

Keyword Research App [Dev Guide]

Develop a cutting-edge keyword research tool from scratch

Discover how DataForSEO can be harnessed to build a powerful keyword research app. Take this comprehensive guide as your roadmap to unlocking the potential of our APIs, providing important insights, strategies, and resources for building cutting-edge solutions for keyword research.

Dive in and transform your approach to developing keyword research apps.

<< TRY OUR DATA >>

<< SEE DOCS >>

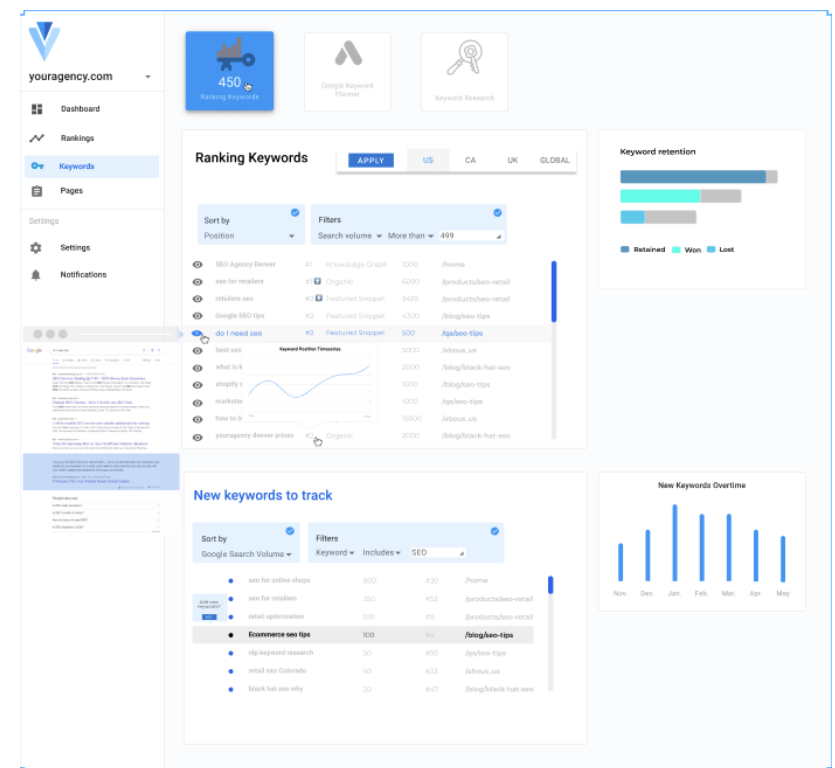


Ranking Keywords

The Ranking Keywords dashboard provides users with an in-detail overview of keywords that a target website is ranking for, its estimated online performance, and search engine visibility. This tool provides insights into the keywords driving traffic to a website and their respective rankings across various search engines. Whether you're tracking the success of your SEO campaigns, monitoring competitor activity, or optimizing your content strategy, this dashboard is your go-to resource for data-driven decision-making.

Leveraging DataForSEO APIs, you will be able to get all the data you need to build an effective Ranking Keywords dashboard displaying a variety of useful information, including:

- Ranking keywords table: information about the keywords that are being tracked, their current ranking positions in SERPs, and other related information.
- New keywords table: displays all the keywords that a target website is ranking for, but haven't been added to the rank tracking dashboard yet.



- Keyword retention graph: illustrates the dynamics of ranking changes.
- New keywords over time graph: provides information on how many new keywords were discovered monthly.

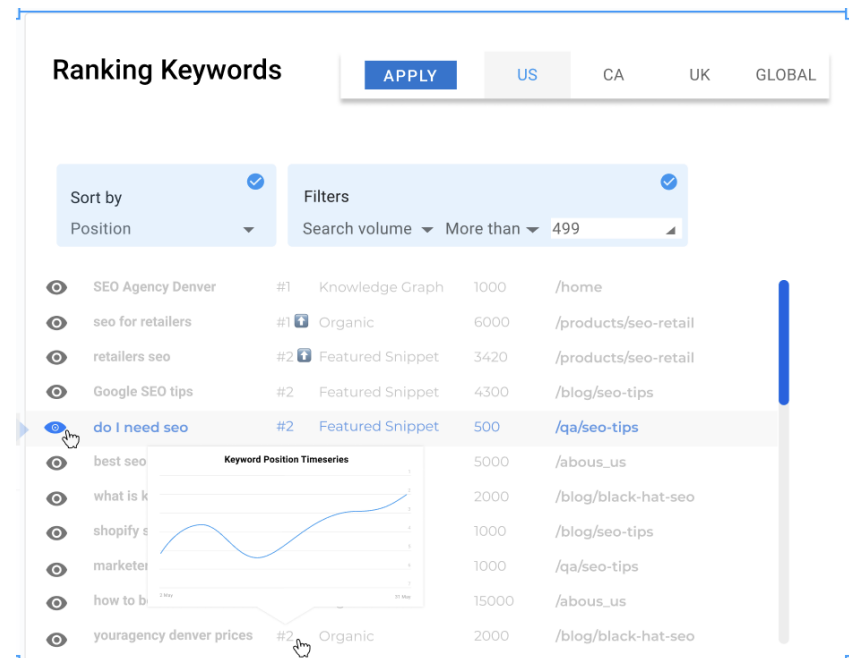
To obtain the data you'd need to build the Ranking Keywords dashboard, DataForSEO offers several APIs:

- [SERP API](#)
- [DataForSEO Labs API](#)
- [Keyword Data API](#)

Ranking Keywords Table

The "Ranking Keywords" table provides a detailed list of keywords that a target website is ranking for across search engine results pages. This table consists of five distinct columns, a pop-up graph representing the keyword position timeline, and a snapshot of the relevant SERP. In addition to that, a brief overview of the keywords that a target domain is ranking for in Google SERPs. The table consists of five columns:

1. Keywords: this column displays the keywords for which the domain is ranking in SERPs.
2. Position in Google SERPs: this column indicates the specific position of the domain for each keyword in Google SERPs.



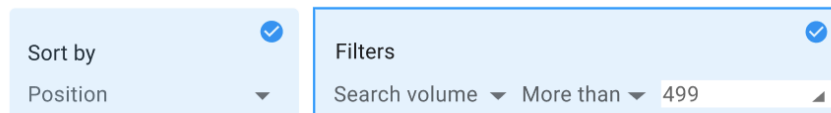
3. Relevant SERP Item: this column provides information about the relevant item on the SERP that corresponds to the keyword and domain. It could be the title of the webpage, a featured snippet, a knowledge graph entry, or any other relevant item that appears in search results. [Check the DataForSEO Visual Guide to SERP Features to learn more.](#)
4. Keyword Search Volume: this column displays the search volume associated with each keyword. The search volume indicates the estimated number of searches performed by users for a specific keyword within a given time period.
5. URL of the Relevant Website Page: this column provides the URL of the specific webpage on the domain that ranks for the corresponding keyword. By analyzing the relevant webpage, practitioners can optimize its content further or explore strategies to improve its ranking position.
6. SERP snapshot: this feature allows the user to view the snapshot of the SERP relevant to a particular ranking keyword.

