

DataForSEO Keywords API: Complete Reference with cURL & Response Examples

Executive Summary

This comprehensive guide provides **complete cURL request examples and JSON response formats for all DataForSEO Keywords API endpoints**. The Keywords API encompasses multiple datasources (Google Ads, Google Labs, and Bing) for comprehensive keyword research, analysis, and difficulty calculation.

Reference Structure: Each endpoint section contains:

1. cURL Request - Copy-paste ready bash command
2. JSON Request Format - Parameter specifications
3. JSON Response - Complete response structure with sample data
4. Parameters - Detailed field explanations

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1. API Architecture & Authentication

Base URL

<https://api.dataforseo.com/v3>

Authentication Method

HTTP Basic Authentication with Base64 encoding

Setting Up Credentials

```
login="your_email@example.com"  
password="your_api_token"  
cred=$(printf $login :$password | base64)"
```

Usage in Headers

Authorization: Basic \${cred}
Content-Type: application/json

Get Your Credentials

1. Log into your DataForSEO account
2. Navigate to <https://app.dataforseo.com/api-access>
3. Copy your email and API token
4. Use in cURL requests as shown above

API Methods

Live Method (Instant Results):

- Results returned immediately in response
- No separate GET request needed
- Higher cost per request
- Best for real-time applications

Standard Method (Async):

- Task submitted via POST request
- Results retrieved via GET request
- Lower cost per request
- Best for batch processing

2. Keywords Data API Overview

Available Datasources

- **Google Ads API** - Real-time keyword performance data from Google
- **DataForSEO Labs API** - Keyword research and competitive analysis
- **Bing API** - Keyword data from Microsoft Bing

Rate Limits

- **2,000 API calls per minute** (standard limit)
- Contact DataForSEO for higher limits
- Each request can contain multiple keywords

Pricing

Cost varies by:

- Endpoint type
 - Number of keywords
 - Method (Live vs Standard)
 - Data parameters included
-

3. Bulk Keyword Difficulty - Live Endpoint

Endpoint: POST /dataforseo_labs/google/bulk_keyword_difficulty/live

Purpose: Provides keyword difficulty metric for up to 1,000 keywords in one request.

Keyword Difficulty Scale: 0-100 (0=easy, 100=extremely hard)

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf $login :$password | base64)

curl --location --request POST
"https://api.dataforseo.com/v3/dataforseo_labs/google/bulk_keyword_difficulty/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "keywords": [
    "keyword research",
    "seo tools",
    "content marketing",
    "backlink analysis",
    "rank tracking"
  ]
}
]"
```

JSON Request Format

Parameter	Type	Description
keywords	array	List of keywords (max 1,000 per request)
location_code	integer	Location for keyword difficulty (optional)
language_code	string	Language code (e.g., "en") (optional)

Table 1: Bulk Keyword Difficulty Request Parameters

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "1.2345 sec.",
  "cost": 0.50,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "12345678-1234-1234-1234-123456789012",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "1.1234 sec.",
      "cost": 0.50,
      "result_count": 5,
      "path": ["v3", "dataforseo_labs", "google", "bulk_keyword_difficulty", "live"],
      "data": {
        "keywords": [
          "keyword research",
          "seo tools",
          "content marketing",
          "backlink analysis",
          "rank tracking"
        ]
      },
      "result": [
        {
          "keyword": "keyword research",
          "keyword_difficulty": 42,
          "search_volume": 23100,
          "cpc": 1.45,
          "competition": 0.89
        },
        {
          "keyword": "seo tools",

```

```

"keyword_difficulty": 58,
"search_volume": 18500,
"cpc": 2.34,
"competition": 0.92
},
{
"keyword": "content marketing",
"keyword_difficulty": 51,
"search_volume": 14200,
"cpc": 1.89,
"competition": 0.87
},
{
"keyword": "backlink analysis",
"keyword_difficulty": 65,
"search_volume": 5600,
"cpc": 3.12,
"competition": 0.76
},
{
"keyword": "rank tracking",
"keyword_difficulty": 54,
"search_volume": 8300,
"cpc": 2.67,
"competition": 0.83
}
]
}
]
}

```

Response Fields per Keyword

- **keyword** - Analyzed keyword
- **keyword_difficulty** - Difficulty score (0-100)
- **search_volume** - Monthly search volume
- **cpc** - Cost per click for paid search
- **competition** - Competition level (0-1)

4. Keyword Suggestions - Live Endpoint

Endpoint: POST /dataforseo_labs/google/keyword_suggestions/live

Purpose: Returns long-tail keyword suggestions based on seed keywords.

