# Goal:

**Short-term**

* Improve expoloration of drug product information base on the active ingredients to assist developmental decision (formulation/formulator)
* Apply Classification ML to predict dose (single/multi) on Excipients and packaging information

**Long-term**

* Open to suggestion

# Information Needed From the Database

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Purpose | Information Description | Example | Query from: | Label Name in Database |
| Data | Active Ingredient Name (API) | Midazolam | NDC | Active\_ingredients.name |
| Data | API Concentration | 10 mg/mL | NDC | Active\_ingredients.strength |
| Data | Fill Volume | 10 mL | NDC | Packaging.description |
| Data | Fill Container | Per Vial | NDC | Packaging.description |
| Data | Packaging Size | 10 Vials | NDC | Packaging.description |
| Data | Packaging Configuration | Per Box | NDC | Packaging.description |
| Data | Inactive Ingredient List | Benzyl Alcohol, EDTA, ETc. | Label | spl\_product\_data\_elements |
| Data | Inactive Ingredient Concentration | 10% Oil, etc. | Label | description |
| Data | Dose | Single Dose | NDC | Packaging.description |
| Data | Dose Admin | 8 mg/kg/day | Label | precautions |
| Data | Route | IV | NDC,  Label | Route  Openfda.route |
| Data | Storage | 2-8C, Protect from light | Label | how\_supplied |
| Data | Class | Benzodiazepine | NDC | pharm\_class |
| Index | Package\_ndc | 52584-749-01 | NDC  Label | Packaging.package\_ndc  Openfda.package\_ndc |
| Index | Unique substance ID | W7TTW573JJ | NDC  Label | Openfda.unii |

# Note:

* Flatten out table: if list in list, convert to 1 long list
* If output has unit, add an additional column,
  + ie: API concentration : 10 mg/mL => { API Concentration:10, API Conc\_unit:mg/mL}

# Test API for Query:

1. Midazolam
2. Cisatracurium
3. Propofol

# Open FDA Query parameters

The API supports five query parameters. The basic building block of queries is the search parameter. Use it to “filter” requests to the API by looking in specific fields for matches. Each endpoint has its own unique fields that can be searched.

* search: What to search for, in which fields. If you don’t specify a field to search, the API will search in every field.
* sort: Sort the results of the search by the specified field in ascending or descending order by using the :asc or :desc modifier.
* count: Count the number of unique values of a certain field, for all the records that matched the search parameter. By default, the API returns the 1000 most frequent values.
* limit: Return up to this number of records that match the search parameter. Currently, the largest allowed value for the limit parameter is 1000.
* skip: Skip this number of records that match the search parameter, then return the matching records that follow. Use in combination with limit to paginate results. Currently, the largest allowed value for the skip parameter is 25000. See Paging if you require paging through larger result sets.
* search=field:term: Search within a specific field for a term.
* search=field:term+AND+field:term: Search for records that match both terms.
* search=field:term+field:term: Search for records that match either of two terms.
* sort=report\_date:desc: Sort records by a specific field in descending order.
* search=field:term&count=another\_field: Search for matching records. Then within that set of records, count the number of times that the unique values of a field appear.