30", "2020-05-27"),
  dim_filters = ga_data_filter("city"=="Copenhagen"),
  limit = 100
  )

# metric aggregations for each date range
ga_data_aggregations(multi_date, type = "all")

# specify type
ga_data_aggregations(multi_date, type = "maximums")


## End(Not run)
```

`ga_data_filter` *Filter DSL for GA4 filters*

Description

Use with ga_data to create filters

Usage

```
ga_data_filter(x)
```

Arguments

x	Filter DSL enabled syntax or the output of a previous call to this function - see examples

Details

This uses a specific filter DSL syntax to create GA4 filters that can be passed to ga_data arguments `dim_filters` or `met_filters`. Ensure that the fields you use are either all metrics or all dimensions.

The syntax uses operators and the class of the value you are setting (string, numeric or logical) to construct the filter expression object.

Fields including custom fields for your propertyId can be imported if you fetch them via `ga_meta("data", propertyId = 12345)` before you construct a filter. If you do not want filters to be validated, then send them in as strings ("field").

The DSL rules are:

- Single filters can be used without wrapping in filter expressions
- A single filter syntax is `(field) (operator) (value)`
- (field) is a dimension or metric for your web property, which you can review via ga_meta
- (field) can be validated if you fetch metadata before you construct the filter. If you do this, you can call the fields without quote strings e.g. `city` and not `"city"`
- (operator) for metrics can be one of: `==, >, >=, <, <=`
- (operator) for dimensions can be one of: `==, \%begins\%, \%ends\%, \%contains\%, \%in\%, \%regex\%, \%rege` for dimensions
- dimension (operator) are by default case sensitive. Make them case insensitive by using UPPER case variations `\%BEGINS\%, \%ENDS\%, ...` or `===` for exact matches
- (value) can be strings (`"dim1"`), numerics (`55`), string vectors (`c("dim1", "dim2")`), numeric vectors (`c(1,2,3)`) or boolean (`TRUE`) - the type will created different types of filters - see examples
- Create filter expressions for multiple filters when using the operators: `&, |, !` for logical combinations of AND, OR and NOT respectively.

Value

A `FilterExpression` object suitable for use in ga_data

See Also

Other GA4 functions: `ga_data_order()`, `ga_data()`

Examples

```
## Not run:
# start by calling ga_meta("data") to put valid field names in your environment
meta <- ga_meta("data")

# if you have custom fields, supply your propertyId to ga_meta()
custom_meta <- ga_meta("data", propertyId = 206670707)
custom_meta[grepl("^customEvent", custom_meta$apiName),]

## End(Not run)
## filter clauses
# OR string filter
ga_data_filter(city=="Copenhagen" | city == "London")
# inlist string filter
ga_data_filter(city==c("Copenhagen","London"))
# AND string filters
ga_data_filter(city=="Copenhagen" & dayOfWeek == "5")
# ! - invert string filter
ga_data_filter(!(city=="Copenhagen" | city == "London"))

# multiple filter clauses
f1 <- ga_data_filter(city==c("Copenhagen","London","Paris","New York") &
               (dayOfWeek=="5" | dayOfWeek=="6"))

# build up complicated filters
f2 <- ga_data_filter(f1 | sessionSource=="google")
f3 <- ga_data_filter(f2 & !sessionMedium=="cpc")
f3

## numeric filter types
# numeric equal filter
ga_data_filter(sessions==5)
# between numeric filter
ga_data_filter(sessions==c(5,6))
# greater than numeric
ga_data_filter(sessions > 0)
# greater than or equal
ga_data_filter(sessions >= 1)
# less than numeric
ga_data_filter(sessions < 100)
# less than or equal numeric
ga_data_filter(sessions <= 100)
```

```
## string filter types
# begins with string
ga_data_filter(city %begins% "Cope")
# ends with string
ga_data_filter(city %ends% "hagen")
# contains string
ga_data_filter(city %contains% "ope")
# regex (full) string
ga_data_filter(city %regex% "^Cope")
# regex (partial) string
ga_data_filter(city %regex_partial% "ope")

# by default string filters are case sensitive.
# Use UPPERCASE operator to make then case insensitive

# begins with string (case insensitive)
ga_data_filter(city %BEGINS% "cope")
# ends with string (case insensitive)
ga_data_filter(city %ENDS% "Hagen")
# case insensitive exact
ga_data_filter(city %==%"coPENGhagen")

# avoid validation by making fields strings
ga_data_filter("city" %==%"coPENGhagen")
```

`ga_data_order` *Order DSL for GA4 OrderBy*

Description

Use with ga_data to create orderBys

Usage

```
ga_data_order(
  x,
  type = c("ALPHANUMERIC", "CASE_INSENSITIVE_ALPHANUMERIC", "NUMERIC")
)
```

Arguments

`x`	Order DSL enabled syntax
`type`	Order Type

Details

The DSL rules are:

- Fields can be quoted or unquoted. If unquoted they will be validated
- Use + as a prefix to indicate ascending order e.g. `+sessions`
- Use - as a prefix to indicate decreasing order e.g. `-sessions`
- Combine order fields without commas e.g. `+sessions -city`
- Ordering of dimensions can also specify a type of ordering: ALPHANUMERIC, CASE_INSENSITIVE_ALPHANUM NUMERIC

The dimension ordering have these effects:

- ALPHANUMERIC For example, "2" < "A" < "X" < "b" < "z"
- CASE_INSENSITIVE_ALPHANUMERIC Case insensitive alphanumeric sort by lower case Unicode code point. For example, "2" < "A" < "b" < "X" < "z"
- NUMERIC Dimension values are converted to numbers before sorting. For example in NUMERIC sort, "25" < "100", and in ALPHANUMERIC sort, "100" < "25". Non-numeric dimension values all have equal ordering value below all numeric values

Value

A list of `OrderBy` objects suitable for use in ga_data

See Also

https://developers.google.com/analytics/devguides/reporting/data/v1/rest/v1alpha/OrderBy

Other GA4 functions: `ga_data_filter()`, `ga_data()`

Examples

```
# session in descending order
ga_data_order(-sessions)

# city dimension in ascending alphanumeric order
ga_data_order(+city)

# as above plus sessions in descending order
ga_data_order(+city -sessions)

# as above plus activeUsers in ascending order
ga_data_order(+city -sessions +activeUsers)

# dayOfWeek dimension in ascending numeric order
ga_data_order(+dayOfWeek, type = "NUMERIC")
```

```
# you can also combine them with c()
a <- ga_data_order(-sessions)
b <- ga_data_order(-dayOfWeek, type = "NUMERIC")
c(a, b)

## Not run:
# example of use
ga_data(
  206670707,
  metrics = c("activeUsers","sessions"),
  dimensions = c("date","city","dayOfWeek"),
  date_range = c("2020-03-31", "2020-04-27"),
  orderBys = ga_data_order(-sessions -dayOfWeek)
  )



## End(Not run)
```

---

ga_experiment *Experiments Meta data*

Description

Experiments Meta data

Usage

```
ga_experiment(accountId, webPropertyId, profileId, experimentId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile Id
experimentId	Experiment Id

Value

Experiment Meta Data

See Also

Other managementAPI functions: ga_experiment_list(), ga_filter_add(), ga_filter_apply_to_view(), ga_filter_update_filter_link(), ga_filter_update(), ga_segment_list()

ga_experiment_list *List Experiments*

Description

List Experiments

Usage

```
ga_experiment_list(accountId, webPropertyId, profileId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile Id

Value

Experiments List

See Also

Other managementAPI functions: ga_experiment(), ga_filter_add(), ga_filter_apply_to_view(), ga_filter_update_filter_link(), ga_filter_update(), ga_segment_list()

ga_filter *Get specific filter for account*

Description

Get specific filter for account

Usage

```
ga_filter(accountId, filterId)
```

Arguments

accountId	Account Id
filterId	Filter Id

Value

filter list

See Also

Other filter management functions: ga_filter_delete(), ga_filter_list(), ga_filter_view_list(), ga_filter_view()

`ga_filter_add` *Create a new filter and add it to the view (optional).*

Description

Take a filter object and add and/or apply it so its live.

Usage

```
ga_filter_add(
  Filter,
  accountId,
  webPropertyId = NULL,
  viewId = NULL,
  linkFilter = FALSE
)
```

Arguments

`Filter`	The Filter object to be added to the account or view. See examples.
`accountId`	Account Id of the account to add the Filter to
`webPropertyId`	Property Id of the property to add the Filter to
`viewId`	View Id of the view to add the Filter to
`linkFilter`	If TRUE will apply the Filter to the view. Needs propetyId and viewId to be set.

Details

If you don't set `linkFilter=TRUE` then the filter will only be created but not applied. You will find it listed in the admin panel Account > All Filters. You can then use ga_filter_apply_to_view to apply later on.

Value

The filterId created if `linkFilter=FALSE` or a Filter object if `linkFilter=TRUE`

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/#Filters

Other managementAPI functions: ga_experiment_list(), ga_experiment(), ga_filter_apply_to_view(), ga_filter_update_filter_link(), ga_filter_update(), ga_segment_list()

Examples

```
## Not run:
## Create a filter object for adding an IP exclusion:
Filter <- list(
               name = 'Exclude Internal Traffic',
               type = 'EXCLUDE',
               excludeDetails = list(
                   field = 'GEO_IP_ADDRESS',
                   matchType = 'EQUAL',
                   expressionValue = '199.04.123.1',
                   caseSensitive = 'False'
                                   )
              )

# create and add the filter to the view specified
my_filter <- ga_filter_add(Filter,
                           accountId = 12345,
                           webPropertyId = "UA-12345-1",
                           viewId = 654321,
                           linkFilter = TRUE)

# only create the filter, don't apply it to any view - returns filterId for use later
my_filter <- ga_filter_add(Filter,
                           accountId = 12345,
                           linkFilter = FALSE)

## Other examples of filters you can create below:
## Create a filter object for making campaign medium lowercase
Filter <- list(
               name = 'Lowercase Campaign Medium',
               type = 'LOWERCASE',
               lowercaseDetails = list(
                   field = 'CAMPAIGN_MEDIUM'
                                   )
              )

## Create a filter object to append hostname to URI
Filter <- list(
               name = 'Append hostname to URI',
               type = 'ADVANCED',
               advancedDetails = list(
                   fieldA = 'PAGE_HOSTNAME',
                   extractA = '(.*)',
                   fieldARequired = 'True',
                   fieldB = 'PAGE_REQUEST_URI',
                   extractB = '(.*)',
                   fieldBRequired = 'False',
                   outputConstructor = '$A1$B1',
                   outputToField = 'PAGE_REQUEST_URI',
                   caseSensitive = 'False',
                   overrideOutputField = 'True'
```

```
                                    )
                )

    ## Create a filter object to add www hostname without it
    Filter <- list(
                   name = 'Search and Replace www',
                   type = 'SEARCH_AND_REPLACE',
                   searchAndReplaceDetails = list(
                       field = 'PAGE_HOSTNAME',
                       searchString = '^exampleUSA\\.com$',
                       replaceString = 'www.exampleUSA.com',
                       caseSensitive = 'False'
                                    )
                )


    ## End(Not run)
```

`ga_filter_apply_to_view` *Apply an existing filter to view.*

Description

Apply an existing filter to view.

Usage