Algorithm: Full-text search for terms containing seed keyword with additional words before, after, or within

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
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 "[
{
  \"keywords\": [\"keyword research\"],
  \"location_code\": 2840,
  \"language_code\": \"en\"
}]"
```

JSON Request Format

Parameter	Type	Description
keywords	array	Seed keywords for suggestions
location_code	integer	Location code (optional)
language_code	string	Language code (e.g., "en") (optional)
limit	integer	Max results per keyword (optional)

Table 2: Keyword Suggestions Request Parameters

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "2.3456 sec.",
  "cost": 0.30,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "87654321-4321-4321-4321-210987654321",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "2.2345 sec.",
      "cost": 0.30,
```

```
"result_count": 89,
"path": ["v3", "dataforseo_labs", "google", "keywordSuggestions", "live"],
"data": {
  "keywords": ["keyword research"],
  "location_code": 2840,
  "language_code": "en"
},
"result": [
{
  "seed_keyword": "keyword research",
  "keyword": "how to do keyword research",
  "search_volume": 12100,
  "cpc": 1.23,
  "competition": 0.78,
  "search_volume_trend": "up"
},
{
  "seed_keyword": "keyword research",
  "keyword": "keyword research tool",
  "search_volume": 8900,
  "cpc": 1.67,
  "competition": 0.82,
  "search_volume_trend": "stable"
},
{
  "seed_keyword": "keyword research",
  "keyword": "seo keyword research",
  "search_volume": 6400,
  "cpc": 1.45,
  "competition": 0.75,
  "search_volume_trend": "up"
},
{
  "seed_keyword": "keyword research",
  "keyword": "free keyword research tool",
  "search_volume": 4200,
  "cpc": 0.89,
  "competition": 0.68,
  "search_volume_trend": "up"
}
]
}
]
```

Response Fields per Suggestion

- **seed_keyword** - Original keyword used
 - **keyword** - Suggested keyword variation
 - **search_volume** - Monthly searches
 - **cpc** - Cost per click
 - **competition** - Competition level
 - **search_volume_trend** - Trend direction (up/down/stable)
-

5. Related Keywords - Live Endpoint

Endpoint: POST /dataforseo_labs/google/related_keywords/live

Purpose: Returns keywords related to specified keywords from Google's "Searches related to" section.

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf %s :$password | base64)

curl --location --request POST
"https://api.dataforseo.com/v3/dataforseo_labs/google/related_keywords/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  \"keywords\": [\"artificial intelligence\"],
  \"location_code\": 2840,
  \"language_code\": \"en\"
}]"
```

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "1.8765 sec.",
  "cost": 0.20,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "abcdef12-3456-7890-abcd-ef1234567890",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "1.7654 sec."
    }
  ]
}
```

```
"cost": 0.20,
"result_count": 12,
"path": ["v3", "dataforseo_labs", "google", "related_keywords", "live"],
"data": {
  "keywords": ["artificial intelligence"]
},
"result": [
{
  "seed_keyword": "artificial intelligence",
  "keyword": "machine learning",
  "search_volume": 34500,
  "cpc": 2.34,
  "competition": 0.88,
  "keyword_difficulty": 62
},
{
  "seed_keyword": "artificial intelligence",
  "keyword": "deep learning",
  "search_volume": 22100,
  "cpc": 1.89,
  "competition": 0.75,
  "keyword_difficulty": 58
},
{
  "seed_keyword": "artificial intelligence",
  "keyword": "natural language processing",
  "search_volume": 11200,
  "cpc": 2.12,
  "competition": 0.68,
  "keyword_difficulty": 54
},
{
  "seed_keyword": "artificial intelligence",
  "keyword": "neural networks",
  "search_volume": 8900,
  "cpc": 1.67,
  "competition": 0.71,
  "keyword_difficulty": 51
}
]
}
]
```

6. Ranked Keywords - Live Endpoint

Endpoint: POST /dataforseo_labs/google/ranked_keywords/live

Purpose: Returns keywords for which a domain or page ranks in Google search results.

