



U. S. Department of Health and Human Services

Grants.gov Information Technology Services

API User Guide for Developers - BETA

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Version History

Version	Date	Produced / Updated By	Owner	Description
1.0	04/25/2024	MH	HHS	Initial draft of endpoint description, restructured API environments for open search

1. API User Guide for Developers

Introduction

Welcome to the comprehensive documentation for the official Grants.gov Application Programming Interface (API) suite. In today's fast-paced digital world, a deep understanding of data gathering and processing methods is essential. This guide is designed to provide you with a thorough understanding of our extensive collection of API endpoints, delving into their importance and offering guidance on how to utilize them effectively to achieve optimal results. Please note that this is a living document and will be updated as additions or changes to the API are made.

Environments Explanation

Understanding the multi-faceted nature of the Grants.gov API suite is crucial, as it is meticulously crafted to cater to various stages of development and production. To facilitate stability, testing, and training, our suite is available across two specialized environments:

1. Production Environment: Hosted at api.grants.gov, this platform is the live system. It is optimized for real-world application scenarios, providing a reliable setting for actual operations.
2. Training Environment: Found at api.training.grants.gov, this dedicated space is ideal for training purposes. It allows developers to explore the API's capabilities and test their systems..

Available API Endpoints Overview

Currently, we offer two accessible public APIs, each serving distinct purposes and designed for a broad audience. These APIs are:

1. Endpoint: search2
 - Purpose: This endpoint powers the search Grants functionality, making it available as a public API.
 - Use Cases: Named 'search2', this endpoint is tailored for general users. It allows for executing searches and accessing public data seamlessly, without the need for mandatory login or session initiation. This feature is particularly valuable for conducting generic information searches or in situations where direct user authentication is either impractical or unnecessary.

2. Endpoint: fetchOpportunity

- Purpose: Utilized for retrieving detailed opportunity data.
- Use Cases: The 'fetchOpportunity' endpoint facilitates the fetching of detailed search results and data access. Like 'search2', it is designed for ease of use by a general audience and operates without the need for users to log in or initiate a session. This endpoint is ideal for users who need to delve deeper into specific search results, providing them with comprehensive data access.

2. Quick Start

The URLs listed below represent the **Environment** of Grants.gov as follows:

- **Production Environment**, use <https://api.grants.gov>
- **Training Environment**, use <https://api.training.grants.gov>

Always target the correct environment with your requests to prevent unintended results or data inconsistencies.

How to test the APIs

a. Using Postman

The user must have basic knowledge of Postman functionality. Instructions:

- **Open Postman**: Initiate the application.
- **Import Collection (in Appendix A)**: Integrate the supplied Postman collection into your workspace.
- **Select** the API call to test.
- **Send Request**: Click "Send". Successful executions will return values.

b. Using cURL in Linux as an example

We are providing an example for a Unix cURL; a developer should be able to build their cURL call for the operating system they are using.

The user must have basic knowledge of cURL functionality. Execute the provided cURL commands to interact with the API endpoints, for example:

- `curl --location 'https://api.staging.grants.gov/v1/api/search2' \`
 `--header 'Content-Type: application/json' \`
 `--data '{"keyword": "health"}'`

Authentication and Authorization

Authentication and authorization are not required for the following APIs:

- **Endpoint**: search2

- **Endpoint:** fetchOpportunity

3. API calls

The endpoint allows you to search for opportunities based on specific search parameters.

Request Body	Response
keyword (string, required): The keyword for the search.	errorcode (integer): The error code, if any. msg (string): Additional message related to the response. token (string): Token for authentication or authorization. data (object): The search result data. searchParams (object): The search parameters used. hitCount (integer): The total count of search results. startRecord (integer): The starting record number. oppHits (array): Array of opportunity hits with details like ID, number, title, agency, open date, close date, etc. oppStatusOptions (array): Array of opportunity status options. dateRangeOptions (array): Array of date range options. suggestion (string): Suggested search keyword. eligibilities (array): Array of eligibility options. fundingCategories (array): Array of funding category options. fundingInstruments (array): Array of funding instrument options. agencies (array): Array of agency options. accessKey (string): Access key for the response. errorMsgs (array): Array of error messages, if any.
The search can be called using one or multiple of the criteria:	"rows": 10, "keyword": "health", "oppNum": "DE-FOA-0003154", "eligibilities": "00 ", "agencies": "HHS", "oppStatuses": "forecasted posted", "cfda": "47.050", "fundingCategories": "ELT"