```
ga_filter_apply_to_view(filterId, accountId, webPropertyId, viewId)
```

Arguments

`filterId`	The id of the filter to be added to profile/view
`accountId`	Account Id of the account that contains the filter
`webPropertyId`	Web property Id to create profile filter link for
`viewId`	Profile/view Id to create profile filter link for

Value

A profileFilterLink object

See Also

Other managementAPI functions: `ga_experiment_list()`, `ga_experiment()`, `ga_filter_add()`, `ga_filter_update_filter_link()`, `ga_filter_update()`, `ga_segment_list()`

ga_filter_delete *Delete a filter from account or remove from view.*

Description

Delete a filter from account or remove from view.

Usage

```
ga_filter_delete(
  accountId,
  webPropertyId = NULL,
  viewId = NULL,
  filterId,
  removeFromView = FALSE
)
```

Arguments

accountId	Account Id of the account that contains the filter
webPropertyId	Property Id of the property that contains the filter
viewId	View Id of the view that contains the filter
filterId	Filter Id of the filter to be deleted
removeFromView	Default if FALSE. If TRUE, deletes the filter from the view

Value

TRUE if successful

See Also

Other filter management functions: ga_filter_list(), ga_filter_view_list(), ga_filter_view(), ga_filter()

ga_filter_list *List filters for account*

Description

List filters for account

Usage

```
ga_filter_list(accountId)
```

Arguments

accountId	Account Id

Value

filter list

See Also

Other filter management functions: ga_filter_delete(), ga_filter_view_list(), ga_filter_view(), ga_filter()

---

ga_filter_update *Updates an existing filter.*

Description

Updates an existing filter.

Usage

```
ga_filter_update(Filter, accountId, filterId, method = c("PUT", "PATCH"))
```

Arguments

Filter	The Filter object to be updated See examples from ga_filter_add()
accountId	Account Id of the account that contains the filter
filterId	The id of the filter to be modified
method	PUT by default. For patch semantics use PATCH

Value

A filterManagement object

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/#Filters

Other managementAPI functions: ga_experiment_list(), ga_experiment(), ga_filter_add(), ga_filter_apply_to_view(), ga_filter_update_filter_link(), ga_segment_list()

Examples

```
## Not run:

# create a filter object
Filter <- list(
    name = 'googleAnalyticsR test1: Exclude Internal Traffic',
    type = 'EXCLUDE',
    excludeDetails = list(
                      field = 'GEO_IP_ADDRESS',
                      matchType = 'EQUAL',
                      expressionValue = '199.04.123.1',
                      caseSensitive = 'False'
                      )
                  )
 # add a filter (but don't link to a View)
 filterId <- ga_filter_add(Filter,
                           accountId = 123456,
                           linkFilter = FALSE)

 # change the name of the filter
 change_name <- "googleAnalyticsR test2: Changed name via PATCH"

 # using PATCH semantics, only need to construct what you want to change
 filter_to_update <- list(name = test_name)

 # update the filter using the filterId
 ga_filter_update(filter_to_update, accountId2, filterId, method = "PATCH")


## End(Not run)
```

`ga_filter_update_filter_link` *Update an existing profile filter link. Patch semantics supported*

Description

Update an existing profile filter link. Patch semantics supported

Usage

```
ga_filter_update_filter_link(
  viewFilterLink,
  accountId,
  webPropertyId,
  viewId,
  linkId,
```

```
  method = c("PUT", "PATCH")
)
```

Arguments

viewFilterLink	The profileFilterLink object
accountId	Account Id of the account that contains the filter
webPropertyId	Web property Id to which the profile filter link belongs
viewId	View Id to which the profile filter link belongs
linkId	The id of the profile filter link to be updated
method	PUT by default. Supports patch semantics when set to PATCH

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/management/profileFilterLinks

Other managementAPI functions: ga_experiment_list(), ga_experiment(), ga_filter_add(), ga_filter_apply_to_view(), ga_filter_update(), ga_segment_list()

Examples

```
## Not run:

# create a filter object
Filter <- list(
 name = 'googleAnalyticsR test: Exclude Internal Traffic',
 type = 'EXCLUDE',
 excludeDetails = list(
   field = 'GEO_IP_ADDRESS',
   matchType = 'EQUAL',
   expressionValue = '199.04.123.1',
   caseSensitive = 'False'
   )
 )

 # link Filter to a View
 response <- ga_filter_add(Filter,
                           accountId = 12345,
                           webPropertyId = "UA-12345-1",
                           viewId = 654321,
                           linkFilter = TRUE)

# create Filter patch to move existing filter up to rank 1
viewFilterLink <- list(rank = 1)

# use the linkId given in response$id to update to new rank 1
response2 <- ga_filter_update_filter_link(viewFilterLink,
                                          accountId = 12345,
                                          webPropertyId = "UA-12345-1",
```

```
                                        viewId = 654321,
                                        linkId = response$id)


## End(Not run)
```

`ga_filter_view` *Get specific filter for view (profile)*

Description

Get specific filter for view (profile)

Usage

```
ga_filter_view(accountId, webPropertyId, viewId, linkId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`viewId`	Profile Id
`linkId`	Link Id

Value

filter list

See Also

Other filter management functions: `ga_filter_delete()`, `ga_filter_list()`, `ga_filter_view_list()`, `ga_filter()`

`ga_filter_view_list` *List filters for view (profile)*

Description

List filters for view (profile)

Usage

```
ga_filter_view_list(accountId, webPropertyId, viewId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
viewId	Profile Id

Value

filter list

See Also

Other filter management functions: ga_filter_delete(), ga_filter_list(), ga_filter_view(), ga_filter()

---

ga_goal *Get goal*

Description

Get goal

Usage

```
ga_goal(accountId, webPropertyId, profileId, goalId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile Id
goalId	Goal Id

Value

Goal meta data

See Also

Other goal management functions: ga_goal_add(), ga_goal_list(), ga_goal_update()

ga_goal_add *Create a new goal.*

Description

Create a new goal.

Usage

```
ga_goal_add(Goal, accountId, webPropertyId, viewId)
```

Arguments

Goal	The Goal object to be added to the view. See examples.
accountId	Account Id of the account to add the Goal to
webPropertyId	Property Id of the property to add the Goal to
viewId	View Id of the view to add the Goal to

Value

The Goal object

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/#Goals

Other goal management functions: ga_goal_list(), ga_goal_update(), ga_goal()

Examples

```
## Not run:

## Create a Goal object based on destination:
Goal <- list(
  id = '17',
  active = TRUE,
  name = 'Checkout',
  type = 'URL_DESTINATION',
  urlDestinationDetails = list(
    url = '\\/checkout\\/thank_you',
    matchType = 'REGEX',
    caseSensitive = FALSE,
    firstStepRequired = FALSE,
    steps = list(
      list(
        number = 1,
        name = 'Product',
        url = '\\/products\\/'
```

```
      ),
      list(
        number = 2,
        name = 'Cart',
        url = '\\/cart'
      ),
      list(
        number = 3,
        name = 'Contact',
        url = '\\/checkout\\/contact_information'
      ),
      list(
        number = 4,
        name = 'Shipping',
        url = '\\/checkout\\/shipping'
      ),
      list(
        number = 5,
        name = 'Payment',
        url = '\\/checkout\\/payment'
      ),
      list(
        number = 6,
        name = 'Processing',
        url = '\\/checkout\\/processing'
      )
    )
  )
)

## Create a Goal object based on an event:
Goal <- list(
  id = '9',
  active = TRUE,
  name = 'PDF Download',
  type = 'EVENT',
  eventDetails = list(
    useEventValue = TRUE,
    eventConditions = list(
      list(
        type = 'CATEGORY',
        matchType = 'EXACT',
        expression = 'PDF Download'
        ),
      list(
        type = 'LABEL',
        matchType = 'EXACT',
        expression = 'January brochure'
        )
      )
    )
  )
```

```
## Create a Goal object based on a number of pages visitied in a session:
Goal <- list(
  id = '10',
  active = TRUE,
  name = 'Visited more than 3 pages',
  type = 'VISIT_NUM_PAGES',
  visitNumPagesDetails = list(
    comparisonType = 'GREATER_THAN',
    comparisonValue = 3
  )
)

## Create a Goal object based on the number of seconds spent on the site
Goal <- list(
  id = '11',
  active = TRUE,
  name = 'Stayed for more than 2 minutes',
  type = 'VISIT_TIME_ON_SITE',
  visitTimeOnSiteDetails = list(
    comparisonType = 'GREATER_THAN',
    comparisonValue = 120
  )
)

## End(Not run)
```

`ga_goal_list` *List goals*

Description

List goals

Usage

```
ga_goal_list(accountId, webPropertyId, profileId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`profileId`	Profile Id

Value

Goal list

See Also

Other goal management functions: ga_goal_add(), ga_goal_update(), ga_goal()

---

ga_goal_update *Updates an existing goal.*

Description

Updates an existing goal.

Usage

```
ga_goal_update(
  Goal,
  accountId,
  webPropertyId,
  viewId,
  goalId,
  method = c("PUT", "PATCH")
)
```

Arguments

Goal	The Goal object to be updated See examples from ga_goal_add()
accountId	Account Id of the account in which to modify the Goal
webPropertyId	Property Id of the property in which to modify the Goal
viewId	View Id of the view in which to modify the Goal
goalId	The id of the goal to be modified
method	PUT by default. For patch semantics use PATCH

Value

A goalManagement object

See Also

https://developers.google.com/analytics/devguides/config/mgmt/v3/mgmtReference/#Goals

Other goal management functions: ga_goal_add(), ga_goal_list(), ga_goal()

Examples

```
## Not run:

# Change the goal 11 to visits over 3 minutes
Goal <- list(
  active = TRUE,
  name = 'Stayed for more than 3 minutes',
  type = 'VISIT_TIME_ON_SITE',
  visitTimeOnSiteDetails = list(
    comparisonType = 'GREATER_THAN',
    comparisonValue = 180
  )
)
ga_goal_update(Goal, accountId, propertyId, viewId, 11)

# Change destination url for goal 17
Goal <- list(
    urlDestinationDetails = list(
      url = '\\/checkout\\/success'
    )
  )

# Only the fields we're changing required because we're using PATCH method
ga_goal_update(Goal, accountId, propertyId, viewId, 17, method = "PATCH")


## End(Not run)
```

---

ga_meta *Get current dimensions and metrics available in GA API.*

Description

Get current dimensions and metrics available in GA API.

Usage

```
ga_meta(
  version = c("universal", "data"),
  propertyId = NULL,
  cached = TRUE,
  no_api = FALSE
)
```

Arguments

version	The Google Analytics API metadata to fetch - "universal" for Universal and earlier versions, "data" for Google Analytics 4
propertyId	If requesting from Google Analytics 4, pass the propertyId to get metadata specific to that property. Leaving it NULL or 0 will return universal metadata
cached	Whether to use a cached version or to use the API to fetch the results again
no_api	Don't call the API, just return `googleAnalyticsR::meta4`

Value

dataframe of dimensions and metrics available to use

See Also

https://developers.google.com/analytics/devguides/reporting/metadata/v3/reference/metadata/columns/list, https://developers.google.com/analytics/devguides/reporting/data/v1/rest/v1alpha/properties/getMetadata

Examples

```
## Not run:

# universal analytics
ga_meta()

# Google Analytics 4 metadata from the Data API
ga_meta("data")

# Google Analytics 4 metadata for a particular Web Property
ga_meta("data", propertyId = 206670707)


## End(Not run)
```

---

ga_model *Use a model*

Description

Use a model created by ga_model_make

Usage

```
ga_model(viewId, model, load_libs = TRUE, ...)
```

Arguments

viewId	The GA viewId to operate on
model	A file location of a model object or a model object created by ga_model_make
load_libs	Whether to load the library requirements into your namespace
...	Other arguments to pass into the model as needed

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_shiny(), ga_model_write()

Examples

```
# models that come with the package
ga_model_example()
## Not run:

# your own Google Analytics viewID
my_viewid <- 81416156

# load the model (equivalent to ga_model_load())
decomp_ga <- ga_model_example("decomp_ga.gamr")

# apply model to your data
d1 <- ga_model(my_viewid, model = decomp_ga)

# change default date range to 20 days ago to yesterday
d2 <- ga_model(my_viewid, model = decomp_ga,
               date_range = c("20daysAgo","yesterday"))



## End(Not run)
```

---

ga_model_edit *Edit a created ga_model*

Description

Change features of a model by changing the functions within it.

Usage

```
ga_model_edit(
  model,
  data_f = NULL,
  required_columns = NULL,
  model_f = NULL,
  required_packages = NULL,
  description = NULL,
  outputShiny = shiny::plotOutput,
  renderShiny = shiny::renderPlot,
  inputShiny = NULL,
  output_f = NULL
)
```

Arguments

model	The model to edit - if a filepath will load model and save back edited model to the same file
data_f	A function that gets the data
required_columns	What dimensions and metrics are required
model_f	A function that inputs data, and outputs a list of assets - must take data from result of data_f in first argument
required_packages	The packages needed for data_f and model_f to work
description	An optional description of what the model does
outputShiny	A shiny UI output function that will display the results renderShiny
renderShiny	A shiny render function that will create the output for outputShiny from output_f
inputShiny	Optional input shiny functions (like dateInput()) that will be used within the model's Shiny module. The id should be exactly the same as one of the variables in the model functions.
output_f	A function that inputs the output from model_f, outputs a visualisation

See Also

Other GA modelling functions: ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_shiny(), ga_model_write(), ga_model()

Examples

```
## Not run:

decomp_ga <- ga_model_example("decomp_ga.gamr")
decomp_ga
```

```
# edit its description
ga_model_edit(decomp_ga, description = "Changed")


## End(Not run)
```

`ga_model_example` *Load an example model*

Description

Load an example model

Usage

```
ga_model_example(name = "list")
```

Arguments

`name`	name of the model - set to "list" to show available files

See Also

Other GA modelling functions: `ga_model_edit()`, `ga_model_load()`, `ga_model_make()`, `ga_model_save()`, `ga_model_shiny_load()`, `ga_model_shiny_template()`, `ga_model_shiny()`, `ga_model_write()`, `ga_model()`

Examples

```
# example .gamr files included with the package
ga_model_example()

# load one example
ga_model_example("ga4-trend.gamr")
```

`ga_model_load` *Load a created model*

Description

Load a created model

Usage

```
ga_model_load(filename = "my-model.gamr")
```

Arguments

filename	name to load model from

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_shiny(), ga_model_write(), ga_model()

Examples

```
# models used in ga_model_example() are here:
location <- system.file("models","examples","decomp_ga.gamr",
                        package = "googleAnalyticsR")

ga_model_load(location)
```

---

ga_model_make *Modelling function factory for Google Analytics data*

Description

Create ga_model objects for easy application of models to data

Usage

```
ga_model_make(
  data_f,
  required_columns,
  model_f,
  output_f = function(df, ...) {
     plot(df)
 },
  required_packages = NULL,
  description = NULL,
  outputShiny = shiny::plotOutput,
  renderShiny = shiny::renderPlot,
  inputShiny = shiny::tagList()
)
```

Arguments

data_f	A function that gets the data
required_columns	What dimensions and metrics are required

model_f	A function that inputs data, and outputs a list of assets - must take data from result of data_f in first argument
output_f	A function that inputs the output from model_f, outputs a visualisation
required_packages	The packages needed for data_f and model_f to work
description	An optional description of what the model does
outputShiny	A shiny UI output function that will display the results renderShiny
renderShiny	A shiny render function that will create the output for outputShiny from output_f
inputShiny	Optional input shiny functions (like dateInput()) that will be used within the model's Shiny module. The id should be exactly the same as one of the variables in the model functions.

Details

The passed functions should all have ... to make them flexible in what arguments can be added. Do not have the same argument names in both functions. The data_f function result will feed to model_f

Value

A ga_model object to pass to ga_model

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_shiny(), ga_model_write(), ga_model()

Examples

```
## Not run:

 get_model_data <- function(viewId,
                            date_range = c(Sys.Date()- 300, Sys.Date()),
                            ...){
   google_analytics(viewId,
                    date_range = date_range,
                    metrics = "sessions",
                    dimensions = "date",
                    max = -1)
 }

 decompose_sessions <- function(df, ...){
   decompose(ts(df$sessions, frequency = 7))
 }

 decomp_ga <- ga_model_make(get_model_data,
                            required_columns = c("date", "sessions"),
```

```
                            model_f = decompose_sessions,
                            description = "Performs decomposition and creates plot")

# fetches data and outputs decomposition
ga_model(81416156, decomp_ga)

# save the model for later
model_location <- "decomp_ga.gamr"
ga_model_save(decomp_ga, filename = model_location)

# can load model from file
ga_model(81416156, model_location)

# or load model to an object and use
model2 <- ga_model_load(model_location)

ga_model(81416156, model2)

# for shiny include functions for the UI and server rendering
decomp_ga <- ga_model_make(get_model_data,
                            required_columns = c("date", "sessions"),
                            model_f = decompose_sessions,
                            output_f = function(df, ...){graphics::plot(df)},
                            description = "Performs decomposition and creates a plot",
                            outputShiny = shiny::plotOutput,
                            renderShiny = shiny::renderPlot)


## End(Not run)
```

`ga_model_refresh` *Refresh a model*

Description

Sometimes necessary if functions were created under differing package versions

Usage

```
ga_model_refresh(model)
```

Arguments

`model`	Model or file location of model .gamr file

Examples

```
## Not run:
```

```
decomp_ga <- ga_model_example("decomp_ga.gamr")
decomp_ga <- ga_model_refresh(decomp_ga)


## End(Not run)
```

`ga_model_save` *Save a created model*

Description

Save a created model

Usage

```
ga_model_save(model, filename = "my-model.gamr")
```

Arguments

`model`	model to save
`filename`	name to save model under

See Also

Other GA modelling functions: `ga_model_edit()`, `ga_model_example()`, `ga_model_load()`, `ga_model_make()`, `ga_model_shiny_load()`, `ga_model_shiny_template()`, `ga_model_shiny()`, `ga_model_write()`, `ga_model()`

Examples

```
## Not run:
# load the model (equivalent to ga_model_load())
decomp_ga <- ga_model_example("decomp_ga.gamr")

# save it somewhere else
ga_model_save(decomp_ga, "somewhereelse.gamr")


## End(Not run)
```

`ga_model_shiny` *Create a Shiny app from a ga_model file*

Description

Create a Shiny app from a ga_model file

Usage

```
ga_model_shiny(
  models,
  template = ga_model_shiny_template("basic"),
  header_boilerplate = TRUE,
  title = "ga_model_shiny",
  auth_dropdown = c("ga4", "universal", "none"),
  web_json = Sys.getenv("GAR_CLIENT_WEB_JSON"),
  date_range = TRUE,
  scopes = "https://www.googleapis.com/auth/analytics.readonly",
  deployed_url = "",
  local_folder = "",
  ...
)
```

Arguments

`models`	The ga_model file location ("my_model.gamr") or a ga_model object - can pass in multiple as a list
`template`	The template Shiny files for the Shiny app - passed to `shiny::runApp()`
`header_boilerplate`	Whether to add header boilerplate to the template
`title`	The title of the Shiny app
`auth_dropdown`	What type of account picker to include
`web_json`	The client.id json file for Web
`date_range`	Most templates support a date_range global input for the data import functions, set this to FALSE to remove it
`scopes`	The scope the API requests will be under
`deployed_url`	If deploying Shiny app to a server, put the URL of the deployed app here so the authentication will redirect to the correct place
`local_folder`	If not empty, will not launch Shiny app but write code to the folder location you put here
`...`	Extra macro variables the template may support: a named list with the name being a template variable

Details

As ga_model objects have standardised code, they can be used to build standard templated Shiny apps. Templates are made using the whisker.render function

Some templates are included with the package, seen via `ga_model_shiny_template("list")`

Templates hold macro variables indicated via `{{ macro_name }}` in the Shiny app template code. See `ga_model_shiny_template("basic_app", TRUE)` for an example showing a minimal viable app. Templates can be files such as ui.R or app.R files; folders containing ui.R, app.R files; or ui.R with html files for advanced themes - see Shiny HTML templates. All additional files that may be in the folder are also copied over (such as global.R or www/ folders)

Templates contain code to allow multi-user login via Google OAuth2.

If your template is pointing at a file such as ui.R or app.R it will create an app.R Shiny object. If your template is pointing at a directory it will check for the presence of ui.R within the folder. In either case if the server.R is missing it will use the boilerplate version from `ga_model_shiny_template("boilerplate")`

By default the Shiny app is launched which in most cases will prompt authorisation for your Google Analytics. You can instead write the app out using `local_folder` to a valid location for deployment later.

Template macro variables

- `{{{ model_libraries }}}`- Adds `library()` calls based on models$required_packages
- `{{{ web_json }}}`- Adds Google OAuth2 client for web applications
- `{{{ scopes }}}`- Adds Google OAuth2 scopes for the API calls
- `{{{ deployed_url }}}`- Adds `option(googleAuthR.redirect)` option for deployed Shiny apps
- `{{{ model_load }}}`- Adds ga_model_load calls loading all models in the list passed to this function's `models` argument. It creates R objects called 'model1', 'model2' etc. in the Shiny app code
- `{{{ model_list }}}`- Adds a list of the model objects after model_load. Useful for creating custom functions in themes that can loop over model objects
- `{{{ shiny_title }}}`- Adds the title to the Shiny app
- `{{{ auth_ui }}}`- Adds the correct dropdown Shiny module for picking a GA4 or Universal Analytics properties
- `{{{ date_range }}}`- Adds a `shiny::dateInput()` date selector with id "date_range" for use in model's data fetching functions
- `{{{ model_ui }}}`- Adds the models UI elements as configured in the ga_model object. It uses the object loaded above via the model_load macro. It looks like `model1$ui('model1')` in the code.
- `{{{ auth_server }}}`- Adds the authentication module's server side function
- `{{{ auth_accounts }}}`- Adds a call to ga_account_list for the appropriate GA account type (GA4 or Universal)
- `{{{ model_server }}}`- Adds the server side module for the models as configured in the ga_model configuration. It uses the object loaded above via the model_load macro. It looks like `model1$server('model1')` in the code.

- {{{ model1 }}}- Alternative to model_load, this will load the model file location instead, which you can pass to ga_model_load() in the template. model1 is the first model passed, model2 the second, etc.
- {{{ your_argument }}}- You can pass in your own custom variables to the template via the ... argument of this function if they are named the same as the template macro variable

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_write(), ga_model()

Examples

```
# see Shiny templates included with the package
ga_model_shiny_template("list")