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf %s :$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\": \"example.com\",
  \"limit\": 100
}]"
```

JSON Request Format

Parameter	Type	Description
target	string	Domain or page URL
limit	integer	Max results per request (optional)
location_code	integer	Location code (optional)
language_code	string	Language code (optional)

Table 3: Ranked Keywords Request Parameters

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "3.2345 sec.",
  "cost": 0.40,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "xyz12345-6789-0abc-defg-hij1234567890",
```

```
"status_code": 20000,
"status_message": "Ok.",
"time": "3.1234 sec.",
"cost": 0.40,
"result_count": 87,
"path": ["v3", "dataforseo_labs", "google", "ranked_keywords", "live"],
"data": {
  "target": "example.com",
  "limit": 100
},
"result": [
  {
    "keyword": "seo tools",
    "position": 1,
    "rank": 1,
    "url": "https://example.com/seo-tools",
    "serp_element_type": "organic",
    "search_volume": 18500,
    "keyword_difficulty": 58,
    "cpc": 2.34
  },
  {
    "keyword": "keyword research",
    "position": 3,
    "rank": 3,
    "url": "https://example.com/keyword-research",
    "serp_element_type": "organic",
    "search_volume": 23100,
    "keyword_difficulty": 42,
    "cpc": 1.45
  },
  {
    "keyword": "backlink checker",
    "position": 2,
    "rank": 2,
    "url": "https://example.com/backlink-checker",
    "serp_element_type": "organic",
    "search_volume": 12300,
    "keyword_difficulty": 51,
    "cpc": 1.89
  }
]
}
```

Response Fields per Ranked Keyword

- **keyword** - Ranking keyword
 - **position** - Position on SERP (1-10, etc.)
 - **rank** - Same as position
 - **url** - Specific page ranking
 - **search_volume** - Monthly searches
 - **keyword_difficulty** - KD score (0-100)
 - **cpc** - Cost per click
-

7. Keyword Ideas - Live Endpoint

Endpoint: POST /dataforseo_labs/google/keyword_ideas/live

Purpose: Returns keywords relevant to specified product/service categories.

Algorithm: Relevance-based search for terms in same category as seed keywords

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf %s :$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": ["email marketing", "automation software"],
  "location_code": 2840,
  "language_code": "en"
}]"
```

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "2.5678 sec.",
  "cost": 0.35,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "idea12345-6789-0abc-defg-hij1234567890",
      "status_code": 20000,
```

```
"status_message": "Ok.",
"time": "2.4567 sec.",
"cost": 0.35,
"result_count": 45,
"path": ["v3", "dataforseo_labs", "google", "keyword_ideas", "live"],
"result": [
{
"keyword": "email marketing platform",
"search_volume": 18400,
"cpc": 3.45,
"competition": 0.89,
"keyword_difficulty": 67
},
{
"keyword": "marketing automation software",
"search_volume": 12100,
"cpc": 4.12,
"competition": 0.91,
"keyword_difficulty": 72
},
{
"keyword": "email campaign management",
"search_volume": 6700,
"cpc": 2.89,
"competition": 0.76,
"keyword_difficulty": 58
},
{
"keyword": "automated email sequences",
"search_volume": 4200,
"cpc": 2.34,
"competition": 0.68,
"keyword_difficulty": 52
}
]
}
]
```

8. Keywords For Site - Live Endpoint

Endpoint: POST /dataforseo_labs/google/keywords_for_site/live

Purpose: Returns keywords most relevant to a specified website URL.

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf $login :$password | base64)

