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# **clan Documentation**

***Release 0.2.3 (beta)***

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<b>1</b>	<b>About</b>	<b>1</b>
1.1	clan (Command Line ANalytics) . . . . .	1
<b>2</b>	<b>Getting started</b>	<b>3</b>
2.1	Installation . . . . .	3
2.2	Authentication . . . . .	3
<b>3</b>	<b>Usage</b>	<b>5</b>
3.1	Basic usage . . . . .	5
3.2	Configuration . . . . .	6
3.3	Common queries . . . . .	9
<b>4</b>	<b>Development</b>	<b>11</b>
4.1	Release process . . . . .	11
<b>5</b>	<b>Authors</b>	<b>13</b>
<b>6</b>	<b>License</b>	<b>15</b>
<b>7</b>	<b>Changelog</b>	<b>17</b>
7.1	0.2.3 . . . . .	17
7.2	0.2.2 . . . . .	17
7.3	0.2.1 . . . . .	17
7.4	0.2.0 . . . . .	17
7.5	0.1.3 . . . . .	18
7.6	0.1.2 . . . . .	18
7.7	0.1.1 . . . . .	18
7.8	0.1.0 . . . . .	18
<b>8</b>	<b>Indices and tables</b>	<b>19</b>



## 1.1 clan (Command Line ANalytics)

A command line utility for generating Google Analytics reports that are straightforward to compare across domains, projects or pages.

Important links:

- Repository: <https://github.com/onyxfish/clan>
- Issues: <https://github.com/onyxfish/clan/issues>
- Documentation: <http://clan.rtfld.org/>



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## Getting started

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### 2.1 Installation

#### 2.1.1 Users

If you only want to use clan, install it this way:

```
pip install clan
```

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**Note:** clan is intended for **researchers** and **analysts**. You will need to understand the Google Analytics API in order to use it effectively. It is not intended to generate reports for your boss.

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#### 2.1.2 Developers

If you are a developer that also wants to hack on clan, install it this way:

```
git clone git://github.com/onyxfish/clan.git
cd clan
mkvirtualenv --no-site-packages clan
pip install -r requirements.txt
python setup.py develop
```

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**Note:** If you have a recent version of pip, you may need to run pip with the additional arguments `--allow-external argparse`.

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### 2.2 Authentication

Before you use clan, you're going to need to setup your access to the Google Analytics API. Follow the [instructions in Google's docs](#) to register an application and create the `client_secrets.json` file.

Once you've got a `client_secrets.json` file, clan will walk you through acquiring an oAuth token:

```
clan auth
```

By default this token will be named `analytics.dat`. I suggest you move this file to `~/.clan_auth.dat`. clan will always look for the auth in that location so you will only need one copy no matter what directory you are running clan from.



## 3.1 Basic usage

clan has three basic uses

- Writing query results to an text or HTML report suitable for reading.
- Writing query results to a JSON file suitable for further processing.
- Generating an HTML “diff”, or change report, comparing two JSON outputs.

### 3.1.1 Generating a text report

To configure clan, create a YAML data file describing the analytics you want to run:

```
# Global configuration, only property-id is required
title: Commencement report
property-id: "53470309"
start-date: "2014-06-01"
prefix: "/commencement/"

# Metrics to report
queries:
  - name: Totals
    description: Top-level counts
    metrics:
      - "ga:pageviews"
      - "ga:uniquePageviews"
      - "ga:users"
      - "ga:sessions"

  - name: Totals by device category
    description: Device categories are desktop, tablet and mobile
    metrics:
      - "ga:pageviews"
      - "ga:uniquePageviews"
      - "ga:users"
      - "ga:sessions"
    dimensions:
      - "ga:deviceCategory"
    sort:
      - "-ga:pageviews"
```

Assuming this configuration is named “configuration.yml”, to produce an HTML report for this configuration you would run the following command.

```
clan report configuration.yml report.html
```

For complete documentation of this configuration, see [Configuration](#).

### 3.1.2 Generating a JSON report

Instead of HTML you can output data in a JSON microformat suitable for diffing, archiving, visualization or further processing with other tools:

```
clan report configuration.yml report.json
```

Global configuration options, such as `start-date` can also be specified as command line arguments, allowing you to reuse a YAML configuration file for several projects. When specified, command-line arguments will always take precedence over options defined in the YAML configuration.

```
clan report --start-date 2014-05-1 --prefix /tshirt/ configuration.yml report.json
```

You can also convert an HTML report from an existing JSON report:

```
clan report analytics.json report.html
```

### 3.1.3 Generating a text diff

If you report on multiple projects using the same analytics, you can use clan to compare their performance:

```
clan diff a.json b.json diff.html
```

The values in the diff report columns will be:

- Absolute difference
- Percent change
- Change in percentage points

### 3.1.4 Generating a JSON diff

As with individual reports, diffs can also be saved as JSON for further processing:

```
clan diff a.json b.json diff.json
```

## 3.2 Configuration

### 3.2.1 Configuring with YAML

clan is configured using either YAML, command-line arguments or both.

The basic structure of the YAML configuration file is:

```
# Global configuration
title: Sample configuration
property-id: "53470309"

# A list of queries to execute
queries:

  # Individual query configuration
  - name: Totals
    description: Property-wide top-level totals.
    metrics:
      - "ga:pageviews"
      - "ga:uniquePageviews"
      - "ga:users"
      - "ga:sessions"
```

### 3.2.2 Global configuration

The following is a list of properties that may be specified in as global configuration. Note that these may also be specified using command line arguments. Some properties can also be specified on a per-query basis. If there is a disagreement, the values will be preferred in the following order:

1. Command-line values
2. Query configuration in YAML
3. Global configuration in YAML

#### title

A user-friendly title for the report.