# see an example of an ui.R template with macros
ga_model_shiny_template("basic/ui.R", read_lines = TRUE)

# see an example of an app.R template with macros
ga_model_shiny_template("basic_app/app.R", read_lines = TRUE)

## Not run:

# a universal analytics model using default template "basic"
ga_model_shiny(
  ga_model_example("decomp_ga.gamr"),
  auth_dropdown = "universal")

# a template from a directory holding an app.R file
ga_model_shiny(
  ga_model_example("decomp_ga.gamr"),
  auth_dropdown = "universal",
  template = ga_model_shiny_template("basic_app"))


# a template from only an ui.R file that will import boilerplate server.R
ga_model_shiny(
  ga_model_example("decomp_ga.gamr"),
  auth_dropdown = "universal",
  template = ga_model_shiny_template("basic/ui.R"))

# a template from a custom html based theme
ga_model_shiny(
  ga_model_example("decomp_ga.gamr"),
  auth_dropdown = "universal",
  template = ga_model_shiny_template("html_based"))

# a template using library(argonDash)
ga_model_shiny(
```

```
  ga_model_example("ga-effect.gamr"),
  title = "Argon Demo",
  auth_dropdown = "universal",
  template = ga_model_shiny_template("argonDash") )

# multiple models
m3 <- ga_model_example("time-normalised.gamr")
m4 <- ga_model_example("ga-effect.gamr")

# launch in gentelella template
ga_model_shiny(list(m4, m3), auth_dropdown = "universal",
              template = ga_model_shiny_template("gentelella"))


# you can make custom ui embedded within the template file
# use {{{ model_list }}} to work with the models in the ui.R

# below adds custom macro 'theme' and a custom ui in box tabs
ga_model_shiny(list(m4, m3), auth_dropdown = "universal",
               template = ga_model_shiny_template("shinythemes"),
               theme = "yeti")

# shinydashboard's custom ui functions put a model in each side tab
ga_model_shiny(list(m4, m3), auth_dropdown = "universal",
               template = ga_model_shiny_template("shinydashboard"),
               skin = "green")

# send in lots of theme variables to bslib in shiny > 1.6.0
ga_model_shiny(list(m4, m3), auth_dropdown = "universal",
               template = ga_model_shiny_template("basic_bslib"),
               bg = "white", fg = "red", primary = "grey")

# write out an app to a local folder
ga_model_shiny(list(m4, m3), auth_dropdown = "universal",
               template = ga_model_shiny_template("basic_bslib"),
               bg = "white", fg = "red", primary = "grey",
               local_folder = "deploy_shiny")

## End(Not run)
```

`ga_model_shiny_load` *Load one model into a Shiny template*

Description

Load one model into a Shiny template

Usage

```
ga_model_shiny_load(model_n, ...)
```

Arguments

model_n	The templated name of a model e.g. 'model1'
...	Other arguments passed from shiny server

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_template(), ga_model_shiny(), ga_model_write(), ga_model()

---

ga_model_shiny_template

Get a Shiny template file

Description

Gets a pre-created template from the googleAnalyticsR samples

Usage

```
ga_model_shiny_template(name = "list", read_lines = FALSE)
```

Arguments

name	the template name
read_lines	If TRUE will use readLines() to print out the template contents

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny(), ga_model_write(), ga_model()

ga_model_write *Write the ga_model functions to a file*

Description

Write the ga_model functions to a file

Usage

```
ga_model_write(model, filepath = "ga_model.R")
```

Arguments

model	The ga_model object to extract functions from to write, or a filepath to a model
filepath	The filepath to write the functions to

See Also

Other GA modelling functions: ga_model_edit(), ga_model_example(), ga_model_load(), ga_model_make(), ga_model_save(), ga_model_shiny_load(), ga_model_shiny_template(), ga_model_shiny(), ga_model()

Examples

```
## Not run:

decomp_ga <- ga_model_example("decomp_ga.gamr")
ga_model_write(decomp_ga, "a_file.R")

## End(Not run)
```

ga_mp_cid *Generate a random client_id*

Description

This has a random number plus a timestamp

Usage

```
ga_mp_cid(seed = NULL)
```

Arguments

seed	If you set a seed, then the random number will be the same for each value

See Also

Other Measurement Protocol functions: ga_mp_event_item(), ga_mp_event(), ga_mp_send()

---

ga_mp_event *Create a Measurement Protocol Event*

Description

[Experimental] This creates an event to send via ga_mp_send

Usage

```
ga_mp_event(name, params = NULL, items = NULL)
```

Arguments

name	The event name to send in
params	Optional event parameters sent in as a named list
items	Optional items created via ga_mp_event_item

See Also

Other Measurement Protocol functions: ga_mp_cid(), ga_mp_event_item(), ga_mp_send()

Examples

```
ga_mp_event("custom_event")
ga_mp_event("custom_event", params = list(my_param = "SUPER"))
```

---

ga_mp_event_item *Create an Measurement Protocol Item Property for an Event*

Description

[Experimental] Some events work with item properties

Usage

```
ga_mp_event_item(
  item_id = NULL,
  item_name = NULL,
  coupon = NULL,
  discount = NULL,
  affiliation = NULL,
  item_brand = NULL,
  item_category = NULL,
  item_variant = NULL,
  price = NULL,
  currency = NULL
)
```

Arguments

item_id	Item ID
item_name	Item Name
coupon	Coupon
discount	Discount
affiliation	Affiliation
item_brand	Brand
item_category	Category
item_variant	Variant
price	Price
currency	Currency

See Also

Other Measurement Protocol functions: ga_mp_cid(), ga_mp_event(), ga_mp_send()

Examples

```
# one item
ga_mp_event_item(item_name = "jeggings",
                 price = 8.88,
                 item_variant = "Black")

# many items in a list
items <- list(
  ga_mp_event_item(item_id = "SKU_12345",
                   price = 9.99,
                   item_brand = "Gucci"),
  ga_mp_event_item(item_name = "jeggings",
                   price = 8.88,
                   item_variant = "Black"))
```

```
# construct an event with its own fields
ga_mp_event("add_payment_info",
            params = list(coupon = "SUMMER_FUN",
                          payment_type = "Credit Card",
                          value = 7.77,
                          currency = "USD"),
            items = items)
```

---

ga_mp_send *Make a Measurement Protocol v2 request*

Description

[Experimental] Create a server side call to Google Analytics 4 via its Measurement Protocol

Use ga_mp_connection to set up the Measurement Protocol connections to pass to ga_mp_send. If using Google Tag Manager Server-Side, you can also set up a custom endpoint.

Usage

```
ga_mp_send(
  events,
  client_id,
  connection,
  user_id = NULL,
  debug_call = FALSE,
  timestamp_micros = NULL,
  user_properties = NULL,
  non_personalized_ads = TRUE
)

ga_mp_connection(
  measurement_id,
  api_secret = Sys.getenv("MP_SECRET"),
  endpoint = NULL,
  preview_header = NULL
)
```

Arguments

events	The events to send
client_id	The client_id to associate with the event
connection	The connection details created by ga_mp_connection
user_id	Optional. Unique id for the user
debug_call	Send hits to the Google debug endpoint to validate hits.
timestamp_micros	Optional. A Unix timestamp (in microseconds) for the time to associate with the event.

`user_properties`
: Optional. The user properties for the measurement sent in as a named list.

`non_personalized_ads`
: Optional. Set to true to indicate these events should not be used for personalized ads.

`measurement_id`
: The measurement ID associated with a stream

`api_secret`
: The secret generated in the GA4 UI - by default will look for environment arg `MP_SECRET`

`endpoint`
: If NULL will use Google default, otherwise set to the URL of your Measurement Protocol custom endpoint

`preview_header`
: Only needed for custom endpoints. The `X-Gtm-Server-Preview` HTTP Header found in your GTM debugger

Details

Create an API secret via `Admin > Data Streams > choose your stream > Measurement Protocol > Create`

To see event parameters, create custom fields in your GA4 account first, to see them in your reports 24hrs after you send them in with this function via `Custom definitions > Create custom dimensions` - `dimension name` will be how it looks like in the reports, `event parameter` will be the parameter you have sent in with the event.

`user_id` can be used for cross-platform analysis

`timestamp_micros` should only be set to record events that happened in the past. This value can be overridden via user_property or event timestamps. Events can be backdated up to 48 hours. Note microseconds, not milliseconds.

`user_properties` - describe segments of your user base, such as language preference or geographic location. See User properties

Ensure you also have user permission as specified in the feature policy

Invalid events are silently rejected with a 204 response, so use `debug_call=TRUE` to validate your events first.

Value

`TRUE` if successful, if `debug_call=TRUE` then validation messages if not a valid hit.

See Also

Measurement Protocol (Google Analytics 4)

Other Measurement Protocol functions: `ga_mp_cid()`, `ga_mp_event_item()`, `ga_mp_event()`

Examples

```
# preferably set this in .Renviron
Sys.setenv(MP_SECRET="MY_SECRET")

# your GA4 settings
my_measurement_id <- "G-1234"
```

```
my_connection <- ga_mp_connection(my_measurement_id)

a_client_id <- 123.456
event <- ga_mp_event("an_event")

## Not run:
#' ga_mp_send(event, a_client_id, my_connection, debug_call = TRUE)

# multiple events at same time in a batch
another <- ga_mp_event("another_event")

ga_mp_send(list(event, another),
           a_client_id,
           my_connection,
           debug_call = TRUE)

# you can see sent events in the real-time reports
my_property_id <- 206670707
ga_data(my_property_id,
        dimensions = "eventName",
        metrics = "eventCount",
        dim_filters = ga_data_filter(
           eventName == c("an_event","another_event")),
        realtime = TRUE)


## End(Not run)

# custom GTM server side endpoint
my_custom_connection <- ga_mp_connection(
   my_measurement_id,
   endpoint = "https://gtm.example.com",
   preview_header = "ZW52LTV8OWdPOExNWFkYjA0Njk4NmQ="
 )
```

`ga_remarketing_build` *Create a remarketing audience for creation*

Description

Create definitions to be used within ga_remarketing_create

Usage

```
ga_remarketing_build(
  segment,
  membershipDurationDays = NULL,
  daysToLookBack = NULL,
```

```
  state_duration = c("TEMPORARY", "PERMANENT")
)
```

Arguments

segment	The definition of the segment (v3 syntax)
membershipDurationDays	Number of days (in the range 1 to 540) a user remains in the audience.
daysToLookBack	The look-back window lets you specify a time frame for evaluating the behavior that qualifies users for your audience.
state_duration	If to be used in a state based audience, whether to make the segment temporary or permanent.

Details

The look-back window lets you specify a time frame for evaluating the behavior that qualifies users for your audience. For example, if your filters include users from Central Asia, and Transactions Greater than 2, and you set the look-back window to 14 days, then any user from Central Asia whose cumulative transactions exceed 2 during the last 14 days is added to the audience.

See Also

Other remarketing management functions: ga_remarketing_create(), ga_remarketing_estimate(), ga_remarketing_get(), ga_remarketing_list()

Examples

```
## Not run:
adword_list <- ga_adwords_list(123456, "UA-123456-1")

adword_link <- ga_adword(adword_list$id[[1]])

segment_list <- ga_segment_list()$items$definition

my_remarketing1 <- ga_remarketing_build(segment_list[[1]],
                    state_duration = "TEMPORARY",
                    membershipDurationDays = 90,
                    daysToLookBack = 14)

my_remarketing2 <- ga_remarketing_build(segment_list[[2]],
                     state_duration = "PERMANENT",
                     membershipDurationDays = 7,
                     daysToLookBack = 31)

