

# Package ‘GAR’

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**Type** Package

**Title** Authorize and Request Google Analytics Data

**Version** 1.1

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**BugReports** <https://github.com/andrewgeisler/GAR/issues>

**Description** The functions included are used to obtain initial authentication with Google Analytics as well as simple and organized data retrieval from the API. Allows for retrieval from multiple profiles at once.

**License** GPL-2

**Depends** httr, jsonlite

**NeedsCompilation** no

**Repository** CRAN

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GAR-package

*Authorize and Request Google Analytics data.*

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## Description

This package is designed to aid in obtaining initial authentication with Google Analytics using the `getCode()` and `getRefresh()` functions.

Once authenticated you will have an refresh token which can be repeated traded for an access token via the `tokenRefresh()` function. Once traded for an access token, data can be retrieved used the `gaRequest()` function.

It is recommended to store the client id and client secret in the following system variables: `GAR_CLIENT_ID`, `GAR_CLIENT_SECRET`. The `getCode()`, `getRefresh()` and `tokenRefresh()` functions will reference these variables by default. It is also recommended to store the refresh token retrieved by `getRefresh()` in a `GA_REFRESH_TOKEN` system variable. The `tokenRefresh()` function will refer to `GA_REFRESH_TOKEN` by default.

Additionally, a package environment (`envGAR`) is created on load and will store the access token produced by `tokenRefresh()` for use within the session.

## Details

Package:	GAR
Type:	Package
Version:	1.2
Date:	2015-03-10
License:	R Version 3.1
Depends:	httr, jsonlite

Package includes four main functions: `getCode()`, `getRefresh()`, `gaRequest()` and `tokenRefresh()`.

## Author(s)

Andrew Geisler

Maintainer: Andrew Geisler <[andrew.geisler@gmail.com](mailto:andrew.geisler@gmail.com)>

## References

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

## See Also

[GAR](#) [gaRequest](#) [getCode](#) [getRefresh](#) [tokenRefresh](#)

## Examples

```
getCode(  
  client_id="ABCDEFGG"  
)  
  
getRefresh(  
  client_id="ABCDEFGG",  
  client_secret="HIJKLMNPP",  
  code="QRSTUVWXYZ"  
)  
  
gaRequest(  
  id=c('ga:123456789','ga:987654321'),  
  dimensions='ga:date,ga:month',  
  metrics='ga:sessions,ga:users,ga:pageviews',  
  start='YYYY-MM-DD',  
  end='YYYY-MM-DDD',  
  sort='-ga:sessions,ga:users',  
  max='1000',  
  filters='ga:browser==VALUE,ga:city==VALUE',  
  segment='abcdef',  
  token='abcdef',  
  allResults=FALSE  
)  
  
tokenRefresh(  
  client_id="ABCDEFGG",  
  client_secret="HIJKLMNPP",  
  token="QRSTUVWXYZ"  
)
```

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envGAR

*Creates modifiable environment for package variables.*

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## Description

Creates modifiable environment for package variables. The tokenRefresh() function will store temporary access token to GAR\_ACCESS\_TOKEN in the envGAR environment.

## Author(s)

Andrew Geisler

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 gaRequest

*Request data from Google Analytics API*


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### Description

This function compiles a Google Analytics API request, retrieves the results and outputs a dataframe. Input formats based on documented Google Analytics's Core Reporting API requirements. The function is designed to loop through the same request to multiple GA account ids. The result will still be one data frame. Additionally, the function attempts to output the error message if there is an issue. By default, the function will use the GAR\_ACCESS\_TOKEN variable set by the tokenRefresh() function. However, a supplied token value will take priority over stored variables.

### Usage

```
gaRequest(
  id, dimensions = NA, metrics, start, end,
  token = NA, sort = NA, max = 1000, segment = NA, filters = NA, allResults=FALSE
)
```

### Arguments

id	Required. Profile ID including the ga: prefix. Can be a more than one. See example below.
dimensions	Not Required. Parameter can be a single dimension or a string of multiple dimensions separated by commas.
metrics	Required. Parameter can be a single metric or a string of multiple metrics separated by commas.
start	Required. Start date formatted as a string (YYYY-MM-DD).
end	Required. End date formatted as a string (YYYY-MM-DD).
token	Required.
sort	Not Required. Can be a single parameter or can be a string of multiple parameters separated by commas.
max	Not Required. Google Analytics default is 100 and their max is 10,000.
segment	Not Required.
filters	Not Required. Can be a single parameter or can be a string of multiple parameters separated by commas.
allResults	Logical. TRUE will cause the function to paginate through all results. Max also needs to be set to 10000. Warning, pagination could increase run time.