Overall, the "Ranking Keywords" table is a valuable resource for SEO practitioners to monitor their website's performance in search engine rankings. It enables them to identify keywords they are ranking for, evaluate their position and visibility in the SERPs, understand search volume data, and assess the specific pages that are driving organic traffic. This information helps guide SEO strategies, content optimization efforts, and overall improvement of website performance.

Ranking Keywords Table - List of keywords

In order to obtain the list of ranking keywords for the target keyword ad hoc, refer to the [Ranked Keywords endpoint of DataForSEO Labs API](#).

Specify the domain in the `target` field of the request alongside the desired [location and language](#) parameters. By default, the response will contain keywords and related data sorted by the ranking of the relevant SERP item among the items of the same type. You can implement various sorting and filtering algorithms by using the corresponding `order_by` and `filters` parameters. You can access all the values available for filtering and sorting in this [endpoint](#).



The image shows a user interface for the DataForSEO Labs API. It features two main sections: 'Sort by' and 'Filters'. The 'Sort by' section has a dropdown menu currently set to 'Position'. The 'Filters' section contains a 'Search volume' filter with a dropdown set to 'More than' and a text input field containing the value '499'. Both sections have a blue checkmark icon in the top right corner, indicating they are active or confirmed.

For example, to obtain a list of ranking keywords with a search

volume over 499 and sorted by the highest position in SERP, specify the following values in the corresponding fields of your request:

```
# Instead of 'login' and 'password' use your credentials from https://app.dataforseo.com/api-dashboard
login="login"
password="password"
cred="$(printf ${login}:${password} | base64)"
curl --location --request POST "https://api.dataforseo.com/v3/dataforseo_labs/google/ranked_keywords/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  \"target\": \"forbes.com\",
  \"language_name\": \"English\",
  \"location_name\": \"United States\",
  \"order_by\": [
    \"ranked_serp_element.serp_item.rank_group,asc\"
  ],
  \"filters\": [
    \"keyword_data.keyword_info.search_volume\",
    \">\",
    \"499\"
  ],
  \"limit\": 10
}
]"
```

The response will contain ranked keywords alongside the SERP elements related to the keyword position, as well as impressions, monthly searches, and other data - pretty much everything you'll need for the Ranked Keywords table. ,

The current position of the target website for the keyword is indicated in the `ranked_serp_element` object of the response, while the dynamics of ranking changes can be found in the `rank_changes` object:

```
"ranked_serp_element": {
  "se_type": "google",
  "serp_item": {
```

"se_type": "google",

"type": "organic",

"rank_group": 1,

"rank_absolute": 1,

"position": "left",

"xpath": "/html[1]/body[1]/div[5]/div[1]/div[11]/div[1]/div[2]/div[2]/div[1]/div[1]/div[1]/div[1]",

"domain": "www.forbes.com",

"title": "Best No Balance Transfer Fee Credit Cards Of February 2024",

"url": "https://www.forbes.com/advisor/credit-cards/best/no-fee-balance-transfer-credit-cards/",

"breadcrumb": "https://www.forbes.com › advisor › no-fee-balance-tr...",

"website_name": "Forbes",

"is_image": false,

"is_video": false,

"is_featured_snippet": false,

"is_malicious": false,

"description": "Some no-balance-transfer-fee cards offer introductory 0% APR on balance transfers for an extended period. You won't pay interest charges...",

"pre_snippet": "6 days ago",

"extended_snippet": null,

"amp_version": false,

"rating": null,

"highlighted": [...],

"links": null,

"about_this_result": null,

"main_domain": "forbes.com",

"relative_url": "/advisor/credit-cards/best/no-fee-balance-transfer-credit-cards/",

"etv": 267.5199890136719,

"impressions_etv": null,

"estimated_paid_traffic_cost": 8103.1806640625,

"rank_changes": {

"previous_rank_absolute": 5,

```
        "is_new": false,  
        "is_up": true,  
        "is_down": false  
    }  
}
```

The search volume for the keyword is indicated in the `keyword_info` object.

```
"keyword_info": {  
  "se_type": "google",  
  "last_updated_time": "2024-03-14 11:42:22 +00:00",  
  "competition": 0.3700000047683716,  
  "competition_level": "MEDIUM",  
  "cpc": 30.290000915527344,  
  "search_volume": 880,  
  "low_top_of_page_bid": 9,  
  "high_top_of_page_bid": 30.709999084472656,  
  "categories": [...],  
  "monthly_searches": [...]  
}
```

To sum up, the Ranked Keywords endpoint provides a well-rounded and affordable way of obtaining ranking keywords and related data. However, you should note that the data may be a bit outdated due to the [update cycle of our SERP and Keyword Databases](#).

Ranking Keywords Table - SERP data and Google Ads metrics

You can obtain live SERP data using [SERP API](#), while required keyword data is available at the [Google Ads API](#).

SERP API is designed to provide real-time search engine results based on a keyword, location, and language, among other parameters. Note that a POST request doesn't have the `target` parameter, but you can use [the following script](#) to obtain up-to-date search engine data for a certain domain and keyword:

```
<?php
```

```
// You can download this file from here https://cdn.dataforseo.com/v3/examples/php/php\_RestClient.zip
```

```
require('RestClient.php');
```

```
//you can use the '$id' string as a $id variable and '$tag' as $tag variable. we will set the necessary values before sending the request.
```

```
//http://your-server.com/pingscript?id=$id
```

```
if ((isset($_GET["id"])) and (!empty($_GET["id"]))) {
```

```
    // Instead of 'login' and 'password' use your credentials from https://app.dataforseo.com/api-dashboard
```

```
    $client = new RestClient('https://api.dataforseo.com/', null, 'login', 'password');
```

```
    try {
```

```
        $result = array();
```

```
        $api_result = $client->get('/v3/serp/google/organic/task_get/regular/' . $_GET["id"]);
```

```
        if (((int)$api_result['status_code'] > 0) and ((int)$api_result['status_code'] < 30000)) { //see https://docs.dataforseo.com/v3/appendix/errors/
```

```
            foreach($api_result['tasks'] as $task) {
```

```
                if (((int)$task['status_code'] > 0) and ((int)$task['status_code'] < 30000)) { //see https://docs.dataforseo.com/v3/appendix/errors/
```

```
                    //we set 'site' value when setting the task
```

```
                    if ((isset($task['data']['tag'])) and (!empty($task['data']['tag']))) {
```

```
                        $site = $task['data']['tag'];
```

```
                        foreach($task['result']['items'] as $serp) {
```

```
                            //looking only for organics
```

```
                            if (($serp['type'] == 'organic') and (parse_url($serp['url'], PHP_URL_HOST) == $site)) {
```

```
                                $result[] = $serp;
```

```
                            }
```

```
                        }
```

```
                    }
```

```
                } else {
```

```
                    http_response_code(204);
```

```
                }
```

```
            }
```

```
        } else {
```

```
            http_response_code(204);
```

```
        }
```

```
        print_r($result);
```

```
        // do something with result
```

```
    } catch (RestClientException $e) {
```

```
        echo "\n";
```

```
        print "HTTP code: {$e->getHttpCode()}\n";
```

```
        print "Error code: {$e->getCode()}\n";
```

```

        print "Message: {"$e->getMessage()}\n";
        print "$e->getTraceAsString();
        echo "\n";
    }
    $client = null;
} else {
    http_response_code(204);
}
?>

```

On the other hand, you can easily get a full spectrum of data from Google Ads by using DataForSEO Keywords Data API. The [Search Volume endpoint](#) allows you to obtain search volume, monthly searches, competition, and other related data for up to 1000 keywords in a single request.