# state based only can include exclusions
ga_remarketing_create(adwords_link = adword_link,
                     include = my_remarketing1,
                     exclude = my_remarketing2,
                     audienceType = "STATE_BASED",
                     name = "my_remarketing_seg1")
```

```
## End(Not run)
```

`ga_remarketing_create` *Create a new remarketing audience*

Description

Create a remarketing audiences built via ga_remarketing_build

Usage

```
ga_remarketing_create(
  adwordsLinkId,
  include,
  exclude = NULL,
  audienceType = c("SIMPLE", "STATE_BASED"),
  name = NULL
)
```

Arguments

`adwordsLinkId`	The adwords link to add the remarketing audience to
`include`	A `ga4_remarketing_segment` object to include via ga_remarketing_build
`exclude`	If `audienceType="STATE_BASED"`, a `ga4_remarketing_segment` object to exclude via ga_remarketing_build
`audienceType`	`SIMPLE` or `STATE_BASED`
`name`	An optional name, if not supplied one will be generated

Details

This builds and calls the API to create the remarketing audience based on the segments you have defined.

See Also

Other remarketing management functions: `ga_remarketing_build()`, `ga_remarketing_estimate()`, `ga_remarketing_get()`, `ga_remarketing_list()`

Examples

```
## Not run:
adword_list <- ga_adwords_list(123456, "UA-123456-1")

adword_link <- ga_adword(adword_list$id[[1]])

segment_list <- ga_segment_list()$items$definition

my_remarketing1 <- ga_remarketing_build(segment_list[[1]],
                    state_duration = "TEMPORARY",
                    membershipDurationDays = 90,
                    daysToLookBack = 14)

my_remarketing2 <- ga_remarketing_build(segment_list[[2]],
                     state_duration = "PERMANENT",
                     membershipDurationDays = 7,
                     daysToLookBack = 31)

# state based only can include exclusions
ga_remarketing_create(adwords_link = adword_link,
                      include = my_remarketing1,
                      exclude = my_remarketing2,
                      audienceType = "STATE_BASED",
                      name = "my_remarketing_seg1")


## End(Not run)
```

---

ga_remarketing_estimate

Estimate number of users added to the segment yesterday

Description

Estimate number of users added to the segment yesterday

Usage

```
ga_remarketing_estimate(remarketingAudience)
```

Arguments

`remarketingAudience`

A remarketing audience object from ga_remarketing_get

Takes the segment definition from a remarketing audiences and runs it against the viewId to see current estimated users

The total audience size is this figure for every membershipDurationDay from yesterday

Value

data.frame

See Also

About remarketing audiences

Other remarketing management functions: ga_remarketing_build(), ga_remarketing_create(), ga_remarketing_get(), ga_remarketing_list()

`ga_remarketing_get` *Get a remarketing audience*

Description

Get a remarketing audience

Usage

```
ga_remarketing_get(accountId, webPropertyId, remarketingAudienceId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`remarketingAudienceId`	The ID of the remarketing audience to retrieve.

Value

Remarketing Audience object

See Also

About remarketing audiences

Other remarketing management functions: ga_remarketing_build(), ga_remarketing_create(), ga_remarketing_estimate(), ga_remarketing_list()

ga_remarketing_list *List remarketing audiences*

Description

List remarketing audiences

Usage

```
ga_remarketing_list(accountId, webPropertyId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id

Value

Remarketing audience list

See Also

About remarketing audiences

Other remarketing management functions: ga_remarketing_build(), ga_remarketing_create(), ga_remarketing_estimate(), ga_remarketing_get()

ga_segment_list *Get segments user has access to*

Description

Get segments user has access to

Usage

```
ga_segment_list()
```

Value

Segment list

See Also

Other managementAPI functions: ga_experiment_list(), ga_experiment(), ga_filter_add(), ga_filter_apply_to_view(), ga_filter_update_filter_link(), ga_filter_update()

`ga_trackme` *Opt in or out of googleAnalyticsR usage tracking*

Description

You can opt-in or out to sending a measurement protocol hit when you load the package for use in the package's statistics via this function. No personal data is collected.

If you opt in, `ga_trackme_event()` is the function that fires. You can use `debug_call=TRUE` to see what would be sent before opting in or out.

Usage

```
ga_trackme()

ga_trackme_event(debug_call = FALSE, say_hello = NULL)
```

Arguments

`debug_call`	Set as a debug event to see what would be sent
`say_hello`	If you want to add your own custom message to the event sent, add it here!

Details

Running `ga_trackme_event()` function will send a Measurement Protocol hit via ga_mp_send only if the `~/.R/optin-googleanalyticsr` file is present

Examples

```
# control your tracking choices via a menu if in interactive session
if(interactive()){
  ga_trackme()
}

# this only works with a valid opt-in file present
ga_trackme_event()

# see what data is sent
ga_trackme_event(debug_call=TRUE)

# add your own message!
ga_trackme_event(debug_call = TRUE, say_hello = "err hello Mark")
```

ga_unsampled *Get Unsampled Report Meta Data*

Description

Get Unsampled Report Meta Data

Usage

```
ga_unsampled(accountId, webPropertyId, profileId, unsampledReportId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile Id
unsampledReportId	Unsampled Report Id

Value

Unsampled Report Meta Data

See Also

Other unsampled download functions: ga_unsampled_download(), ga_unsampled_list()

ga_unsampled_download *Download Unsampled Report from Google Drive. You must be authenticated with the same account that you setup the unsampled report. This means service account authentication is not supported.*

Description

Download Unsampled Report from Google Drive. You must be authenticated with the same account that you setup the unsampled report. This means service account authentication is not supported.

Usage

```
ga_unsampled_download(
  reportTitle,
  accountId,
  webPropertyId,
  profileId,
  downloadFile = TRUE
)
```

Arguments

reportTitle	Title of Unsampled Report (case-sensitive)
accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile Id
downloadFile	Default TRUE, whether to download, if FALSE returns a dataframe instead

Value

file location if downloadFile is TRUE, else a data.frame of download

See Also

Other unsampled download functions: ga_unsampled_list(), ga_unsampled()

Examples

```
## Not run:

    # get data.frame of unsampled reports you have available
    unsample_list <- ga_unsampled_list(accountId = "12345",
                                       webPropertyId = "UA-12345-4",
                                       profileId = "129371234")

    # loop through unsampled reports and download as a list of data.frames
    dl <- lapply(unsample_list$title, ga_unsampled_download,
                 accountId = "12345",
                 webPropertyId = "UA-12345-4",
                 profileId = "129371234",
                 downloadFile = FALSE)

    # inspect first data.frame
    dl[[1]]

    # download unsampled report to csv file
    ga_unsampled_download("my_report_title",
                          accountId = "12345",
                          webPropertyId = "UA-12345-4",
                          profileId = "129371234")


## End(Not run)
```

`ga_unsampled_list` *List Unsampled Reports*

Description

List Unsampled Reports

Usage

```
ga_unsampled_list(accountId, webPropertyId, profileId)
```

Arguments

`accountId`	Account Id
`webPropertyId`	Web Property Id
`profileId`	Profile Id

Value

Unsampled Reports List

See Also

Other unsampled download functions: `ga_unsampled_download()`, `ga_unsampled()`

Examples

```
## Not run:

    # get data.frame of unsampled reports you have available
    unsample_list <- ga_unsampled_list(accountId = "12345",
                                       webPropertyId = "UA-12345-4",
                                       profileId = "129371234")

    # loop through unsampled reports and download as a list of data.frames
    dl <- lapply(unsample_list$title, ga_unsampled_download,
                 accountId = "12345",
                 webPropertyId = "UA-12345-4",
                 profileId = "129371234",
                 downloadFile = FALSE)

    # inspect first data.frame
    dl[[1]]

    # download unsampled report to csv file
    ga_unsampled_download("my_report_title",
                          accountId = "12345",
                          webPropertyId = "UA-12345-4",
```

```
                        profileId = "129371234")

## End(Not run)
```

`ga_users_add` *Create or update user access to Google Analytics*

Description

If you supply more than one `email`, then batch processing will be applied. Batching has special rules that give you 30 operations for the cost of one API call against your quota. When batching you will only get a `TRUE` result on successful batch, but individual entries may have failed. Check via ga_users_list afterwards and try to add individual linkIds to get more descriptive error messages.

Usage

```
ga_users_add(
  email,
  permissions,
  accountId,
  webPropertyId = NULL,
  viewId = NULL
)
```

Arguments

`email`	The email(s) of the user(s) to add. Has to have a Google account.
`permissions`	Which permissions to add as a vector - `"MANAGE_USERS"`,`"EDIT"`,`"COLLABORATE"`,`"READ_AND_ANALYZE"`
`accountId`	Account Id
`webPropertyId`	Web Property Id - set to NULL to operate on account level only
`viewId`	viewId - set to NULL to operate on webProperty level only

Value

`TRUE` if successful

See Also

Google help article on user permissions

Other User management functions: `ga_users_delete_linkid()`, `ga_users_delete()`, `ga_users_list()`, `ga_users_update()`

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()

ga_users_add(c("the_email@company.com", "another_email@company.com"),
             permissions = "EDIT", accountId = 47480439)


## End(Not run)
```

`ga_users_delete` *Delete all user access for an email*

Description

This is a wrapper around calls to ga_users_list and ga_users_delete_linkid. If you want more fine-grained control look at those functions.

The user email is deleted from all web properties and views underneath the accountId you provide.

Usage

```
ga_users_delete(email, accountId)
```

Arguments

`email`	The email of the user to delete
`accountId`	The accountId that the user will be deleted from including all web properties and Views underneath.

Details

This deletes a user via their email reference for all webproperties and views for the account given.

See Also

Google Documentation

Other User management functions: `ga_users_add()`, `ga_users_delete_linkid()`, `ga_users_list()`, `ga_users_update()`

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()
ga_users_delete("brian@agency.com", 12345678)

# multiple emails
ga_users_delete(c("brian@agency.com", "bill@benland.com"), 1234567)


## End(Not run)
```

`ga_users_delete_linkid` *Delete users access from account, webproperty or view level*

Description

The `linkId` is in the form of the accountId/webPropertyId/viewId colon separated from a link unique Id.

Delete user access by supplying the linkId for that user at the level they have been given access. It won't work to delete user links at account level if they have been assigned at web property or view level - you will need to get the linkId for that level instead. e.g. a user needs `permissions.local` to be non-NULL to be deleted at that level. The parameter `check` will do this check before deletion and throw an error if they can not be deleted. Set this to `check=FALSE` to suppress this behaviour.

If you supply more than one `linkId`, then batch processing will be applied. Batching has special rules that give you 30 operations for the cost of one API call against your quota. When batching you will only get a `TRUE` result on successful batch, but individual `linkId`s may have failed. Check via ga_users_list afterwards and try to delete individual linkIds to get more descriptive error messages.

Usage

```
ga_users_delete_linkid(
  linkId,
  accountId,
  webPropertyId = NULL,
  viewId = NULL,
  check = TRUE
)
```

Arguments

`linkId`	The linkId(s) that is available using ga_users_list e.g. `47480439:104185380183364788718`
`accountId`	Account Id

webPropertyId	Web Property Id - set to NULL to operate on account level only
viewId	viewId - set to NULL to operate on webProperty level only
check	If the default TRUE will check that the user has user access at the level you are trying to delete them from - if not will throw an error.