Other Examples for Searches request body:

- Using just one criteria to search:

```
{
  "rows": 10,
  "keyword": "DE-FOA-0003154"
}
```
- Search for multiple values (use pipe (|) character to separate values – *string1/string2/string3*):

```
{
  "rows": 10,
```

```

    "keyword": "water|conservation"
  }

```

3. Search by partial string. To search for opportunities that contain a word such as ‘test’, ‘tests’, or ‘tester’, add an asterisk (*) as a wildcard that represents zero or more characters – “*test**”:

```

{
  "rows": 10,
  "keyword": "test*"
}

```

4. Using three criteria to search for:

```

{
  "rows": 10,
  "agencies": "HHS",
  "eligibilities": "04",
  "oppNum": "DE-FOA-0003154"
}

```

5. Using multiple criteria to search for:

```

{
  "rows": <enter number>,
  "keyword": "<enter word(s)>",
  "oppNum": "<enter funding opp number>", example:DE-FOA-0003154,
  "eligibilities": "<enter eligibility code(s)>",
  "agencies": "<enter Agency Code>", example: HHS-CDC,
  "oppStatuses": "<enter type>, example: forecasted|posted|archived",
  "cfda": "<enter CFDA>, example 00.000", (for multiple CFDAs, separate CFDAs by a
space (example nn.nnn nn.nnn)
  "fundingCategories": "Enter Category example ELT"
}

```

The Grants.gov API is a powerful, flexible tool designed to streamline the search experience. This guide delves into the functionality of the APIs for various user needs.

Key Features

Unrestricted Access

Endpoint Structure: The primary endpoint, `v1/api/search2`, is intentionally designed to be accessible without user authentication. This endpoint democratizes information access, allowing the general public and developers alike to conduct thorough searches.

Public: The focus on unrestricted access enables users from all backgrounds to retrieve vital information efficiently, catering to a diverse audience.

Flexible Querying: Variety of Keys: The API offers a range of query keys. This rich set of parameters allows for specific searches.

Customizable Searches: Users can creatively combine these keys in various combinations to tailor search results to their unique needs. This flexibility is crucial for both novice and experienced developers, ensuring precise and relevant data extraction.

Enhanced User Experience

Ease of Use: The Grants.gov API's design prioritizes user-friendliness, making it simple for developers to find exactly what they need.

Practical Application: The RESTful nature of the API underscores its utility in real-world scenarios, providing a seamless and effective search experience.

4. Endpoint Descriptions

A cornerstone of API integration is a thorough understanding of the various endpoints available for interaction. To enhance clarity, we present detailed descriptions of each endpoint, including crucial aspects such as expected request headers, required request body formats, potential status codes, and more. This knowledge facilitates seamless and efficient integration with the *Grants.gov* API.

Search

The below “Sample Response” column is sample data only.

URL Path: <https://api.training.grants.gov/v1/api/search2>

Expected Request Body:	Sample Response: <i>(THIS IS SAMPLE DATA)</i>
<pre>{ "rows": 10, "keyword": "20231011", "oppNum": "TEST-PTS-20231011-OPP1", "eligibilities": "", "agencies": "", "oppStatuses": "forecasted posted", "cfda": "", "fundingCategories": "" }</pre>	<pre>"errorcode": 0, "msg": "Webservice Succeeds", "token": "eyJ0eX.....I1NiJ9. ", "data": { "searchParams": { "resultType": "json", "searchOnly": false, "oppNum": "", "cfda": "", "sortBy": "", "oppStatuses": "forecasted posted", "startRecordNum": 0, "eligibilities": "", "fundingInstruments": "", "fundingCategories": "", "agencies": "", "rows": 10, "keyword": "20231011", "keywordEncoded": true</pre>