Check our [best practices for handling Keywords Data API requests](#).

In your request to the Search Volume endpoint, specify the list of keywords, as well as the `date_from` parameter to define a time range.

```

# Instead of 'login' and 'password' use your credentials from https://app.dataforseo.com/api-dashboard \
login="login" \
password="password" \
cred="$(printf ${login}:${password} | base64)" \
curl --location 'https://api.dataforseo.com/v3/keywords_data/google_ads/search_volume/task_post' \
--header 'Content-Type: application/json' \
--header 'Authorization: Basic c3VwcG9ydEBkYXRhZm9yc2VvLmNvbTpTUnJYVHp2UGtFSjgzdXlz' \
--data '[
{
  "language_code": "en",
  "location_code": 2840,
  "keywords": [
    "buy laptop",

```

```

    "cheap laptops for sale",
    "purchase laptop"
  ],
  "date_from": "2023-12-01"
}
]

```

In the API response, look for the `search_volume` field and `monthly_searches` array to get the latest data you need for the Ranking Keywords table:

[https://api.dataforseo.com/v3/keywords_data/google_ads/search_volume/task_get/\\$id](https://api.dataforseo.com/v3/keywords_data/google_ads/search_volume/task_get/$id)

```

{
  "version": "0.1.20240313",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "0 sec.",
  "cost": 0,
  "tasks_count": 1,
  "tasks_error": 0,
  "tasks": [
    {
      "id": "04081732-1535-0110-0000-490833210e6a",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "0 sec.",
      "cost": 0,
      "result_count": 1,
      "path": [
        "v3",
        "keywords_data",
        "google_ads",
        "search_volume",

```

```
"task_get",  
"04081732-1535-0110-0000-490833210e6a"
```

```
],
```

```
"data": {  
  "api": "keywords_data",  
  "function": "search_volume",  
  "se": "google_ads",  
  "language_code": "en",  
  "location_code": 2840,  
  "keywords": [  
    "buy laptop"  
  ],  
  "date_from": "2024-01-01"
```

```
},
```

```
"result": [  
  {  
    "keyword": "buy laptop",  
    "spell": null,  
    "location_code": 2840,  
    "language_code": "en",  
    "search_partners": false,  
    "competition": "HIGH",  
    "competition_index": 100,  
    "search_volume": 2900,  
    "low_top_of_page_bid": 1.89,  
    "high_top_of_page_bid": 22.75,  
    "cpc": 8.71,
```

```
    "monthly_searches": [  
      {
```

```
        {
```

```
          "year": 2024,
```

```
          "month": 2,
```

```
          "search_volume": 2900
```

```
        },
```

```
        {
```

```
          "year": 2024,
```

```
          "month": 1,
```

```
          "search_volume": 3600
```

```
        }  
      ]
```

```
    ]
```

```
}
  ]
}
]
}
```

New Keywords to Track

The “New keywords to track” table is designed to provide users with a short list of top ranking keywords for a target website and further suggest adding these keywords to the rank tracker - thus prompting users to upgrade a subscription.

This feature is, in fact, a scaled-down version of the [Ranked Keywords](#) table, which we already reviewed in this guide. By highlighting relevant top-ranking keywords, the New Keywords to Track table empowers users to stay ahead of the curve and adapt their content

and marketing strategies accordingly. Moreover, its integration with the rank tracker streamlines the process of monitoring and optimizing website performance, fostering a seamless user experience. This feature not only enhances the value proposition of the subscription but also underscores the platform's commitment to facilitating continuous growth and success for its users in the dynamic realm of digital marketing.

New keywords to track				
Sort by		Filters		
Google Search Volume		Keyword Includes SEO		
Add new keywords? ADD	seo for online shops	800	#20	/home
	seo for retailers	350	#52	/products/seo-retail
	retail optimization	100	#8	/products/seo-retail
	Ecommerce seo tips	100	#4	/blog/seo-tips
	nlp keyword research	50	#93	/qa/seo-tips
	retail seo Colorado	50	#33	/abous_us
	black hat seo why	20	#47	/blog/black-hat-seo

Along the lines of the Ranked Keywords table, this feature relies on DataForSEO Labs API and its [Ranked Keywords endpoint](#) in particular.

In addition to the target field, you can also set up custom sorting and filtering parameters.

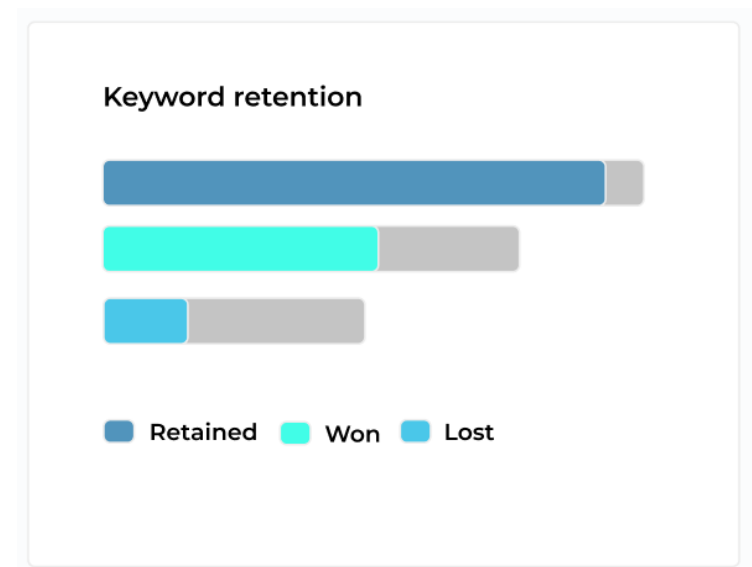
Keyword retention

The Keyword retention graph is designed to visualize the performance and longevity of their keywords' positions over time. This dynamic graph displays what keywords retained their positions and increased or decreased in SERPs within a specific time period.

Despite its small size, the Keyword Retention graph can provide valuable insights to a user, including the historical trajectory of rankings and pinpointing the effectiveness of SEO strategies in a simple and comprehensive form.