Value

TRUE if the deletion is successful, an error if not.

See Also

Google Documentation

Other User management functions: ga_users_add(), ga_users_delete(), ga_users_list(), ga_users_update()

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()

# get the linkId for the user you want to delete
ga_users_list(47480439, webPropertyId = "UA-47480439-2", viewId = 81416156)
ga_users_delete_linkid("81416156:114834495587136933146",
                       accountId = 47480439,
                       webPropertyId = "UA-47480439-2",
                       viewId = 81416156)

# check its gone
ga_users_list(47480439, webPropertyId = "UA-47480439-2", viewId = 81416156)

# can only delete at level user has access, the above deletion woud have failed if via:
ga_users_delete_linkid("47480439:114834495587136933146", 47480439)


## End(Not run)
```

---

ga_users_list *List Users*

Description

Get a list of Account level user links, or if you supply the webPropertyId or viewId it will show user links at that level

Usage

```
ga_users_list(accountId, webPropertyId = "~all", viewId = "~all")
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id - set to NULL to operate on account level only
viewId	viewId - set to NULL to operate on webProperty level only

Details

Will list users on an account, webproperty or view level

Value

A data.frame of user entity links including the linkId, email and permissions

See Also

Account User Links Google Documentation

Other User management functions: ga_users_add(), ga_users_delete_linkid(), ga_users_delete(), ga_users_update()

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()
ga_users_list(47480439)
ga_users_list(47480439, webPropertyId = "UA-47480439-2")
ga_users_list(47480439, webPropertyId = "UA-47480439-2", viewId = 81416156)

# use NULL to only list linkids for that level
ga_users_list(47480439, webPropertyId = NULL, viewId = NULL)

## End(Not run)
```

---

ga_users_update *Update a user access in Google Analytics*

Description

This is for altering existing user access.

Usage

```
ga_users_update(
  linkId,
  update_object,
  accountId,
  webPropertyId = NULL,
  viewId = NULL
)
```

Arguments

linkId	The linkId to update
update_object	A list that will be turned into JSON that represents the new configuration for this linkId
accountId	Account Id
webPropertyId	Web Property Id - set to NULL to operate on account level only
viewId	viewId - set to NULL to operate on webProperty level only

Value

The new user object that has been altered.

See Also

Google help article on user permissions

Other User management functions: ga_users_add(), ga_users_delete_linkid(), ga_users_delete(), ga_users_list()

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()

# the update to perform
o <- list(permissions = list(local = list("EDIT")))

ga_users_update("UA-123456-1:1111222233334444",
                update_object = o,
                accountId = 47480439,
                webPropertyId = "UA-123456-1")


## End(Not run)
```

ga_view *Get single View (Profile)*

Description

Gets meta-data for a particular View/Profile

Usage

```
ga_view(accountId, webPropertyId, profileId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id
profileId	Profile (View) Id

Value

A list of the Views meta-data.

See Also

Other account structure functions: ga_account_list(), ga_accounts(), ga_view_list(), ga_webproperty_list(), ga_webproperty()

Examples

```
## Not run:

library(googleAnalyticsR)
ga_auth()
ga_view(1058095, webPropertyId = "UA-1058095-1", profileId = 1855267)

## End(Not run)
```

ga_view_list *List View (Profile)*

Description

This gets the meta data associated with the Google Analytics Views for a particular accountId and webPropertyId. If you want all viewId information for all accounts you have access to, use ga_account_list instead.

Usage

```
ga_view_list(accountId, webPropertyId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id e.g. UA-12345-1

Value

A data.frame of meta-data for the views

See Also

Other account structure functions: ga_account_list(), ga_accounts(), ga_view(), ga_webproperty_list(), ga_webproperty()

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()
views <- ga_view_list(1058095, "UA-1058095-1")

## End(Not run)
```

ga_webproperty *Get a web property*

Description

Gets metadata for one particular web property

Usage

```
ga_webproperty(accountId, webPropertyId)
```

Arguments

accountId	Account Id
webPropertyId	Web Property Id e.g. UA-12345-1

Value

webproperty

See Also

Other account structure functions: ga_account_list(), ga_accounts(), ga_view_list(), ga_view(), ga_webproperty_list()

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()
wp <- ga_webproperty(1058095, "UA-1058095-1")

## End(Not run)
```

---

ga_webproperty_list *List web properties*

Description

This gets the meta data for web properties associated with a particular accountId. If you want all information available to your user, use ga_account_list instead.

Usage

```
ga_webproperty_list(accountId)
```

Arguments

accountId	Account Id

Value

A data.frame of webproperty meta-data

See Also

Other account structure functions: ga_account_list(), ga_accounts(), ga_view_list(), ga_view(), ga_webproperty()

Examples

```
## Not run:
library(googleAnalyticsR)
ga_auth()
aa <- ga_accounts()
wp <- ga_webproperty_list(aa$id[1])

## End(Not run)
```

`googleAnalyticsR` *Library for getting Google Analytics data into R*

Description

googleAnalyticsR

Follow the online documentation here: https://code.markedmondson.me/googleAnalyticsR/

`google_analytics` *Get Google Analytics v4 data*

Description

Fetch Google Analytics data using the v4 API. For the v3 API use google_analytics_3, for GA4's Data API use ga_data. See website help for lots of examples: Google Analytics Reporting API v4 in R

Usage

```
google_analytics(
  viewId,
  date_range = NULL,
  metrics = NULL,
  dimensions = NULL,
  dim_filters = NULL,
  met_filters = NULL,
  filtersExpression = NULL,
  order = NULL,
  segments = NULL,
  pivots = NULL,
  cohorts = NULL,
  max = 1000,
  samplingLevel = c("DEFAULT", "SMALL", "LARGE"),
  metricFormat = NULL,
  histogramBuckets = NULL,
```

```
  anti_sample = FALSE,
  anti_sample_batches = "auto",
  slow_fetch = FALSE,
  useResourceQuotas = NULL,
  rows_per_call = 10000L
)

google_analytics_4(...)
```

Arguments

viewId	viewId of data to get.
date_range	character or date vector of format `c(start, end)` or for two date ranges: `c(start1,end1,start2,end2)`
metrics	Metric(s) to fetch as a character vector. You do not need to supply the `"ga:"` prefix. See meta for a list of dimensons and metrics the API supports. Also supports your own calculated metrics.
dimensions	Dimension(s) to fetch as a character vector. You do not need to supply the `"ga:"` prefix. See meta for a list of dimensons and metrics the API supports.
dim_filters	A filter_clause_ga4 wrapping dim_filter
met_filters	A filter_clause_ga4 wrapping met_filter
filtersExpression	A v3 API style simple filter string. Not used with other filters.
order	An order_type object
segments	List of segments as created by segment_ga4
pivots	Pivots of the data as created by pivot_ga4
cohorts	Cohorts created by make_cohort_group
max	Maximum number of rows to fetch. Defaults at 1000. Use -1 to fetch all results. Ignored when `anti_sample=TRUE`.
samplingLevel	Sample level
metricFormat	If supplying calculated metrics, specify the metric type
histogramBuckets	For numeric dimensions such as hour, a list of buckets of data.
anti_sample	If TRUE will split up the call to avoid sampling.
anti_sample_batches	"auto" default, or set to number of days per batch. 1 = daily.
slow_fetch	For large, complicated API requests this bypasses some API hacks that may result in 500 errors. For smaller queries, leave this as `FALSE` for quicker data fetching.
useResourceQuotas	If using GA360, access increased sampling limits. Default `NULL`, set to `TRUE` or `FALSE` if you have access to this feature.
rows_per_call	Set how many rows are requested by the API per call, up to a maximum of 100000.
...	Arguments passed to google_analytics

Value

A Google Analytics data.frame, with attributes showing row totals, sampling etc.

Row requests

By default the API call will use v4 batching that splits requests into 5 separate calls of 10k rows each. This can go up to 100k, so this means up to 500k rows can be fetched per API call, however the API servers will fail with a 500 error if the query is too complicated as the processing time at Google's end gets too long. In this case, you may want to tweak the `rows_per_call` argument downwards, or fall back to using `slow_fetch = FALSE` which will send an API request one at a time. If fetching data via scheduled scripts this is recommended as the default.

Anti-sampling

`anti_sample` being TRUE ignores `max` as the API call is split over days to mitigate the sampling session limit, in which case a row limit won't work. Take the top rows of the result yourself instead e.g. `head(ga_data_unsampled, 50300)`

`anti_sample` being TRUE will also set `samplingLevel='LARGE'` to minimise the number of calls.

Resource Quotas

If you are on GA360 and have access to resource quotas, set the `useResourceQuotas=TRUE` and set the Google Cloud client ID to the project that has resource quotas activated, via gar_set_client or options.

Caching

By default local caching is turned on for v4 API requests. This means that making the same request as one this session will read from memory and not make an API call. You can also set the cache to disk via the ga_cache_call function. This can be useful when running RMarkdown reports using data.

Metrics

Metrics support calculated metrics like ga:users / ga:sessions if you supply them in a named vector.

You must supply the correct 'ga:' prefix unlike normal metrics

You can mix calculated and normal metrics like so:

```
customMetric <- c(sessionPerVisitor = "ga:sessions / ga:visitors", "bounceRate", "entrances")
```

You can also optionally supply a `metricFormat` parameter that must be the same length as the metrics. `metricFormat` can be: `METRIC_TYPE_UNSPECIFIED, INTEGER, FLOAT, CURRENCY, PERCENT, TIME`

All metrics are currently parsed to as.numeric when in R.

Dimensions

Supply a character vector of dimensions, with or without `ga:` prefix.

Optionally for numeric dimension types such as `ga:hour, ga:browserVersion, ga:sessionsToTransaction`, etc. supply histogram buckets suitable for histogram plots.

