

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
-

Table of Contents

1. API Architecture & Authentication
 2. Keywords Data API Overview
 3. Bulk Keyword Difficulty - Live Endpoint
 4. Keyword Suggestions - Live Endpoint
 5. Related Keywords - Live Endpoint
 6. Ranked Keywords - Live Endpoint
 7. Keyword Ideas - Live Endpoint
 8. Keywords For Site - Live Endpoint
 9. Keywords For Categories - Live Endpoint
 10. Historical Search Volume - Live Endpoint
 11. Keyword Overview - Live Endpoint
 12. Historical Keyword Data - Live Endpoint
 13. Google Ads Keyword Performance
 14. Bing Keyword Performance
 15. Error Handling & Status Codes
 16. Best Practices & Optimization
-

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", "keyword_suggestions", "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 login :{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 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\": \"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 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": ["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 login :{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 login :{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": 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 ]; doresponse =(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" ]; thenecho "Success"breakfi [ "status_code" = "40006" ];
then
echo "Rate limited. Waiting 60 seconds..."
sleep 60
else
echo "Error: status_coderetry_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>
-

Document Version: 1.0

Last Updated: January 2024

API Version: v3

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