To get the number of retained, won, and lost keywords for a certain target website within a specific timeframe, you can use the [Domain Rank Overview](#) or [Historical Rank Overview](#) endpoints of DataForSEO Labs API.

To set a task, specify a target website location and language parameters. If you're using the Domain Rank Overview endpoint, it'd be enough to specify the target alone - because the only available location and language is US and English.



In the API response, look out for the `is_new`, `is_up`, `is_down`, and `is_lost` integers in the `metrics.organic` object.

New Keywords Overtime

The New Keyword Overtime is a complementary chart that intends to provide a clear historical perspective of the dynamics of new ranking keyword changes.

This bar chart visualizes the numbers of new ranking keywords that were found each month across all selected locations.

In order to obtain this data, you can use the [Domain Rank Overview](#) or [Historical Rank Overview](#) endpoints of DataForSEO Labs API.

If you decide to use the Historical Rank Overview, note that separate requests should be made for each location and the corresponding `is_new` values summed up.



Google Keyword Planner

Google Keyword Planner is probably the most popular keyword research tool in the SEO community. However, it doesn't come without its own limitations. For example, you can't access exact search volume values or use any metrics-based filtering methods unless your account runs active advertising campaigns on Google Ads. Needless to say, Google Ads API has even more restrictions.

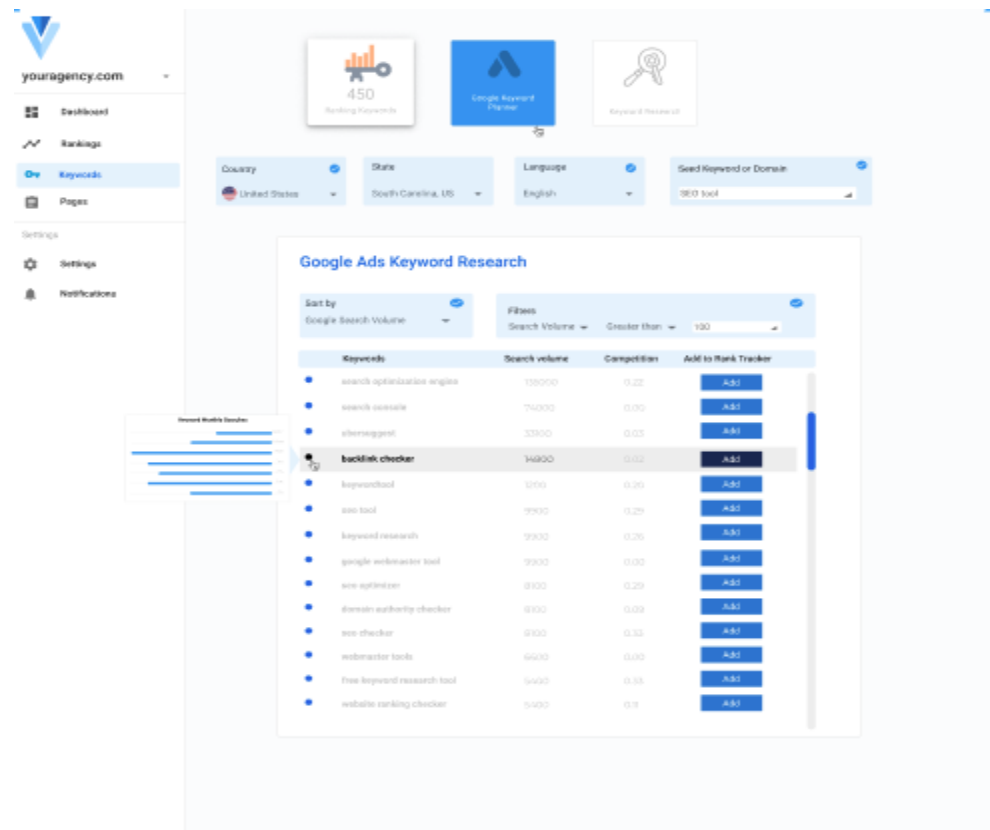
By employing DataForSEO API, you can develop your own proprietary keyword research tool based on real-time Google Ads data and provide real value to users.

In this guide, we'll demonstrate how to get and process data for the most important features of your tool, including:

- Seed parameters: a set of input parameters for keyword research, including location, language, target keyword or domain parameters.
- Google Ads Keyword Research table: provides the results of keyword research and related metrics.
- Keyword monthly searches graph: illustrates the dynamics of monthly search volume changes.

To build the features listed above, you can use the following DataForSEO APIs:

- [Keyword Data API](#)
- [DataForSEO Labs API](#)



Seed parameters

A screenshot of the 'Seed Parameters' control panel. It consists of four light blue rectangular boxes arranged horizontally. The first box is labeled 'Country' and shows 'United States' with a US flag icon and a dropdown arrow. The second box is labeled 'State' and shows 'South Carolina, US' with a dropdown arrow. The third box is labeled 'Language' and shows 'English' with a dropdown arrow. The fourth box is labeled 'Seed Keyword or Domain' and shows 'SEO tool' with a dropdown arrow. Each box has a small blue checkmark icon in the top right corner.

The Seed Parameters feature is the main control panel for specifying the input parameters in Google Ads keyword research. In this example, we included country, state, language, and keyword/domain, but you can surely include more parameters available in the [Keywords for Keywords](#) and [Keywords for Site](#) endpoints of [DataForSEO Google Ads API](#).

For example, you can also use `date_from` and `date_to` fields to specify a timeframe, `search_partners` to include data from syndicated networks that host Google search, and `include_adult_keywords` boolean for obtaining keywords associated with adult content.

Pay attention to the “Seed Keyword or Domain” input box. Its value defines whether the Keywords for Keywords or Keywords for Site endpoint is applied. Note that you can specify up to 20 seed keywords in the request to Keywords for Keywords.

The example request to the Keywords for Keywords is structured as follows:

```
# Instead of 'login' and 'password' use your credentials from https://app.dataforseo.com/api-dashboard
login="login"
password="password"
```

```
cred="$(printf ${login}:${password} | base64)"
curl --location --request POST "https://api.dataforseo.com/v3/keywords_data/google_ads/keywords_for_keywords/task_post"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  \"location_name\": 21173,
  \"language_code\": \"en\",
  \"keywords\": [\"SEO tool\", \"keyword research tool\"]
}
]"
```

Google Ads Keyword Research

The Google Ads Keyword Research table is the central piece of the dashboard and provides a list of essential metrics in addition to the full list of keyword ideas.

You can also sort and filter the results in the table either upon receiving the results, or when making a POST request to a relevant API endpoint.

The table itself consists of four columns:

- **Keywords:** a list of keywords that were found for the target seed query or domain, sorting and filtering fields, as well as other input parameters.