### Details

The function returns a dataframe.

**Value**

profileId	Profile/view ID in request.
accountId	Account ID.
webPropertyId	Property UA number.
internalWebPropertyId	Internal web property ID.
profileName	Name of profile in the request.
tableId	Table ID from Google Analytics.
start.date	Start date of the request.
end.date	End date of the request.
dimension(s)	Each requested dimension will be a separate field in Data Frame.
metric(s)	Each requested metric will be a separate field in Data Frame.

**Author(s)**

Andrew Geisler

**References**

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

**See Also**

[GAR gaRequest](#) [getCode](#) [getRefresh](#) [tokenRefresh](#)

**Examples**

```
gaRequest(  
  id=c('ga:123456789','ga:987654321'),  
  dimensions='ga:date,ga:month',  
  metrics='ga:sessions,ga:users,ga:pageviews',  
  start='YYYY-MM-DD',  
  end='YYYY-MM-DDD',  
  sort='-ga:sessions,ga:users',  
  max='1000',  
  filters='ga:browser==VALUE,ga:city==VALUE',  
  segment='abcdef',  
  allResults=FALSE,  
  token='abcdef'  
)
```

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getCode	<i>Authenticates a Google Analytics.</i>
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### Description

This function launches an URL in a browser for authentication. Once authenticated, the value after code= appearing in the resulting URL needs to be manually copied and stored for later use. This code will allow you to get a refresh token that can be refreshed until revoked. This should be a one-time process unless code is revoked,lost or expires before used to get a refresh token. If exists, the environmental variable GAR\_CLIENT\_ID will be used by default.

### Usage

```
getCode(client_id)
```

### Arguments

client\_id      Client ID found in API Console. String format.

### Details

Function opens a website URL in a browser for authentication. A code can be retrieved from the redirect URL.

### Value

Code is a string to be used in conjunction with gaRefresh() function.

### Author(s)

Andrew Geisler

### References

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

### See Also

[GAR](#) [gaRequest](#) [getCode](#) [getRefresh](#) [tokenRefresh](#)

### Examples

```
getCode(  
    client_id="ABCDEFGG"  
)
```

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getRefresh	<i>Retrieves a Google Analytics refresh token using a pre-retrieved and authenticated code. A refresh token can be used to repeatedly obtain a new access token without additional manual authentication.</i>
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### Description

This function retrieves a Google Analytics refresh token using a supplied credentials and code. The function will use GAR\_CLIENT\_ID, GAR\_CLIENT\_SECRET environmental variables if present. A refresh token can be traded for an access token repeatedly. As a result, this should only be needed one time unless the refresh token is revoked or lost. The refresh token is stored in an 'GAR\_REFRESH\_TOKEN' environmental variable.

### Usage

```
getRefresh(client_id, client_secret, code)
```

### Arguments

client_id	Client ID found in API Console. String format.
client_secret	Client Secret found in API Console. String format.
code	Code obtained from the redirect URL provided by the getCode() function. String format.

### Details

Function returns a GA refresh token.

### Value

Refresh token is a string to be used in conjunction with tokenRefresh() function.

### Author(s)

Andrew Geisler

### References

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

### See Also

[GAR gaRequest](#) [getCode](#) [getRefresh](#) [tokenRefresh](#)

## Examples

```
getRefresh(  
    client_id="ABCDEFGH",  
    client_secret="HIJKLMNQP",  
    code="QRSTUVWXYZ"  
)
```

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tokenRefresh	<i>Retrieves a Google Analytics access token using a refresh token.</i>
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## Description

This function retrieves a Google Analytics access token using a supplied refresh token. Refresh tokens do not expire and can be traded for an access token repeatedly. The function will pull from the following environmental variables by default: GAR\_CLIENT\_ID, GAR\_CLIENT\_SECRET, GAR\_REFRESH\_TOKEN. Additionally, a temporary variable (GAR\_ACCESS\_TOKEN) will be stored in a package specific environment (envGAR) containing the newly generated access token for use in the getRequest() function.

## Usage

```
tokenRefresh(client_id, client_secret, token)
```

## Arguments

client_id	Client ID found in API Console. String format.
client_secret	Client Secret found in API Console. String format.
token	Refresh token as originally generated manually. String format.

## Details

Function returns a GA access token.

## Value

Access token is a string to be used in conjunction with gaRequest() function.

## Author(s)

Andrew Geisler

## References

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



**See Also**

[GAR gaRequest](#) [getCode](#) [getRefresh](#) [tokenRefresh](#)

**Examples**

```
tokenRefresh(  
    client_id="ABCDEFGH",  
    client_secret="HIJKLMNO",  
    token="QRSTUVWXYZ"  
)
```

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