curl --location --request POST
"https://api.dataforseo.com/v3/dataforseo_labs/google/keywords_for_site/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "target": "https://example.com",
  "limit": 50,
  "location_code": 2840,
  "language_code": "en"
}
]"
```

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "2.1234 sec.",
  "cost": 0.25,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "site12345-6789-0abc-defg-hij1234567890",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "2.0123 sec.",
      "cost": 0.25,
      "result_count": 38,
      "path": ["v3", "dataforseo_labs", "google", "keywords_for_site", "live"],
      "result": [
        {
          "keyword": "seo tools",
          "search_volume": 18500,
          "cpc": 2.34,
          "competition": 0.82,
          "keyword_difficulty": 58,
          "categories": ["SEO", "Marketing Tools"]
        },
        {
          "keyword": "rank tracking",
          "search_volume": 8300,
          "cpc": 2.67,
```

```
"competition": 0.83,  
"keyword_difficulty": 54,  
"categories": ["SEO", "Analytics"]  
},  
{  
"keyword": "keyword research tool",  
"search_volume": 12100,  
"cpc": 1.89,  
"competition": 0.76,  
"keyword_difficulty": 51,  
"categories": ["SEO", "Research Tools"]  
}  
]  
}  
]  
}
```

9. Keywords For Categories - Live Endpoint

Endpoint: POST /dataforseo_labs/google/keywords_for_categories/live

Purpose: Returns keywords relevant to specified product/service categories.

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"  
password="your_api_token"  
cred=$(printf $login :$password | base64)  
  
curl --location --request POST  
"https://api.dataforseo.com/v3/dataforseo_labs/google/keywords_for_categories/live"  
--header "Authorization: Basic ${cred}"  
--header "Content-Type: application/json"  
--data-raw "[  
{  
"categories": ["12345", "12346"],  
"location_code": 2840,  
"language_code": "en",  
"limit": 50  
}  
]"
```

JSON Response

```
{  
"version": "0.1.20240101",  
"status_code": 20000,  
"status_message": "Ok.",  
"time": "1.9876 sec.",  
"cost": 0.22,
```

```

"tasks_count": 1,
"tasks_error_count": 0,
"tasks": [
{
"id": "cat12345-6789-0abc-defg-hij1234567890",
"status_code": 20000,
"status_message": "Ok.",
"time": "1.8765 sec.",
"cost": 0.22,
"result_count": 42,
"path": ["v3", "dataforseo_labs", "google", "keywords_for_categories", "live"],
"result": [
{
"category_id": "12345",
"keyword": "software development",
"search_volume": 45600,
"cpc": 2.34,
"competition": 0.85
},
{
"category_id": "12346",
"keyword": "web design services",
"search_volume": 23400,
"cpc": 1.89,
"competition": 0.78
},
{
"category_id": "12345",
"keyword": "mobile app development",
"search_volume": 18700,
"cpc": 2.12,
"competition": 0.81
}
]
}
]
}
]
}

```

10. Historical Search Volume - Live Endpoint

Endpoint: POST /dataforseo_labs/google/historical_search_volume/live

Purpose: Returns historical search volume data for keywords since 2019.

Data Available: Monthly search volumes, CPC, competition values

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf $login :$password | base64)

curl --location --request POST
"https://api.dataforseo.com/v3/dataforseo_labs/google/historical_search_volume/live"
--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "keywords": ["cryptocurrency", "bitcoin"],
  "location_code": 2840,
  "language_code": "en"
}
]"
```

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "3.4567 sec.",
  "cost": 0.45,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "hist12345-6789-0abc-defg-hij1234567890",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "3.3456 sec.",
      "cost": 0.45,
      "result_count": 60,
      "path": ["v3", "dataforseo_labs", "google", "historical_search_volume", "live"],
      "result": [
        {
          "keyword": "cryptocurrency",
          "monthly_searches": [
            {
              "year": 2024,
              "month": 1,
              "search_volume": 135000,
              "cpc": 1.34
            },
            {
              "year": 2023,
              "month": 12,
              "search_volume": 128000,
            }
          ]
        }
      ]
    }
  ]
}
```

```
"cpc": 1.29
},
{
"year": 2023,
"month": 11,
"search_volume": 121000,
"cpc": 1.24
}
]
},
{
"keyword": "bitcoin",
"monthly_searches": [
{
"year": 2024,
"month": 1,
"search_volume": 246000,
"cpc": 2.45
},
{
"year": 2023,
"month": 12,
"search_volume": 234000,
"cpc": 2.38
}
]
}
]
```

11. Keyword Overview - Live Endpoint

Endpoint: POST /dataforseo_labs/google/keyword_overview/live

Purpose: Returns real-time keyword metrics, search intent, and SERP data for up to 700 keywords.

Data Available: Search volume, competition, CPC, SERP analysis, clickstream data

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"
password="your_api_token"
cred=$(printf %s :$password | base64)

curl --location --request POST
"https://api.dataforseo.com/v3/dataforseo_labs/google/keyword_overview/live"
```

```

--header "Authorization: Basic ${cred}"
--header "Content-Type: application/json"
--data-raw "[
{
  "keywords": ["digital marketing"],
  "location_code": 2840,
  "language_code": "en",
  "include_serp_info": true,
  "include_clickstream_data": true
}
]"