Sort by		Filters		
Google Search Volume		Search Volume	Greater than	100
Keywords	Search volume	Competition	Add to Rank Tracker	
search optimization engine	135000	0.22	Add	
search console	74000	0.00	Add	
ubersuggest	33100	0.03	Add	
backlink checker	14800	0.02	Add	
keywordtool	1200	0.20	Add	
seo tool	9900	0.29	Add	
keyword research	9900	0.26	Add	
google webmaster tool	9900	0.00	Add	
seo optimizer	8100	0.29	Add	
domain authority checker	8100	0.09	Add	
seo checker	8100	0.33	Add	
webmaster tools	6600	0.00	Add	
free keyword research tool	5400	0.33	Add	

- **Search volume:** indicates the number of Google searches per month for a specific keyword.
- **Competition:** it is a metric that reflects the competition level associated with ad placement for a particular keyword. You can learn more about this metric in this [Help Center article](#).
- **Add to Rank Tracker:** contains buttons with a call-to-action to add keywords to the [Rank Tracking dashboard](#) and start tracking their positions in search results using SERP API.

To obtain the necessary data for this table, we will be using the [Google Ads endpoints of DataForSEO Keyword Data API](#), and Keywords for Keywords or Keywords for Site endpoints in particular. The list of keywords, search volume, and competition values are all available in the API response. Note that there are two methods of data retrieval: [Standard](#) and [Live](#).

In the response, the data needed for the keywords, search volume, and competition values can be found in the corresponding fields: "keyword", "search_volume", "competition_index".

```
{
  "version": "0.1.20231117",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "0 sec.",
  "cost": 0,
  "tasks_count": 1,
  "tasks_error": 0,
  "tasks": [
    {
      "id": "11302012-1535-0107-0000-3c8c2d83f361",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "0 sec.",
      "cost": 0,
      "result_count": 105,
      "path": [
        "v3",
        "keywords_data",
        "google_ads",
        "keywords_for_keywords",

```

```
"task_get",
"11302012-1535-0107-0000-3c8c2d83f361"
],
"data": {
  "api": "keywords_data",
  "function": "keywords_for_keywords",
  "se": "google_ads",
  "location_code": 2840,
  "keywords": [
    "leads and prospects"
  ],
  "include_adult_keywords": "true"
},
"result": [
  {
    "keyword": "leads and prospects",
    "location_code": 2840,
    "language_code": null,
    "search_partners": false,
    "competition": "LOW",
    "competition_index": 7,
    "search_volume": 260,
    "low_top_of_page_bid": 4.89,
    "high_top_of_page_bid": 23.04,
    "cpc": null,
    "monthly_searches": [
      {
        "year": 2023,
        "month": 10,
        "search_volume": 210
      },
      {
        "year": 2023,
        "month": 9,
        "search_volume": 210
      },
      {
        "year": 2023,
        "month": 8,
```

```
"search_volume": 260
},
{
  "year": 2023,
  "month": 7,
  "search_volume": 210
},
{
  "year": 2023,
  "month": 6,
  "search_volume": 170
},
{
  "year": 2023,
  "month": 5,
  "search_volume": 260
},
{
  "year": 2023,
  "month": 4,
  "search_volume": 320
},
{
  "year": 2023,
  "month": 3,
  "search_volume": 320
},
{
  "year": 2023,
  "month": 2,
  "search_volume": 260
},
{
  "year": 2023,
  "month": 1,
  "search_volume": 320
},
{
  "year": 2022,
```

```

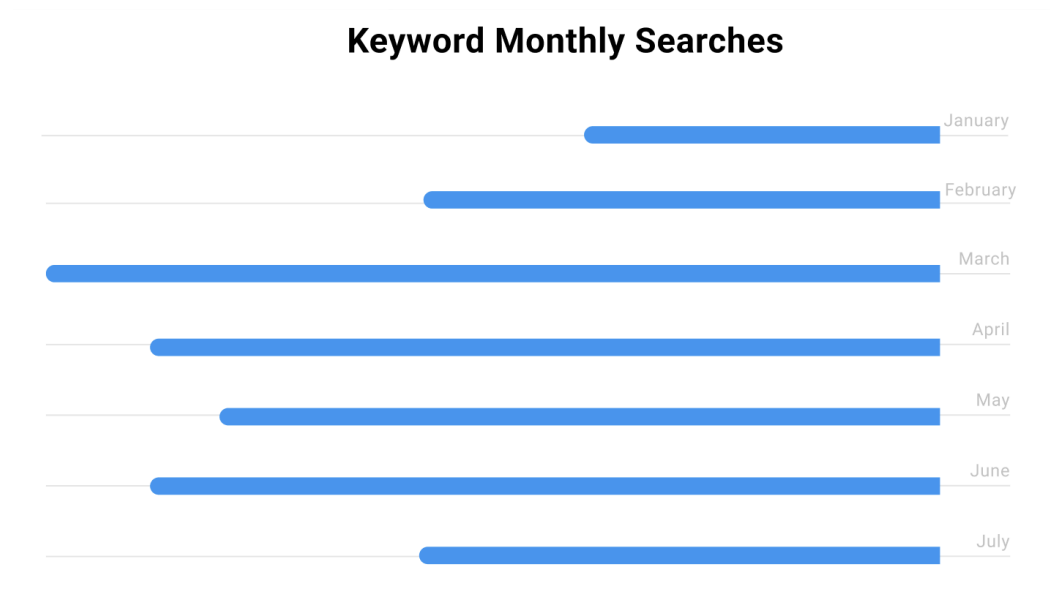
    "month": 12,
    "search_volume": 320
  },
  {
    "year": 2022,
    "month": 11,
    "search_volume": 320
  }
],
"keyword_annotations": {
  "concepts": null
}
},...
}
]
}
]
}

```

Keyword Monthly Searches

The “Keyword Monthly Searches” graph on the Google Ads Keyword Research table illustrates the month-over-month development of search volume for a particular keyword on the table.

Building this chart is actually pretty easy - just use the exact same [Keywords for Keywords](#) or [Keywords for Site](#) endpoint we’ve used in all other parts of this Dashboard.