	<pre>}, "hitCount": 1, "startRecord": 0, "oppHits": [{ "id": "219999", "number": "TEST-ABC-20231011-OPP1", "title": "Test-ABC-20231011-Opp1 title!", "agencies": "HHS", "agency": "Health & Human Services", "openDate": "10/11/2023", "closeDate": "", "oppStatus": "posted", "docType": "synopsis", "cfdaList": ["93.223"] }], "oppStatusOptions": [{ "label": "posted", "value": "posted", "count": 1 }, { "label": "closed", "value": "closed", "count": 0 }, { "label": "archived", "value": "archived", "count": 0 }, { "label": "forecasted", "value": "forecasted", "count": 0 }], "dateRangeOptions": [], "suggestion": "20201111", "eligibilities": [{ "label": "County governments", "value": "01", "count": 1 }], "fundingCategories": [{ "label": "Arts (see \"Cultural Affairs\" in CFDA)", "value": "AR", "count": 1 }]</pre>
--	--

	<pre>], "fundingInstruments": [{ "label": "Grant", "value": "G", "count": 1 }], "agencies": [], "accessKey": "", "errorMsgs": [] }</pre>
--	--

Visualizing high level response for better understanding

ID	Number	Title	Agency Code	Agency	Open Date	Close Date	Opportunity Status	Document Type	CFDA List
289999	TEST-PTS-20231011-OPP1	Test-PTS-20231011-OPP1 title!	HHS	HHS	10/11/2023		posted	synopsis	93.223

cURL sample of Multi Criteria:

a. URL: Search by Multiple Criteria:

The below cURL is a search by fundingCategories, agencies, oppStatuses, and CFDA

```
curl -k -v -i --location 'https://api.training.grants.gov/v1/api/search2' -
-header 'Content-Type: application/json' --data '{"fundingCategories": "HL"
, "": "HHS-NIH11", "oppStatuses": "forecasted"}'
```

b. URL: Search by Multiple Criteria with CFDA

The below cURL is a search by fundingCategories, agencies, and oppStatuses

```
curl -k -v -i --location 'https://api.training.grants.gov/v1/api/search2' -
-header 'Content-Type: application/json' --data '{"fundingCategories": "HL"
, "agencies": "HHS", "oppStatuses": "forecasted", "cfda": "93.866"}'
```

c. URL: Search by Combined Statuses and Keywords

You might want to send combined statuses as an array or as separate key-value pairs based on your backend handling. Here's an example treating them as an array:

```
curl -k -v -i --location 'https://api.training.grants.gov/v1/api/search2' -
-header 'Content-Type: application/json' --data '{"oppStatuses": ["closed/
archived"], "keywords": "points"}'
```

fetchOpportunity (P)

The below “Sample Response” column is sample data only.

URL Path: 'https://api.training.grants.gov/v1/api/fetchOpportunity'

Expected Request Body:	Sample Response: <u>(THIS IS SAMPLE DATA)</u>
<pre>{ "opportunityId": 289999 }</pre>	<pre>"errorCode": 0, "msg": "Webservice Succeeds", "token": "eyJ0eXAiOi.....X9ezvzaw", "data": { "id": 289999, "revision": 0, "opportunityNumber": "TEST-PTS-20231011-OPP1", "opportunityTitle": "Test-PTS-20231011-Opp1 title!", "owningAgencyCode": "HHS", "listed": "L", "publisherUid": "RatjJoeApplicant", "flag2006": "N", "opportunityCategory": { "category": "E", "description": "Earmark" }, "synopsis": { "opportunityId": 289999, "version": 1, "agencies": "HHS", "agencyName": "Health & Human Services", "agencyPhone": "TBD-", "agencyAddressDesc": "12", "agencyDetails": { "code": "HHS", "seed": "HHS", "agencyName": "HHS Agency", "agencies": "HSS", "topAgencyCode": "HSS" }, "topAgencyDetails": { "code": "HHS", "seed": "HHS", "agencyName": "HHS Agency",</pre>