```

JSON Request Format

Parameter	Type	Description
keywords	array	List of keywords (max 700)
location_code	integer	Location code (optional)
language_code	string	Language code (optional)
include_serp_info	boolean	Include SERP results (optional)
include_clickstream_data	boolean	Include clickstream data (optional)

Table 4: Keyword Overview Request Parameters

JSON Response

```
{
  "version": "0.1.20240101",
  "status_code": 20000,
  "status_message": "Ok.",
  "time": "4.5678 sec.",
  "cost": 0.60,
  "tasks_count": 1,
  "tasks_error_count": 0,
  "tasks": [
    {
      "id": "overview12345-6789-0abc-defg-hij1234567890",
      "status_code": 20000,
      "status_message": "Ok.",
      "time": "4.4567 sec.",
      "cost": 0.60,
      "result_count": 1,
      "path": ["v3", "dataforseo_labs", "google", "keyword_overview", "live"],
      "result": [
        {
          "keyword": "digital marketing",
          "search_volume": 45600,

```

```
"cpc": 2.34,  
"competition": 0.89,  
"search_intent": "commercial",  
"keyword_difficulty": 67,  
"serp_info": {  
    "result_count": 1240000000,  
    "organic_results": 10,  
    "paid_results": 4,  
    "featured_snippet": true  
},  
"clickstream_data": {  
    "monthly_searches": 45600,  
    "avg_cpc": 2.34,  
    "traffic_share": 0.89  
}  
}  
}  
]  
}  
]  
}
```

12. Historical Keyword Data - Live Endpoint

Endpoint: POST /dataforseo_labs/google/historical_keyword_data/live

Purpose: Returns historical keyword data including monthly trends since 2019.

Rate Limit: 2,000 requests per minute

cURL Request

```
login="your_email@example.com"  
password="your_api_token"  
cred=$(printf %s :$password | base64)"
```

```
curl --location --request POST  
"https://api.dataforseo.com/v3/dataforseo_labs/google/historical_keyword_data/live"  
--header "Authorization: Basic ${cred}"  
--header "Content-Type: application/json"  
--data-raw "[  
{  
    "keywords": ["remote work", "work from home"],  
    "location_code": 2840,  
    "language_code": "en"  
}  
]"
```

JSON Response

```
{  
  "version": "0.1.20240101",  
  "status_code": 20000,  
  "status_message": "Ok.",  
  "time": "3.8901 sec.",  
  "cost": 0.50,  
  "tasks_count": 1,  
  "tasks_error_count": 0,  
  "tasks": [  
    {  
      "id": "histkw12345-6789-0abc-defg-hij1234567890",  
      "status_code": 20000,  
      "status_message": "Ok.",  
      "time": "3.7890 sec.",  
      "cost": 0.50,  
      "result_count": 2,  
      "path": ["v3", "dataforseo_labs", "google", "historical_keyword_data", "live"],  
      "result": [  
        {  
          "keyword": "remote work",  
          "historical_data": [  
            {  
              "year": 2024,  
              "month": 1,  
              "search_volume": 156000,  
              "cpc": 1.89,  
              "competition": 0.76  
            },  
            {  
              "year": 2023,  
              "month": 12,  
              "search_volume": 145000,  
              "cpc": 1.84,  
              "competition": 0.74  
            },  
            {  
              "year": 2020,  
              "month": 1,  
              "search_volume": 45000,  
              "cpc": 0.56,  
              "competition": 0.34  
            }  
          ]  
        },  
        {  
          "keyword": "work from home",  
          "historical_data": [  
            {  
              "year": 2024,  
              "month": 1,  
              "search_volume": 156000,  
              "cpc": 1.89,  
              "competition": 0.76  
            },  
            {  
              "year": 2023,  
              "month": 12,  
              "search_volume": 145000,  
              "cpc": 1.84,  
              "competition": 0.74  
            },  
            {  
              "year": 2020,  
              "month": 1,  
              "search_volume": 45000,  
              "cpc": 0.56,  
              "competition": 0.34  
            }  
          ]  
        }  
      ]  
    }  
  ]  
}
```

```

"month": 1,
"search_volume": 178000,
"cpc": 2.12,
"competition": 0.81
},
{
"year": 2020,
"month": 1,
"search_volume": 38000,
"cpc": 0.45,
"competition": 0.28
}
]
}
]
}
]
}
}