You will find the necessary data for each keyword in the `monthly_searches` array of the endpoint's response.

```
...
"monthly_searches": [
  {
    "year": 2020,
    "month": 10,
    "search_volume": 4400
  },
  {
    "year": 2020,
    "month": 11,
    "search_volume": 3600
  },
  {
    "year": 2020,
    "month": 12,
    "search_volume": 2900
  },
  {
    "year": 2021,
    "month": 1,
    "search_volume": 3600
  },
  {
    "year": 2021,
    "month": 2,
    "search_volume": 90500
  },
  {
    "year": 2021,
    "month": 3,
    "search_volume": 3600
  },
  {
    "year": 2021,
    "month": 4,
    "search_volume": 4400
  },
  {
    "year": 2021,
    "month": 5,
    "search_volume": 2900
  },
  {
    "year": 2021,
    "month": 6,
    "search_volume": 2900
  },
  {
```

```

    "year": 2021,
    "month": 7,
    "search_volume": 2900
  },
  {
    "year": 2021,
    "month": 8,
    "search_volume": 2900
  },
  {
    "year": 2021,
    "month": 9,
    "search_volume": 2400
  }
],
"keyword_annotations": {
  "concepts": [
    {
      "name": "seo software free",
      "concept_group": {
        "name": "Others",
        "type": null
      }
    }
  ]
}
}...

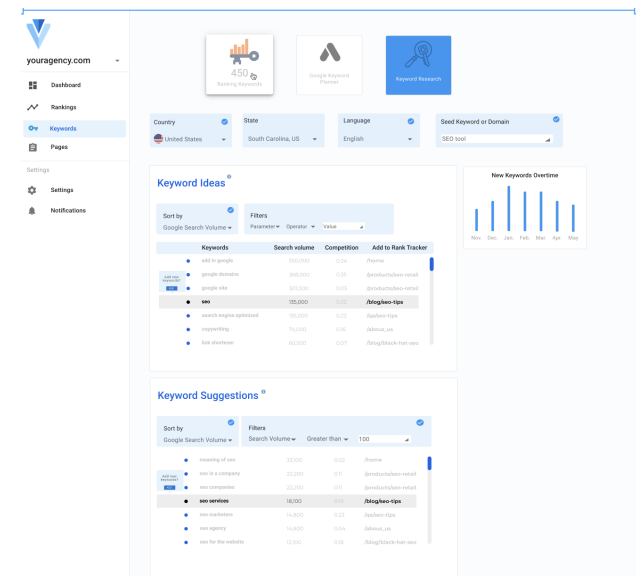
```

Keyword Research

The Keyword Research dashboard is the primary tool for finding the right keywords. Combined with the Google Keyword Planner, it will provide you and your users with the necessary keyword research capabilities to run an effective and resultative SEO campaign.

This dashboard consists of several must-have features, but you can always add more keyword research algorithms from DataForSEO Labs API and enrich your application with even more options.

- Seed parameters: a set of input criteria utilized for sending a POST request to the API and, therefore, conducting keyword research. These parameters



encompass various elements, such as location, language, as well as seed keyword or domain.

- Keyword Ideas Table: provides a list of keywords that fall within the same product or service categories as the seed keyword or website specified in the input.
- Keyword Suggestions Table: includes keyword ideas that contain a seed query with additional words included before, after, or within the query.
- New Keywords Overtime Graph: illustrates the dynamics of growth of new keywords detected for the target website.

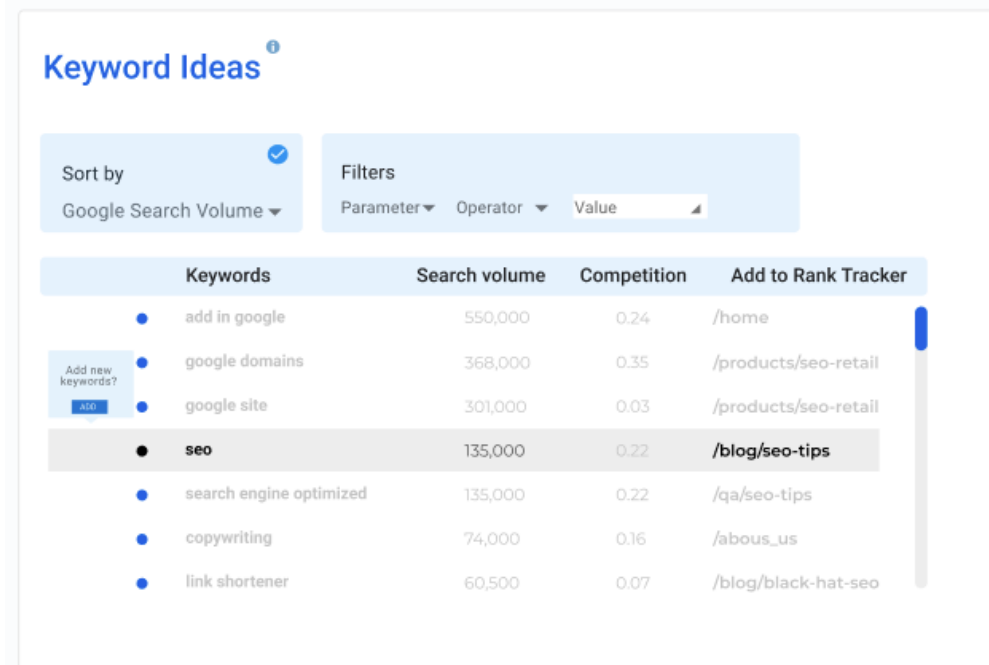
DataForSEO will supply you with all the data you need to build the features above, and more. For this particular configuration of the Keyword Research dashboard, we will be using the following APIs:

- [DataForSEO Labs API](#)
- [Keyword Data API](#)

Keyword Ideas

The Keyword Ideas table is designed to help users get a list of relevant and actionable keywords based on the seed keyword, target location and language, among other parameters.

This entire table can be built on top of the [Keyword Ideas](#) endpoint of DataForSEO Labs API. The principal feature of this endpoint is the algorithm: a relevance-based search for terms that fall into the same product or service category as a seed keyword you specified in a POST request.



The screenshot displays the 'Keyword Ideas' dashboard. At the top, there's a title 'Keyword Ideas' with an information icon. Below the title, there are two main sections: 'Sort by' and 'Filters'. The 'Sort by' section has a dropdown menu currently set to 'Google Search Volume'. The 'Filters' section includes three input fields: 'Parameter', 'Operator', and 'Value'. Below these sections is a table with four columns: 'Keywords', 'Search volume', 'Competition', and 'Add to Rank Tracker'. The table contains several rows of keyword suggestions. The first row is 'add in google' with a search volume of 550,000, competition of 0.24, and a path of '/home'. The second row is 'google domains' with a search volume of 368,000, competition of 0.35, and a path of '/products/seo-retail'. The third row is 'google site' with a search volume of 301,000, competition of 0.03, and a path of '/products/seo-retail'. The fourth row is 'seo' with a search volume of 135,000, competition of 0.22, and a path of '/blog/seo-tips'. The fifth row is 'search engine optimized' with a search volume of 135,000, competition of 0.22, and a path of '/qa/seo-tips'. The sixth row is 'copywriting' with a search volume of 74,000, competition of 0.16, and a path of '/abous_us'. The seventh row is 'link shortener' with a search volume of 60,500, competition of 0.07, and a path of '/blog/black-hat-seo'. On the left side of the table, there is a vertical sidebar with a button labeled 'Add new keywords?' and a blue bar at the bottom.

Keywords	Search volume	Competition	Add to Rank Tracker
add in google	550,000	0.24	/home
google domains	368,000	0.35	/products/seo-retail
google site	301,000	0.03	/products/seo-retail
seo	135,000	0.22	/blog/seo-tips
search engine optimized	135,000	0.22	/qa/seo-tips
copywriting	74,000	0.16	/abous_us
link shortener	60,500	0.07	/blog/black-hat-seo

The product and service categories are based on Google Ads with each keyword and domain in the database having a list of relevant categories. You can download a full list of available categories [here](#).

