



The Socrata Open Data API

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Why are APIs important?

- ✓ Open data is *messy*
- ✓ A downloaded dataset is a stale dataset
- ✓ You don't want to manage your own data store
- ✓ You want your app to be easily portable



The Socrata Open Data API

- ✓ Every Socrata data site
- ✓ Every dataset
- ✓ The same, consistent API
- ✓ Open, standards-based, non-proprietary



API Overview



RESTful Resources

- ✓ Resources in the SODA API are accessed using RESTful paradigms
- ✓ Use standard HTTP verbs (GET, POST, PUT, DELETE, etc.)
- ✓ http://en.wikipedia.org/wiki/Representational_State_Transfer



Data Formats

- ✓ Resources are available in many different formats
- ✓ JSON, XML, RDF, CSV, etc.
- ✓ Desired resource type denoted by “extension”
 - ex: .json or .xml



Developer Resources

- ✓ Developer Website: <http://dev.socrata.com>
- ✓ API Documentation
- ✓ Forums and one-on-one support
- ✓ Sample code library



dev.socrata.com

- ✓ Provides getting-started guides and examples
- ✓ Interactive developer console
- ✓ Links to code samples and sample apps
- ✓ Dev blog
- ✓ Central hub for other resources



API Documentation

- ✓ <http://opendata.socrata.com/api/docs>
- ✓ Provides detailed API spec and parameters
- ✓ Focused examples
- ✓ Always up-to-date



Support Portal

- ✓ <http://support.socrata.com>
- ✓ Get support from SODA experts and Socrata employees
- ✓ Connect with other developers
- ✓ Suggest features and improvements






Sample Code Library

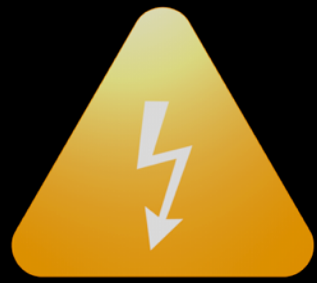
- ✓ <http://github.com/socrata>
- ✓ Language Support:
 - ✓ Ruby
 - ✓ PHP
 - ✓ Python
 - ✓ JavaScript
 - ✓ C#
 - ✓ Java
- ✓ <http://github.com/chrismetcal>



How we're evolving the API

What did we do right?

-  Simple, RESTful addressing of resources
-  Access in a variety of data formats
-  Consistent API across all datasets



What did we get wrong?

- ✓ Dataset metadata included in every response
- ✓ Parsing the default data format required knowledge of the dataset schema
- ✓ Confusing, difficult to construct queries



The old output format...

GET <https://data.seattle.gov/api/views/cqsd-e672/rows.json>

```
{
  "meta" : {
    "view" : {
      "id" : "b9ut-byji",
      "name" : "Public Toilets",
      "attribution" : "City of Seattle, My Neighborhood Map program",
      "attributionLink" : "http://www.seattle.gov/mnm",
      "averageRating" : 40,
      ...
      "columns" : [ {
        "id" : -1,
        "name" : "sid",
        "dataTypeName" : "meta_data",
        "fieldName" : "sid",
        "position" : 0,
        "renderTypeName" : "meta_data",
        "format" : {
          ...
        }
      }
      ...
    ]
  },
  "data" : [ [ 204, "76316AAA-4F44-4C7B-BF73-63B2E41B9380", 204, 1263313295, "386118", 1263313295, "386118", null, "Public Toilets",
  "Lake City", "Lake City Way NE and NE 125th St", [ null, null ], "-122.294774", "47.71941" ]
, [ 205, "A98CC739-AD5E-4F88-8571-E072D0A8F8AC", 205, 1263313295, "386118", 1263313295, "386118", null, "Public Toilets", "Ballard",
  "2021 NW Market St", [ null, null ], "-122.38335", "47.66845" ]
, [ 206, "56AFABC6-70B8-4B37-A1A1-0521F4CDB0AF", 206, 1263313295, "386118", 1263313295, "386118", null, "Public Toilets", "University
  Way", "NE corner of 5031 University Wy NE property", [ null, null ], "-122.313685", "47.665678" ]
, [ 207, "619D265E-3538-4A2D-B188-2463D8C83C3A", 207, 1263313295, "386118", 1263313295, "386118", null, "Public Toilets", "West
  Seattle", "SW Alaska St and California Av SW", [ null, null ], "-122.387136", "47.561264" ]
, [ 208, "41276E1F-B634-4C35-ADE1-5B310B6D1AFD", 208, 1263313295, "386118", 1263313295, "386118", null, "Public Toilets", "Queen Anne",
  "2nd Ave W and W. Thomas St", [ null, null ], "-122.353355", "47.621118" ]
]
}
```



13KB total...



The NEW output format

GET <https://data.seattle.gov/resource/toilets.json>

```
[ {  
  "website" : {  
  },  
  "address" : "Lake City Way NE and NE 125th St",  
  "city_feature" : "Public Toilets",  
  "common_name" : "Lake City",  
  "longitude" : "-122.294774",  
  "latitude" : "47.71941"  
},  
...  
{  
  "website" : {  
  },  
  "address" : "2nd Ave W and W. Thomas St",  
  "city_feature" : "Public Toilets",  
  "common_name" : "Queen Anne",  
  "longitude" : "-122.353355",  
  "latitude" : "47.621118"  
} ]
```

Less than 1KB!



The old query format

POST [https://data.seattle.gov/api/views/INLINE.json?](https://data.seattle.gov/api/views/INLINE.json?method=index)

method=index

```
{
  "originalViewId": "b9ut-byji",
  "name": "Nearby Toilets",
  "query": {
    "filterCondition": {
      "type": "operator",
      "value": "within_circle",
      "children": [
        {
          "type": "column",
          "columnFieldName": "location"
        },
        {
          "type": "literal",
          "value": 47.60357
        },
        {
          "type": "literal",
          "value": -122.33057
        },
        {
          "type": "literal",
          "value": 1000
        }
      ]
    }
  }
}
```

Find me a toilet near city hall...



The NEW query format

GET [https://data.seattle.gov/resource/toilets.json?
\\$where=range\(location, 47.60357, -122.33057\) < 1000](https://data.seattle.gov/resource/toilets.json?where=range(location,47.60357,-122.33057)<1000)



Coming soon!



Code Demo

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