```

13. Error Handling & Status Codes

HTTP Status Codes

Code	Meaning	Solution
20000	Success	Request processed successfully
20001	Task in progress	Wait and retry later
40001	Bad request	Validate request parameters
40003	Not found	Task ID doesn't exist
40005	Access denied	Check API credentials
40006	Rate limit exceeded	Reduce concurrent requests
40007	Insufficient funds	Top up account balance
40403	Forbidden keyword	Keyword restricted by policy
50001	Server error	Retry after 60 seconds

Table 5: HTTP Status Codes and Solutions

Example Error Response

```
{  
"version": "0.1.20240101",  
"status_code": 40001,  
"status_message": "Bad request",  
"time": "0.0123 sec.",  
"cost": 0,  
"tasks_count": 1,  
"tasks_error_count": 1,  
"tasks": [  
{  
"id": "error_task_id",  
"status_code": 40001,  
"status_message": "Invalid keywords parameter",  
"time": "0.0023 sec.",  
"cost": 0,  
"result_count": 0,  
"path": ["v3", "dataforseo_labs", "google", "bulk_keyword_difficulty", "live"],  
"data": {  
"keywords": []  
},  
"result": []  
}  
]  
}
```

14. Best Practices & Optimization

Authentication Security

✓ GOOD: Use environment variables

```
login=DATAFORSEO_LOGINpassword =DATAFORSEO_PASSWORD  
cred=$(printf login :{password} | base64)"
```

✗ BAD: Hardcode credentials

```
login="user@example.com"  
password="password123"
```

Batch Keyword Processing

Process keywords in batches of 100

```
for i in 0 100 200 300; do
keywords=$(sed -n${i},$((i+99))p keywords.txt)

curl -s "https://api.dataforseo.com/v3/dataforseo_labs/google/bulk_keyword_difficulty/live"
--header "Authorization: Basic cred" --data-raw "[keywords]"
done
```

Cost Optimization

- **Live Method** - Use only when instant results needed (higher cost)
- **Standard Method** - Use for batch processing (lower cost)
- **Batch Requests** - Send multiple keywords per request
- **Selective Parameters** - Only request needed data (SERP, clickstream, etc.)
- **Cache Results** - Store and reuse data when possible

Error Handling

```
#!/bin/bash

max_retries=3
retry_count=0

while [ $retry_count -lt max_retries ]; do
response=$(curl -s "https://api.dataforseo.com/v3/
dataforseo_labs/google/bulk_keyword_difficulty/live"
--header "Authorization: Basic cred" --data-raw "[keywords_json]")

status_code=$(echo $response | jq '.status_code')

if [ "$status_code" == "20000" ]; then
echo "Success!" & break
elif [ "$status_code" == "40006" ];
then
echo "Rate limited. Waiting 60 seconds..."
sleep 60
else
echo "Error: $status_code"
retry_count=$((retry_count + 1))
sleep 5
fi
done
```

Location and Language Codes

Common Location Codes:

- 2840 (United States)
- 2826 (United Kingdom)
- 2124 (Canada)
- 2250 (France)
- 2276 (Germany)

Common Language Codes:

- en (English)

- es (Spanish)
 - fr (French)
 - de (German)
 - zh (Chinese)
-

References

- Official Documentation: <https://docs.dataforseo.com/v3/keywords-data-overview/>
 - API Access: <https://app.dataforseo.com/api-access>
 - Help Center: <https://dataforseo.com/help-center>
 - Pricing: <https://dataforseo.com/pricing>
 - GitHub Examples: <https://github.com/dataforseo>
-

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This comprehensive guide provides complete reference for all DataForSEO Keywords API endpoints with actual cURL requests and JSON responses for practical implementation.