Connecting Power BI to API using POST

Russ Loski

Introduction

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- Slides and Code: https://bit.ly/3Otfvj0

Getting data from Web is easy

- Web.Contents(URL)

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Web.Contents – With just URL

- Download HTML page
  - Parse out HTML tables
- Download structured files
  - CSV, JSON, Tab Delimited

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Anatomy of an HTTP request

- Request Line
  - HTTP Method (GET, POST, etc)
  - URL (http://www.google.com)
  - HTTP Version
- Headers

  Content-Type: text/html
- Message Body

HTTP Requests Defined: What They Are & How They Work – Sematext
https://sematext.com/glossary/http-requests/

Health Insurance Marketplace

- Government run interface for finding health insurance
- Targets are people who have difficulty (lack of income, etc) finding insurance

Marketplace API

- Marketplace API (cms.gov)
  - https://developer.cms.gov/marketplace-api/
- API Specifications - Marketplace API (cms.gov)
  - https://developer.cms.gov/marketplace-api/api-spec

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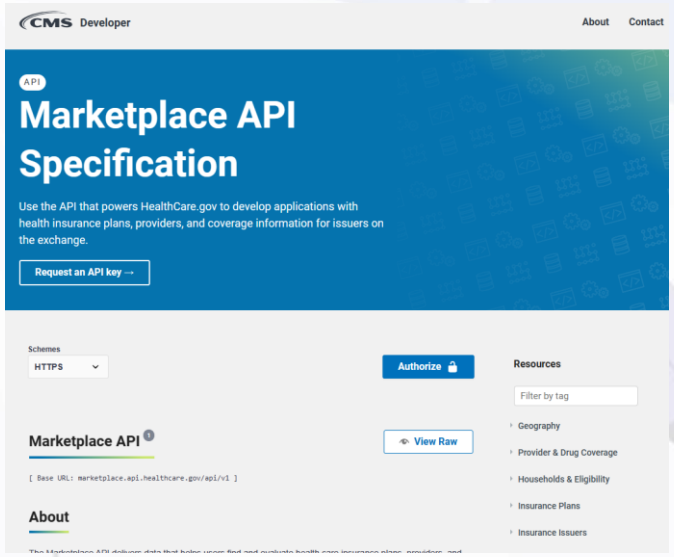
API Specifications - Marketplace API (cms.gov)



drug coverage for a specific plan. Other endpoints, like looking up doctors and providers, or getting recent state medicaid information, are covered in the docs.

Search for health insurance plans

We begin by searching for the health insurance plans for a 27 year-old woman living in North Carolina by posting a single person household to the plan search endpoint

```
apikey="d687412e7b53146b2631dc01974ad0a4" # rate limited test key
curl --request POST \\
  --url "https://marketplace.api.healthcare.gov/api/v1/plans/search?apikey=${apikey}" \\
  --header 'content-type: application/json' \\
  --data '{
    "household": {
      "income": 52000,
      "people": [
        {
          "age": 27,
          "aptc_eligible": true,
          "gender": "Female",
          "uses_tobacco": false
        }
      ]
    },
    "market": "Individual",
    "place": {
      "countyfips": "37057",
      "state": "NC",
      "zipcode": "27360"
    },
    "year": 2019
}'
```

This **POST** request returns health insurance information and pricing estimates for the plans for which she can sign up. More discussion about building the household JSON object can be found later on this page. Don't know the county FIPS code? To look it up for this person's zip code, we use the counties by zip endpoint.

```
apikey="d687412e7b53146b2631dc01974ad0a4"
zipcode="27360"
curl "https://marketplace.api.healthcare.gov/api/v1/counties/by/zip/${zipcode}?apikey=${apik
```

This helps gather the necessary information to build the household object to submit to the API.

Resources

Filter by tag

- Geography
- Provider & Drug Coverage
- Households & Eligibility
- Insurance Plans
- Insurance Issuers
- Enrollments
- API Reference
- Bulk Data
- default

Getting web content in Power Query

```
WebContent = Web.Contents(URL,
    [Headers=Headers, Content=JsonDoc])
```

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Structure of POST Data

- Data is in JSON format
  - {"market":"Individual","place":{"countyfips":"48439","state":"TX","zipcode":"76039"},"year":2024}
- Data for a POST can be in other formats: XML, Name value, etc.
- In Power Query, with JSON, easiest to start with Record structure
- Convert the Record structure to text

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{"market":"Individual","place":{"countyfips":"48439“, "state":"TX" ,
"zipcode":"76039"}, "year":2024}

```
content = [
   market= "Individual",
   place= [
    countyfips= "48439",
    state= "TX",
    zipcode= ZipCode
   ],
   year= 2024
],
JsonDoc = Json.FromValue(content)
```

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Header in Power Query

- Pass in a record

- Headers = [#"Content-Type"="application/json"]

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Additional resources

- Power Query Web connector - Power Query | Microsoft Learn
  - https://learn.microsoft.com/en-us/power-query/connectors/web/web
- Create a POST request with Power BI – PBI Guy (pbi-guy.com)
  - https://pbi-guy.com/2023/05/21/create-a-post-request-with-power-bi/
- (3) POST Requests in Power Query | LinkedIn
  - https://www.linkedin.com/pulse/post-requests-power-query-alex-reed/
- Making a POST Request Using Power Query (youtube.com)
  - https://www.youtube.com/watch?v=hbt45XCD5RU
- Easy POST requests with Power BI and Power Query using Json.FromValue – (thebiccountant.com)
  - https://www.thebiccountant.com/2018/06/05/easy-post-requests-with-power-bi-and-power-query-using-json-fromvalue/

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