If non-empty, we place dimension values into buckets after string to int64. Dimension values that are not the string representation of an integral value will be converted to zero. The bucket values have to be in increasing order. Each bucket is closed on the lower end, and open on the upper end. The "first" bucket includes all values less than the first boundary, the "last" bucket includes all values up to infinity. Dimension values that fall in a bucket get transformed to a new dimension value. For example, if one gives a list of "0, 1, 3, 4, 7", then we return the following buckets: -

- bucket #1: values < 0, dimension value "<0"
- bucket #2: values in [0,1), dimension value "0"
- bucket #3: values in [1,3), dimension value "1-2"
- bucket #4: values in [3,4), dimension value "3"
- bucket #5: values in [4,7), dimension value "4-6"
- bucket #6: values >= 7, dimension value "7+"

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate, or use the RStudio Addin "Google API Auth" with analytics scopes set

ga_auth()

## get your accounts

account_list <- ga_account_list()

## account_list will have a column called "viewId"
account_list$viewId

## View account_list and pick the viewId you want to extract data from
ga_id <- 123456

# examine the meta table to see metrics and dimensions you can query
meta

## simple query to test connection
google_analytics(ga_id,
                 date_range = c("2017-01-01", "2017-03-01"),
                 metrics = "sessions",
                 dimensions = "date")

## change the quotaUser to fetch under
google_analytics(1234567, date_range = c("30daysAgo", "yesterday"), metrics = "sessions")

options("googleAnalyticsR.quotaUser" = "test_user")
google_analytics(1234567, date_range = c("30daysAgo", "yesterday"), metrics = "sessions")


## End(Not run)
```

google_analytics_3 *Get Google Analytics v3 data (formerly google_analytics())*

Description

Legacy v3 API, for more modern API use google_analytics.

Usage

```
google_analytics_3(
  id,
  start,
  end,
  metrics = c("sessions", "bounceRate"),
  dimensions = NULL,
  sort = NULL,
  filters = NULL,
  segment = NULL,
  samplingLevel = c("DEFAULT", "FASTER", "HIGHER_PRECISION"),
  max_results = 100,
  type = c("ga", "mcf")
)
```

Arguments

id	A character vector of View Ids to fetch from.
start	Start date in YYY-MM-DD format.
end	End date in YYY-MM-DD format.
metrics	A character vector of metrics. With or without ga: prefix.
dimensions	A character vector of dimensions. With or without ga: prefix.
sort	How to sort the results, in form 'ga:sessions,-ga:bounceRate'
filters	Filters for the result, in form 'ga:sessions>0;ga:pagePath=~blah'
segment	How to segment.
samplingLevel	Level of precision of the API requests
max_results	Default 100. If greater than 10,000 then will batch GA calls.
type	ga = Google Analytics v3; mcf = Multi-Channel Funels.

Value

For one id a data.frame of data, with meta-data in attributes.

See Also

https://developers.google.com/analytics/devguides/reporting/core/v3/

Examples

```
## Not run:

library(googleAnalyticsR)

## Authenticate in Google OAuth2
## this also sets options
ga_auth()

## if you need to re-authenticate use ga_auth(new_user=TRUE)
## if you have your own Google Dev console project keys,
## then don't run ga_auth() as that will set to the defaults.
## instead put your options here, and run googleAuthR::gar_auth()

## get account info, including View Ids
account_list <- ga_account_list()
ga_id <- account_list$viewId[1]

## get a list of what metrics and dimensions you can use

meta <- ga_meta()
head(meta)

## pick the account_list$viewId you want to see data for.
## metrics and dimensions can have or have not "ga:" prefix

gadata <- google_analytics_3(id = ga_id,
                             start="2015-08-01", end="2015-08-02",
                             metrics = c("sessions", "bounceRate"),
                             dimensions = c("source", "medium"))


## if more than 10000 rows in results, auto batching
## example is setting lots of dimensions to try and create big sampled data
batch_gadata <- google_analytics_3(id = ga_id,
                                   start="2014-08-01", end="2015-08-02",
                                   metrics = c("sessions", "bounceRate"),
                                   dimensions = c("source", "medium",
                                                  "landingPagePath",
                                                  "hour","minute"),
                                   max=99999999)

## mitigate sampling by setting samplingLevel="WALK"
## this will send lots and lots of calls to the Google API limits, beware
walk_gadata <- google_analytics_3(id = ga_id,
                                  start="2014-08-01", end="2015-08-02",
                                  metrics = c("sessions", "bounceRate"),
```

```
                                dimensions = c("source", "medium", "landingPagePath"),
                                max=99999999, samplingLevel="WALK")

## multi-channel funnels set type="mcf"
mcf_gadata <- google_analytics_3(id = ga_id,
                                 start="2015-08-01", end="2015-08-02",
                                 metrics = c("totalConversions"),
                                 dimensions = c("sourcePath"),
                                 type="mcf")


## reach meta-data via attr()
attr(gadata, "profileInfo")
attr(gadata, "dateRange")



## End(Not run)
```

---

google_analytics_bq *Get Google Analytics 360 BigQuery data*

Description

Turn a google_analytics style call into BigQuery SQL. Used with Google Analytics 360 BigQuery exports.

Usage

```
google_analytics_bq(
  projectId,
  datasetId,
  start = NULL,
  end = NULL,
  metrics = NULL,
  dimensions = NULL,
  sort = NULL,
  filters = NULL,
  max_results = 100,
  query = NULL,
  return_query_only = FALSE,
  bucket = NULL,
  download_file = NULL
)
```

Arguments

projectId	The Google project Id where the BigQuery exports sit
datasetId	DatasetId of GA export. This should match the GA View ID
start	start date
end	end date
metrics	metrics to query
dimensions	dimensions to query
sort	metric to sort by
filters	filter results
max_results	How many results to fetch
query	If query is non-NULL then it will use that and ignore above
return_query_only	Only return the constructed query, don't call BigQuery
bucket	if over 100000 results, specify a Google Cloud bucket to send data to
download_file	Where to save asynch files. If NULL saves to current working directory.

Details

All data will be unsampled, and requests will cost money against your BigQuery quota.

Requires installation of bigQueryR and authentication under ga_bq_auth() or googleAuthR::gar_auth() with BigQuery scope set. View your projectIds upon authentication via `bigQueryR::bqr_list_projects()`

No segments for now.

Goals are not specified in BQ exports, so you need to look at how you define them and replicate per view e.g. unique pageviews or unique events.

Custom dimensions can be specified as session or hit level, so ignoring the setting in GA interface.

You can get a sample Google Analytics dataset in bigquery by following the instructions here: https://support.google.com/analytics/answer/3416091?hl=en

Value

data.frame of results

See Also

https://support.google.com/analytics/answer/4419694?hl=en https://support.google.com/analytics/answer/3437719?hl=en

make_cohort_group *Create a cohort group*

Description

Create a cohort group

Usage

```
make_cohort_group(cohorts, lifetimeValue = FALSE, cohort_types = NULL)
```

Arguments

cohorts	A named list of start/end date pairs
lifetimeValue	lifetimeValue TRUE or FALSE. Only works for webapps.
cohort_types	placeholder, does nothing as only FIRST_VISIT_DATE supported.

Details

Example: `list("cohort 1" = c("2015-08-01", "2015-08-01"), "cohort 2" = c("2015-07-01","2015-07-01"))`

Value

A cohortGroup object

See Also

https://developers.google.com/analytics/devguides/reporting/core/v4/advanced#cohort_and_lifetime_value_ltv_dimensions_and_metrics

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()

## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']


## first make a cohort group
```

```
cohort4 <- make_cohort_group(list("cohort 1" = c("2015-08-01", "2015-08-01"),
                                  "cohort 2" = c("2015-07-01","2015-07-01")))

## then call cohort report.  No date_range and must include metrics and dimensions
##   from the cohort list
cohort_example <- google_analytics(ga_id,
                                   dimensions=c('cohort'),
                                   cohort = cohort4,
                                   metrics = c('cohortTotalUsers'))


### Lifetime Value report - just a variation of the cohort report
# with lifetimeValue = TRUE
### and ltv specific metrics
### The view MUST be an app view at the moment

## make a cohort group with lifetimeValue = TRUE

cohort_ltv <- make_cohort_group(list("cohort 1" = c("2018-12-01", "2018-12-31"),
                                     "cohort 2" = c("2019-01-01", "2019-01-31")),
                                     lifetimeValue = TRUE)

## call a cohort report with ltv metrics

ltv_example <- google_analytics(ga_id,
     dimensions = c('cohort', "acquisitionTrafficChannel"),
     cohorts = cohort_ltv,
     metrics = c("cohortGoalCompletionsPerUserWithLifetimeCriteria"))


## End(Not run)
```

`meta` *Google Analytics API metadata*

Description

This is a local copy of the data provided by ga_meta

Usage

```
meta
```

Format

A data frame containing metric and dimensions that you can query the Reporting API with.

Details

Running your own call will be more up to date, but this is here in case.

It does not include the multi-channel or cohort variables.

Source

https://ga-dev-tools.appspot.com/dimensions-metrics-explorer/

---

meta4 *Google Analytics API metadata*

Description

This is a local copy of the data provided by `ga_meta("data")`

Usage

```
meta4
```

Format

A data frame containing metric and dimensions that you can query the Data API with.

Details

Running your own call will be more up to date, but this is here in case.

Source

https://developers.google.com/analytics/devguides/reporting/data/v1/api-schema

---

metricDimensionSelectUI *metricDimensionSelectUI - GA4 Shiny Module*

Description

Create a Google Analytics variable selector

Shiny Module for use with GA4 metric and dimension fields fetched via `ga_meta("ga4")`

Usage

```
metricDimensionSelectUI(id, label = "Metric", multiple = TRUE, width = NULL)

metricDimensionSelect(
  id,
  field_type = c("metric", "dimension"),
  custom_meta = NULL,
  default = NULL
)
```

Arguments

id	The Shiny id
label	label
multiple	multiple select
width	width of select
field_type	metric or dimension
custom_meta	Pass a meta field table from ga_meta("ga4") to get custom fields from GA4 (reactive)
default	The default selected choice. First element if NULL

Value

Shiny UI

the selected variable

See Also

Other Shiny modules: accountPickerUI(), authDropdownUI(), authDropdown(), multi_selectUI(), multi_select()

Examples

```
## Not run:

# ui.R
metricDimensionSelect("mets1")
metricDimensionSelect("dims1")

#server.R
metrics <- metricDimensionSelect("mets1", "metric")
dims <- metricDimensionSelect("dims1", "dimension")



# use in app with custom fields
#' ui <- fluidPage(title = "Shiny App",
```

```
                  accountPickerUI("auth_menu", inColumns = TRUE),
                  metricDimensionSelectUI("mets1"),
                  metricDimensionSelectUI("dims_custom")
                  )
server <- function(input, output, session){
  token <- gar_shiny_auth(session)

  accs <- reactive({
    req(token)
    ga_account_list("ga4")
   })

  # no custom data
  metrics <- metricDimensionSelect("mets1")

  # module for authentication
  property_id <- accountPicker("auth_menu", ga_table = accs, id_only = TRUE)

  meta <- reactive({
      req(property_id())
      ga_meta("data", propertyId = property_id())
  })


  # custom data
  dims_custom <- metricDimensionSelect("dims_custom",
                                       type = "dimension",
                                       custom_meta = meta())
}

shinyApp(gar_shiny_ui(ui, login_ui = silent_auth), server)



## End(Not run)
```

`met_filter` *Make a metric filter object*

Description

Make a metric filter object

Usage

```
met_filter(
  metric,
  operator = c("EQUAL", "LESS_THAN", "GREATER_THAN", "IS_MISSING"),
  comparisonValue,
```

```
  not = FALSE
)
```

Arguments

metric	metric name to filter on.
operator	How to match the dimension.
comparisonValue	What to match.
not	Logical NOT operator. Boolean.