	<pre>"agencies": "HHS", "topAgencyCode": "HHS" }, "agencyContactPhone": "TBD-", "agencyContactName": "Alison Applegate", "agencyContactDesc": "Phone TBD-", "agencyContactEmail": "12@hhs.gov", "agencyContactEmailDesc": "12", "synopsisDesc": "<p>Desc</p>", "responseDateDesc": "1", "postingDate": "Oct 11, 2023 12:00:00 AM EDT", "costSharing": false, "awardCeiling": "10", "awardCeilingFormatted": "10", "awardFloor": "8", "awardFloorFormatted": "8", "sendEmail": "Y", "createTimeStamp": "Oct 11, 2023 05:18:23 PM EDT", "createdDate": "Oct 11, 2023 05:17:55 PM EDT", "lastUpdatedDate": "Oct 11, 2023 05:17:55 PM EDT", "applicantTypes": [{ "id": "01", "description": "County governments" }], "fundingInstruments": [{ "id": "G", "description": "Grant" }], "fundingActivityCategories": [{ "id": "AR", "description": "Arts (see \"Cultural Affairs\" in CFDA)" }], "postingDateStr": "2023-10-11-00-00-00", "createTimeStampStr": "2023-10-11-17-18-23" }, "agencyDetails": { "code": "HHS", "seed": "HHS", "agencyName": "Health & Human Services", "agencies": "HHS", "topAgencyCode": "HHS" }, </pre>
--	--

	<pre>"topAgencyDetails": { "code": "HHS", "seed": "HHS", "agencyName": "Health & Human Services", "agencies": "HHS", "topAgencyCode": "HHS" }, "synopsisAttachmentFolders": [{ "id": 1684, "opportunityId": 289999, "folderType": "Full Announcement", "folderName": "F1", "zipLobSize": 180032, "createdDate": "Oct 11, 2023 05:18:05 PM EDT", "lastUpdatedDate": "Oct 11, 2023 05:18:23 PM EDT", "synopsisAttachments": [{ "id": 10190, "opportunityId": 289999, "mimeType": "text/csv", "fileName": "grants-gov-opp-search--20230715011557.csv", "fileDescription": "F1", "fileLobSize": 1320700, "createdDate": "Oct 11, 2023 05:18:23 PM EDT", "synopsisAttFolderId": 1684 }] }], "synopsisDocumentURLs": [], "synAttChangeComments": [], "cfdas": [{ "id": 335392, "opportunityId": 289999, "cfdaNumber": "93.223", "programTitle": "Development and Coordination of Rural Health Services" }], "opportunityHistoryDetails": [], "opportunityPkgs": [], "closedOpportunityPkgs": [], "originalDueDateDesc": "1", "synopsisModifiedFields": [], "forecastModifiedFields": [], "errorMessages": [], "synPostDateInPast": true,</pre>
--	--

	<pre>"docType": "synopsis", "forecastHistCount": 0, "synopsisHistCount": 0, "assistCompatible": false, "assistURL": "", "relatedOps": [], "draftMode": "N" } }</pre>
--	--

Visualizing high level response for better understanding

Opportunity ID	Opportunity Title	Owning Agency Code	Listed	Agency Contact Name	Agency Contact Email	Cost Sharing	Award Ceiling	Award Floor	Posting Date
289999	Test-PTS-20231011- Opp1 title!	HHS	L	Allison Applegate	12@hhs.gov	false	10	8	Oct 11, 2023 12:00:00 AM EDT

5. HTTP Response Codes

Grants.gov uses conventional HTTP response codes to indicate the success or failure of an API request. In general: Codes in the 2xx range indicate success. Codes in the 4xx range indicate an error that failed given the information provided (e.g., a required parameter was omitted, etc.). Codes in the 5xx range indicate an error with Grants.gov's servers.:

HTTP STATUS CODE SUMMARY		
200	OK	Everything worked as expected.
400	Bad Request	The request was unacceptable, often due to missing a required parameter.
401	Unauthorized	No valid API key provided.
402	Request Failed	The parameters were valid, but the request failed.
403	Forbidden	The API key doesn't have permissions to perform the request.
404	Not Found	The requested resource doesn't exist.
429	Too Many Requests	Too many requests hit the API too quickly. We recommend an exponential backoff of your requests.
500, 502,	Server Errors	Something went wrong on Grants.gov's end.