#### property-id

The ID of the Google Analytics property to query.

#### start-date

The start date of all queries, in YYYY-MM-DD format.

#### end-date

The end date of all queries, in YYYY-MM-DD format. Supersedes `ndays` if both are specified.

#### ndays

A number of days from the start date to report on. Superseded by `end-date` if both are specified.

#### domain

If specified, results will be limited to URLs from this domain.

## prefix

If specified, results will be limited to URLs with this prefix.

## 3.2.3 Per-query configuration

Individual queries support the following properties.

### name

A brief name for the query..

### description

A longer description of the query.

### metrics

A list of Google Analytics metrics to be reported.

For details about all metrics you can report on, see the [Google Analytics Core Reporting API docs](#).

### dimensions

A list of Google Analytics metrics on which to segment the data. Not that these are pairwise not hierarchical. If your query configuration looked like:

```
- name: Pageviews by device and browser
  metrics:
    - "ga:pageviews"
  dimensions:
    - "ga:deviceCategory"
    - "ga:browser"
  sort:
    - "-ga:pageviews"
```

Then your resulting report would enumerate the most popular combinations of device and browser, not the most popular devices further subdivided by most popular browser.

### sort

A list of Google Analytics metrics to sort by. Prefix a value with a – to sort in descending order.

### filter

A Google Analytics [query filter expression](#) to apply to the data. This will be “ANDed” together with any filters automatically generated from other configuration options such as `domain` or `prefix`.

## segment

A Google Analytics [segment definition](#) to use to filter the data.

## 3.3 Common queries

### 3.3.1 Total pageviews, uniques, users, etc.

```
- name: Totals
  metrics:
    - "ga:pageviews"
    - "ga:uniquePageviews"
    - "ga:users"
    - "ga:sessions"
```

### 3.3.2 Device share

Get totals broken down by desktop, tablet and mobile.

```
- name: Totals by device type
  metrics:
    - "ga:pageviews"
    - "ga:uniquePageviews"
    - "ga:users"
    - "ga:sessions"
  dimensions:
    - "ga:deviceCategory"
  sort:
    - "-ga:pageviews"
```

### 3.3.3 Browser share

```
- name: Totals by browser
  metrics:
    - "ga:pageviews"
  dimensions:
    - "ga:browser"
  sort:
    - "-ga:pageviews"
```

### 3.3.4 Most viewed pages

```
- name: Top pages
  metrics:
    - "ga:pageviews"
  dimensions:
    - "ga:pagePath"
  sort:
    - "-ga:pageviews"
  max-results: 20
```

### 3.3.5 Top sources (referrers)

```
- name: Totals by source
  metrics:
    - "ga:pageviews"
  dimensions:
    - "ga:source"
  sort:
    - "-ga:pageviews"
```

### 3.3.6 Top social sources

```
- name: Totals by social network
  metrics:
    - "ga:pageviews"
  dimensions:
    - "ga:socialNetwork"
  sort:
    - "-ga:pageviews"
```

### 3.3.7 Page load and render times

```
- name: Performance
  metrics:
    - "ga:avgPageLoadTime"
    - "ga:avgPageDownloadTime"
    - "ga:avgDomInteractiveTime"
    - "ga:avgDomContentLoadedTime"
```

### 3.3.8 Time on site

```
- name: Time on site
  metrics:
    - "ga:avgSessionDuration"
```

### 3.3.9 Custom event count

```
- name: "Event: tweet"
  metrics:
    - "ga:totalEvents"
    - "ga:uniqueEvents"
  filter: "ga:eventAction==tweet"
```

### 3.3.10 Custom event value

```
- name: "Event: time-on-slide"
  metrics:
    - "ga:eventValue"
    - "ga:avgEventValue"
  filter: "ga:eventAction==time-on-slide"
```

## 4.1 Release process

1. Verify no high priority issues are outstanding.
2. **Ensure these files all have the correct version number:**
  - CHANGELOG
  - setup.py
  - docs/conf.py
  - clan/templates/report.html (footer)
  - clan/templates/diff.html (footer)
3. Tag the release: `git tag -a x.y.z; git push --tags`
4. Roll out to PyPI: `python setup.py sdist upload`
5. Iterate the version number in all files where it is specified. (see list above)
6. Flag the new version for building on [Read the Docs](#).
7. Wait for the documentation build to finish.
8. Flag the new release as the default documentation version.
9. Announce the release on Twitter, etc.



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**Authors**

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- Christopher Groskopf
- Tyler Fisher
- Danny DeBelius



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### License

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#### The MIT License

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## Changelog

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### 7.1 0.2.3

- Packaging problems.

### 7.2 0.2.2

- Packaging problems.

### 7.3 0.2.1

- Packaging problems.

### 7.4 0.2.0

- Rev google-api-python-client to latest version.
- Documented a release process.
- Added Tyler Fisher to AUTHORS.
- Added Danny DeBelius to AUTHORS.
- Restructure code so pip works. (#26)
- Fetch human-readable field names from Google.
- Simplify command-line usage.
- Kill text support.
- Redesigned HTML output.
- Added user-configurable query description property.
- Added user-configurable report title property.
- Added support for query segment” property.

## 7.5 0.1.3

- Fix lots of template bugs. (#17, #18)
- Add HTML output for reports and diffs. (#9)

## 7.6 0.1.2

- Add *clan diff* command. (#8)

## 7.7 0.1.1

- Refactored to use command structure for CLI.
- `--ndays` argument. (#10)
- Document all configuration options. (#13)
- Allow global configuration on command line. (#12)
- Fixed `.yaml` extension to be `.yml`.

## 7.8 0.1.0

- Initial version.

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## Indices and tables

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- *genindex*
- *modindex*
- *search*