Value

An object of class met_fil_ga4 for use in filter_clause_ga4()

See Also

Other filter functions: dim_filter(), filter_clause_ga4()

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()

## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']

## create filters on metrics
mf <- met_filter("bounces", "GREATER_THAN", 0)
mf2 <- met_filter("sessions", "GREATER", 2)

## create filters on dimensions
df <- dim_filter("source","BEGINS_WITH","1",not = TRUE)
df2 <- dim_filter("source","BEGINS_WITH","a",not = TRUE)

## construct filter objects
fc2 <- filter_clause_ga4(list(df, df2), operator = "AND")
fc <- filter_clause_ga4(list(mf, mf2), operator = "AND")

## make v4 request
ga_data1 <- google_analytics_4(ga_id,
                               date_range = c("2015-07-30","2015-10-01"),
```

```
                                dimensions=c('source','medium'),
                                metrics = c('sessions','bounces'),
                                met_filters = fc,
                                dim_filters = fc2,
                                filtersExpression = "ga:source!=(direct)")

## End(Not run)
```

`multi_select` *multi_select Shiny Module*

Description

Shiny Module for use with multi_selectUI

Usage

```
multi_select(
  input,
  output,
  session,
  type = c("METRIC", "DIMENSION"),
  subType = c("all", "segment", "cohort"),
  default = NULL
)
```

Arguments

`input`	shiny input
`output`	shiny output
`session`	shiny session
`type`	metric or dimension
`subType`	Limit selections to those relevant
`default`	The default selected choice. First element if NULL

Details

Call via `shiny::callModule(multi_select, "your_id")`

Value

the selected variable

See Also

Other Shiny modules: `accountPickerUI()`, `authDropdownUI()`, `authDropdown()`, `metricDimensionSelectUI()`, `multi_selectUI()`

multi_selectUI *multi_select UI Shiny Module*

Description

Shiny Module for use with multi_select

Usage

```
multi_selectUI(id, label = "Metric", multiple = TRUE, width = NULL)
```

Arguments

id	Shiny id
label	label
multiple	multiple select
width	width of select

Details

Create a Google Analytics variable selector

Value

Shiny UI

See Also

Other Shiny modules: accountPickerUI(), authDropdownUI(), authDropdown(), metricDimensionSelectUI(), multi_select()

order_type *Make an OrderType object*

Description

Make an OrderType object

Usage

```
order_type(
  field,
  sort_order = c("ASCENDING", "DESCENDING"),
 orderType = c("VALUE", "DELTA", "SMART", "HISTOGRAM_BUCKET", "DIMENSION_AS_INTEGER")
)
```

Arguments

field	One field to sort by
sort_order	ASCENDING or DESCENDING
orderType	Type of ordering

Details

For multiple order sorting, create separate OrderType objects to pass

Value

A order_type_ga4 object for use in GAv4 fetch

---

pivot_ga4 *Make a pivot object*

Description

Make a pivot object

Usage

```
pivot_ga4(
  pivot_dim,
  metrics,
  dim_filter_clause = NULL,
  startGroup = 0,
  maxGroupCount = 5
)
```

Arguments

pivot_dim	A character vector of dimensions
metrics	Metrics to aggregate and return.
dim_filter_clause	Only data included in filter included.
startGroup	which groups of k columns are included in response (0 indexed).
maxGroupCount	Maximum number of groups to return.

Details

If maxGroupCount is set to -1 returns all groups.

Value

pivot object of class pivot_ga4 for use in filter_clause_ga4()

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()

## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']

## filter pivot results to
pivot_dim_filter1 <- dim_filter("medium",
                                "REGEXP",
                                "organic|social|email|cpc")


pivot_dim_clause <- filter_clause_ga4(list(pivot_dim_filter1))

pivme <- pivot_ga4("medium",
                   metrics = c("sessions"),
                   maxGroupCount = 4,
                  dim_filter_clause = pivot_dim_clause)


pivtest <- google_analytics(ga_id,
                            c("2016-01-30","2016-10-01"),
                            dimensions=c('source'),
                            metrics = c('sessions'),
                            pivots = list(pivme))


## End(Not run)
```

`segmentBuilder` *Create a GAv4 Segment Builder*

Description

Shiny Module for use with segmentBuilderUI

Usage

```
segmentBuilder(input, output, session)
```

Arguments

input	shiny input
output	shiny output
session	shiny session

Details

Call via `shiny::callModule(segmentBuilder, "your_id")`

Value

A segment definition

Examples

```
## Not run:

library(shiny)
library(googleAnalyticsR)

ui <- shinyUI(fluidPage(
               segmentBuilderUI("test1")
               ))


server <- shinyServer(function(input, output, session) {

segment <- callModule(segmentBuilder, "test1")

  .. use segment() in further gav4 calls.

})


# Run the application
shinyApp(ui = ui, server = server)

## End(Not run)
```

`segmentBuilderUI` *Create a GAv4 Segment Builder*

Description

Shiny Module for use with segmentBuilder

Usage

```
segmentBuilderUI(id)
```

Arguments

id	Shiny id

Value

Shiny UI for use in app

Examples

```
## Not run:

library(shiny)
library(googleAnalyticsR)

ui <- shinyUI(fluidPage(
               segmentBuilderUI("test1")
               ))


server <- shinyServer(function(input, output, session) {

segment <- callModule(segmentBuilder, "test1")

  .. use segment() in further gav4 calls.

})


# Run the application
shinyApp(ui = ui, server = server)

## End(Not run)
```

---

segment_define *Make a segment definition*

Description

Defines the segment to be a set of SegmentFilters which are combined together with a logical AND operation.

`segment_define` is in the hierarchy of segment creation, for which you will also need:

- segment_define : AND combination of segmentFilters
- segment_vector_simple or segment_vector_sequence
- segment_element that are combined in OR lists for `segment_vectors_*`

Usage

```
segment_define(segment_filters, not_vector = NULL)
```

Arguments

segment_filters	A list of segment_vector_simple and segment_vector_sequence
not_vector	Boolean applied to each segmentFilter step. If NULL, assumed FALSE

Value

segmentDefinition object for segment_ga4

See Also

Other v4 segment functions: `segment_element()`, `segment_ga4`, `segment_vector_sequence()`, `segment_vector_simple()`

---

segment_element *Make a segment element*

Description

`segment_element` is the lowest hierarchy of segment creation, for which you will also need:

- segment_define : AND combination of segmentFilters
- segment_vector_simple or segment_vector_sequence
- segment_element that are combined in OR lists for `segment_vectors_*`

Usage

```
segment_element(
  name,
 operator = c("REGEXP", "BEGINS_WITH", "ENDS_WITH", "PARTIAL", "EXACT", "IN_LIST",
   "NUMERIC_LESS_THAN", "NUMERIC_GREATER_THAN", "NUMERIC_BETWEEN", "LESS_THAN",
    "GREATER_THAN", "EQUAL", "BETWEEN"),
  type = c("METRIC", "DIMENSION"),
  not = FALSE,
  expressions = NULL,
  caseSensitive = NULL,
  minComparisonValue = NULL,
  maxComparisonValue = NULL,
  scope = c("SESSION", "USER", "HIT", "PRODUCT"),
  comparisonValue = NULL,
  matchType = c("PRECEDES", "IMMEDIATELY_PRECEDES")
)
```

Arguments

name	Name of the GA metric or dimension to segment on
operator	How name shall operate on expression or comparisonValue
type	A metric or dimension based segment element
not	Should the element be the negation of what is defined
expressions	dim What the name shall compare to
caseSensitive	dim Whether to be case sensitive
minComparisonValue	dim Minimum comparison values for BETWEEN
maxComparisonValue	Max comparison value for BETWEEN operator
scope	met Scope of the metric value
comparisonValue	met What the name shall compare to
matchType	If used in sequence segment, what behaviour

Value

A SegmentFilterClause object

See Also

Other v4 segment functions: segment_define(), segment_ga4, segment_vector_sequence(), segment_vector_simple()

---

segment_ga4 *Make a segment object for use*

Description

A Segment is a subset of the Analytics data. For example, of the entire set of users, one Segment might be users from a particular country or city.

Usage

```
segment_ga4(
  name,
  segment_id = NULL,
  user_segment = NULL,
  session_segment = NULL
)
```

Arguments

name	The name of the segment for the reports.
segment_id	The segment ID of a built in or custom segment e.g. gaid::-3
user_segment	A list of segment_define's that apply to users
session_segment	A list of segment_define's that apply to sessions

Details

segment_ga4 is the top hierarchy of segment creation, for which you will also need:

- segment_define : AND combination of segmentFilters
- segment_vector_simple or segment_vector_sequence
- segment_element that are combined in OR lists for segment_vectors_*

Value

a segmentFilter object. You can pass a list of these to the request.

See Also

Other v4 segment functions: segment_define(), segment_element(), segment_vector_sequence(), segment_vector_simple()

Examples

```
## Not run:
library(googleAnalyticsR)

## authenticate,
## or use the RStudio Addin "Google API Auth" with analytics scopes set
ga_auth()

## get your accounts
account_list <- google_analytics_account_list()

## pick a profile with data to query

ga_id <- account_list[23,'viewId']


## make a segment element
se <- segment_element("sessions",
                      operator = "GREATER_THAN",
                      type = "METRIC",
                      comparisonValue = 1,
                      scope = "USER")
```

```
se2 <- segment_element("medium",
                       operator = "EXACT",
                       type = "DIMENSION",
                       expressions = "organic")


## choose between segment_vector_simple or segment_vector_sequence
## Elements can be combined into clauses, which can then be
##    combined into OR filter clauses
sv_simple <- segment_vector_simple(list(list(se)))

sv_simple2 <- segment_vector_simple(list(list(se2)))

## Each segment vector can then be combined into a logical AND

seg_defined <- segment_define(list(sv_simple, sv_simple2))

## if only one AND definition, you can leave out wrapper list()

seg_defined_one <- segment_define(sv_simple)

## Each segement defintion can apply to users, sessions or both.
## You can pass a list of several segments

segment4 <- segment_ga4("simple", user_segment = seg_defined)
## Add the segments to the segments param

segment_example <- google_analytics(ga_id,
                                    c("2015-07-30","2015-10-01"),
                                    dimensions=c('source','medium','segment'),
                                    segments = segment4,
                                    metrics = c('sessions','bounces')
                                     )


## Sequence segment

se2 <- segment_element("medium",
                       operator = "EXACT",
                       type = "DIMENSION",
                       expressions = "organic")

se3 <- segment_element("medium",
                       operator = "EXACT",
                       type = "DIMENSION",
                       not = TRUE,
                      expressions = "organic")

## step sequence
## users who arrived via organic then via referral
sv_sequence <- segment_vector_sequence(list(list(se2),
                                            list(se3)))
```

```
seq_defined2 <- segment_define(list(sv_sequence))

segment4_seq <- segment_ga4("sequence", user_segment = seq_defined2)

## Add the segments to the segments param

segment_seq_example <- google_analytics(ga_id,
                                        c("2016-04-01","2016-05-01"),
                                        dimensions=c('source','segment'),
                                        segments = segment4_seq,
                                        metrics = c('sessions','bounces')
                                         )


## End(Not run)
```

`segment_vector_sequence` *Make sequenceSegment*

Description

`segment_vector_sequence` is in the hierarchy of segment creation, for which you will also need:

- segment_define : AND combination of segmentFilters
- segment_vector_simple or segment_vector_sequence
- segment_element that are combined in OR lists for `segment_vectors_*`

Usage

```
segment_vector_sequence(segment_elements, firstStepMatch = FALSE)
```

Arguments

`segment_elements`	a list of OR lists of segment elements
`firstStepMatch`	FALSE default

See Also

Other v4 segment functions: `segment_define()`, `segment_element()`, `segment_ga4`, `segment_vector_simple()`

`segment_vector_simple` *Make a simple segment vector*

Description

`segment_vector_simple` is in the hierarchy of segment creation, for which you will also need:

- segment_define : AND combination of segmentFilters
- segment_vector_simple or segment_vector_sequence
- segment_element that are combined in OR lists for `segment_vectors_*`

Usage

```
segment_vector_simple(segment_elements)
```

Arguments

`segment_elements`
: A list of OR lists of segment_element

Value

A segment vector you can put in a list for use in segment_ga4

See Also

Other v4 segment functions: `segment_define()`, `segment_element()`, `segment_ga4`, `segment_vector_sequence()`

Index