To set a task to the Keyword Ideas endpoint, you'd have to specify the seed keyword, location, and language parameters in the POST request. The filtration and sorting parameters can be specified in the corresponding `filters` and `order_by` fields. Also, note that to offer your users a URL to relevant search results, you should use the `include_serp_info` parameter.

Here's an example of the request to the Keyword Ideas endpoint to retrieve ten keyword ideas and relevant data for the queries "seo" and "keyword research", "US" and "English" location and language parameters, with results sorted by descending search volume, and filtered by competition.

```
login="login"
password="password"
cred="$(printf ${login}:${password} | base64)"
curl --location --request POST "https://api.dataforseo.com/v3/dataforseo_labs/google/keyword_ideas/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "keywords": [
    "seo",
    "keyword research"
  ],
  "location_code": 2840,
  "language_code": "en",
  "include_serp_info": true,
  "order_by": ["keyword_info.search_volume,desc"],
  "filters": ["keyword_info.competition", "<", "0.5"],

  "limit": 10
}
]"
```

The endpoint's response contains "keyword", "search_volume", "competition", "check_url", and other values that you can add to the Keyword Ideas table.

```
"version": "0.1.20240514",
"status_code": 20000,
"status_message": "Ok.",
"time": "0.2738 sec.",
"cost": 0.011,
"tasks_count": 1,
"tasks_error": 0,
"tasks": [
{
"id": "06172014-1535-0400-0000-07bb76cb0f29",
"status_code": 20000,
"status_message": "Ok.",
"time": "0.2167 sec.",
"cost": 0.011,
"result_count": 1,
"path": [
"v3",
"dataforseo_labs",
"google",
"keyword_ideas",
"live"
],
"data": {
"api": "dataforseo_labs",
"function": "keyword_ideas",
"se_type": "google",
"keywords": [
"seo",
"keyword research"
],
"location_code": 2840,
"language_code": "en",
"include_serp_info": true,
"order_by": [
"keyword_info.search_volume.desc"
],
"filters": [
"keyword_info.competition",
"<",
"0.5"
],
"limit": 10
},
"result": [
{
"se_type": "google",
"seed_keywords": [
"seo",
"keyword research"
],
"location_code": 2840,
"language_code": "en",
"total_count": 46916,
"items_count": 10,
"offset": 0,
"offset_token": ""
}
]
},
{
"se_type": "google",
"keyword": "google analytics",
"location_code": 2840,
"language_code": "en",
"keyword_info": {
"se_type": "google",
"last_updated_time": "2024-05-15 04:43:22 +00:00",
"competition": 0.02,
"competition_level": "LOW",
"cpc": 7.46,
```

```
"search_volume": 550000,
"low_top_of_page_bid": 1.94,
"high_top_of_page_bid": 39.03,
"categories": [
  10004,
  10007,
  10276,
  11088,
  11498,
  12376,
  13152,
  13316,
  13418
],
"monthly_searches": [
  {
    "year": 2024,
    "month": 4,
    "search_volume": 450000
  },
  {
    "year": 2024,
    "month": 3,
    "search_volume": 368000
  },
  {
    "year": 2024,
    "month": 2,
    "search_volume": 368000
  },
  {
    "year": 2024,
    "month": 1,
    "search_volume": 450000
  },
  {
    "year": 2023,
    "month": 12,
    "search_volume": 368000
  },
  {
    "year": 2023,
    "month": 11,
    "search_volume": 450000
  },
  {
    "year": 2023,
    "month": 10,
    "search_volume": 550000
  },
  {
    "year": 2023,
    "month": 9,
    "search_volume": 550000
  },
  {
    "year": 2023,
    "month": 8,
    "search_volume": 673000
  },
  {
    "year": 2023,
    "month": 7,
    "search_volume": 550000
  },
  {
    "year": 2023,
    "month": 6,
    "search_volume": 673000
  },
  {
    "year": 2023,
    "month": 5,
    "search_volume": 673000
  }
],
"keyword_properties": {
```

```
{
  "se_type": "google",
  "core_keyword": "analytics google analytics",
  "synonym_clustering_algorithm": "text_processing",
  "keyword_difficulty": 100,
  "detected_language": null,
  "is_another_language": true
},
{
  "impressions_info": {
    "se_type": "google",
    "last_updated_time": null,
    "bid": null,
    "match_type": null,
    "ad_position_min": null,
    "ad_position_max": null,
    "ad_position_average": null,
    "cpc_min": null,
    "cpc_max": null,
    "cpc_average": null,
    "daily_impressions_min": null,
    "daily_impressions_max": null,
    "daily_impressions_average": null,
    "daily_clicks_min": null,
    "daily_clicks_max": null,
    "daily_clicks_average": null,
    "daily_cost_min": null,
    "daily_cost_max": null,
    "daily_cost_average": null
  },
  "serp_info": {
    "se_type": "google",
    "check_url": "https://www.google.com/search?q=google%20analytics%3A&num=100&hl=en&gl=US&gws_rd=cr&ie=UTF-8&oe=UTF-8&glp=1&uule=w+CAIQIFISQs2MuSEtepUEUK33kOSuTsc",
    "serp_item_types": [
      "organic",
      "people_also_ask",
      "related_searches"
    ],
    "se_results_count": 2900000000,
    "last_updated_time": "2024-05-29 00:26:45 +00:00",
    "previous_updated_time": "2024-04-15 13:23:45 +00:00"
  },
  "avg_backlinks_info": {
    "se_type": "google",
    "backlinks": 1133322.3,
    "dofollow": 1050865.1,
    "referring_pages": 1073877.9,
    "referring_domains": 70937.9,
    "referring_main_domains": 55133.1,
    "rank": 571.1,
    "main_domain_rank": 887.6,
    "last_updated_time": "2024-05-29 00:26:46 +00:00"
  },
  "search_intent_info": {
    "se_type": "google",
    "main_intent": "commercial",
    "foreign_intent": [
      "navigational"
    ],
    "last_updated_time": "2023-11-17 15:31:07 +00:00"
  }
}
}
```

Keyword Suggestions

Apart from category-based search, DataForSEO Labs API offers multiple other algorithms for building up keyword research capabilities.

The more conventional approach to keyword research is represented by the Keyword Suggestions table. Its underlying algorithm is based on full-text search for terms that contain a specified seed keyword.

The [Keyword Suggestions endpoint](#) of DataForSEO Labs API provides all the data you'd need for this table, including a list of keyword ideas, search volume, competition, SERP check URL and other points that you might want to implement in your application.