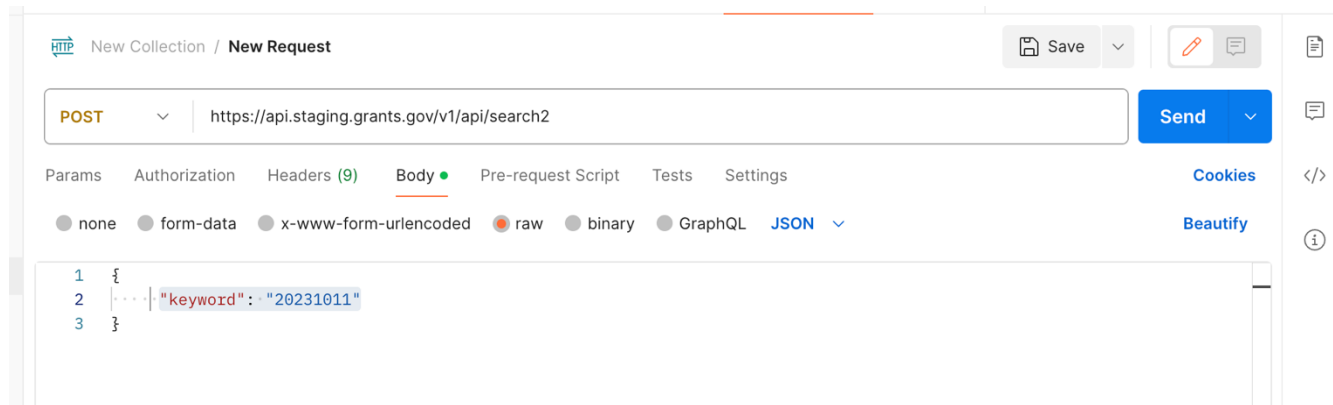
503, 504		
-------------	--	--

Appendix A: Postman Setup

The below instructions are high-level guidance to setup your Postman application and connect to Grants.gov.

- Create an account and install the Postman application from the following url:
<https://www.postman.com>
- Open Postman and under **My Workspace** Add a New Collection.
- Expand the New Collection, and select add Request to start working
 - Give your request a name
- Change the URL filed from **GET** to **POST**
- Enter the Grants.gov URL and environment you would like to test.
 - Example: <https://api.staging.grants.gov/v1/api/search2>
- Then select the Body menu
 - Select “raw” and JSON as the type from the pulldown menu
- In the body enter the following:

```
{  
  "keyword": "the keyword you want to search for goes here"  
}
```



Appendix B: Values

a. Eligibility Codes ("eligibilities:") :

Code	Description
00	State governments
01	County governments
02	City or township governments
04	Special district governments
05	Independent school districts
06	Public and State controlled institutions of higher education
07	Native American tribal governments (Federally recognized)
08	Public housing authorities/Indian housing authorities
11	Native American tribal organizations (other than Federally recognized tribal governments)
12	Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher education
13	Nonprofits that do not have a 501(c)(3) status with the IRS, other than institutions of higher education
20	Private institutions of higher education
21	Individuals
22	For profit organizations other than small businesses
23	Small businesses
25	Others (see text field entitled "Additional Information on Eligibility" for clarification)
99	Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

b. Category Codes ("fundingCategories:")

Code	Description
RA	Recovery Act
AG	Agriculture
AR	Arts (see "Cultural Affairs" in CFDA)
BC	Business and Commerce
CD	Community Development
CP	Consumer Protection

DPR	Disaster Prevention and Relief
ED	Education
ELT	Employment, Labor and Training
EN	Energy
ENV	Environment
FN	Food and Nutrition
HL	Health
HO	Housing
HU	Humanities (see "Cultural Affairs" in CFDA)
IS	Information and Statistics
ISS	Income Security and Social Services
LJL	Law, Justice and Legal Services
NR	Natural Resources
O	Other (see text field entitled "Explanation of Other Category of Funding Activity" for clarification)
RD	Regional Development
ST	Science and Technology and other Research and Development
T	Transportation
OZ	Opportunity Zone Benefits
IJJ	Infrastructure Investment and Jobs Act (IIJA)
ACA	Affordable Care Act

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