Keywords	Search volume	Competition	SERP URL
meaning of seo	33,100	0.02	https://www.google
seo in a company	22,200	0.11	https://www.google
seo companies	22,200	0.11	https://www.google
seo services	18,100	0.19	https://www.google
seo marketers	14,800	0.23	https://www.google
seo agency	14,800	0.04	https://www.google
seo for the website	12,100	0.18	https://www.google

The POST parameters for Keyword Research are rather straightforward: seed keyword, location and language, as well as sorting and filtering parameters. Here's an example of the request to return a list of ten keyword suggestions with data for US/English, sorted by descending order and filtered by search volume greater than 100. Note that in order to obtain SERP data like Google search URL, you'd need to specify the `include_serp_info` parameter

```
login="login"  
password="password"  
cred="$(printf ${login}.${password} | base64)"
```

```
curl --location --request POST "https://api.dataforseo.com/v3/dataforseo_labs/google/keyword_suggestions/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "keyword": "seo tool",
  "location_code": 2840,
  "language_code": "en",
  "include_serp_info": true,
  "order_by": ["keyword_info.search_volume,desc"],
  "filters": ["keyword_info.search_volume",">","100"],

  "limit": 10
}
]"
```

In the API response, you will be able to find a list of `items`, each of which represents a keyword suggestion and relevant data, including `keyword`, `search_volume`, `competition`, and `check_url`.

```
{
  "version": "0.1.20240514",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "0.2889 sec.",
  "cost": 0.0101,
  "tasks_count": 1,
  "tasks_error": 0,
  "tasks": [
    {
      "id": "06181754-1535-0399-0000-bf9e71d2d861",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "0.2362 sec.",
      "cost": 0.0101,
      "result_count": 1,
      "path": [
        "v3",
        "dataforseo_labs",
        "google",
        "keyword_suggestions",
        "live"
      ]
    }
  ]
}
```

```
"data": {
  "api": "dataforseo_labs",
  "function": "keyword_suggestions",
  "se_type": "google",
  "keyword": "seo tool",
  "location_code": 2840,
  "language_code": "en",
  "filters": [
    "keyword_info.search_volume",
    ">",
    "100"
  ],
  "order_by": [
    "keyword_info.search_volume,desc"
  ],
  "include_serp_info": true,
  "limit": 1
},
```

```
"result": [
  {
    "se_type": "google",
    "seed_keyword": "seo tool",
    "seed_keyword_data": null,
    "location_code": 2840,
    "language_code": "en",
    "total_count": 412,
    "items_count": 1,
    "offset": 0,
    "offset_token":
```

"eyJDbDxJyZW50T2Zmc2V0IjoxLCSjZXF1ZXN0RGF0YSI6eyJrZXI3b3JkIjoic2VviHRvb2wiLCJpbmNsdWRlX3NIZWRfa2V5d29yZCI6ZmFsc2UsImZ1bGxibWF0Y2giOmZhbHNILCJsb2FkX3NlcnBfaW5mbyl6dHJ1ZSwic2VhcmNoX2FmdGVyX3Rva2VuljpuZVxsc2V5d29yZmVfc2V5b255bXMiOmZhbHNILCJsYW5ndWFnZSI6ImVuliwic2VhcmNoX2VuZ2luZSI6Imdvb2dsZSI6ImxvY2F0aW9uljoyODQwLkCj1c2VfbmV3X2NhdGVnb3JpZXMiOnRydWUslm9yZGVyX2J5Ijp7Im9yZGVyX2ZpZWxkljoia2V5d29yZGF9pbmZVLnNIYXJjaF92b2x1bWUiLCJvcml9eXBlljoiRGVzYyIsIm5leHQiOm51bGx9LkCjSaW1pdCI6MSwib2Zmc2V0IjowLkCjhaWQiOjE1MzV9LkCjSYXc2RdWVyeSl6eyJmaWVsZCI6ImtleXdvcmlRfaW5mby5zZWYyY2hfdm9sdW1liwidHlwZSI6Imd0liwidmFsdWUiOjEwMH0slkljoiZmUxZDJKmJktNWZmYS00YjM0LWE4ZTMtMjg0MjI1ODI0NWZmY2VhcmNoQWZ0ZXJEYXRhIjpbMTIxMDAsIjA0NzEyY2I1LTczNmYtZDMzYS05MWU4LTc3NjFkNTEyNWE1YiJdfQ==",

```
    "items": [
      {
        "se_type": "google",
        "keyword": "seo marketing tool",
        "location_code": 2840,
        "language_code": "en",
        "keyword_info": {
          "se_type": "google",
          "last_updated_time": "2024-06-15 16:07:33 +00:00",
          "competition": 0.14,
          "competition_level": "LOW",
          "cpc": 11.33,
          "search_volume": 12100,
          "low_top_of_page_bid": 2.7,
          "high_top_of_page_bid": 10.75,
          "categories": [
            10004,
            10276,
            11088,
```

```
12376,
13152,
13316
],
"monthly_searches": [
{
"year": 2024,
"month": 5,
"search_volume": 18100
},
{
"year": 2024,
"month": 4,
"search_volume": 14800
},
{
"year": 2024,
"month": 3,
"search_volume": 14800
},
{
"year": 2024,
"month": 2,
"search_volume": 12100
},
{
"year": 2024,
"month": 1,
"search_volume": 14800
},
{
"year": 2023,
"month": 12,
"search_volume": 9900
},
{
"year": 2023,
"month": 11,
"search_volume": 12100
},
{
"year": 2023,
"month": 10,
"search_volume": 12100
},
{
"year": 2023,
"month": 9,
"search_volume": 12100
},
{
"year": 2023,
```

```
        "month": 8,
        "search_volume": 9900
    },
    {
        "year": 2023,
        "month": 7,
        "search_volume": 9900
    },
    {
        "year": 2023,
        "month": 6,
        "search_volume": 9900
    }
]
},
"keyword_properties": {
    "se_type": "google",
    "core_keyword": null,
    "synonym_clustering_algorithm": "text_processing",
    "keyword_difficulty": 100,
    "detected_language": null,
    "is_another_language": true
},
"impressions_info": {
    "se_type": "google",
    "last_updated_time": "2022-04-20 18:17:14 +00:00",
    "bid": 999,
    "match_type": "exact",
    "ad_position_min": null,
    "ad_position_max": null,
    "ad_position_average": null,
    "cpc_min": null,
    "cpc_max": null,
    "cpc_average": null,
    "daily_impressions_min": null,
    "daily_impressions_max": null,
    "daily_impressions_average": null,
    "daily_clicks_min": null,
    "daily_clicks_max": null,
    "daily_clicks_average": null,
    "daily_cost_min": null,
    "daily_cost_max": null,
    "daily_cost_average": null
},
"serp_info": {
    "se_type": "google",
    "check_url": "https://www.google.com/search?q=seo%20marketing%20tool&num=100&hl=en&gl=US&gws_rd=cr&ie=UTF-8&oe=UTF-8&glp=1&uule=w+CAIQIFISCQs2MuSEtepUEUK33kOSuTsc",
    "serp_item_types": [
        "organic",
        "people_also_ask",
        "video",
        "related_searches"
```


If you decide to use the Histocial Rank Overview, note that separate requests should be made for each location and the corresponding `is_new` values summed up.