

Coding for Journalists

UC Berkeley Graduate School of Journalism

forEach loops

```
[3,4,5].forEach(function(d){ })
```

⋮

Must be an array.
forEach doesn't work on objects

⋮

forEach method built-in to JavaScript.

⋮

This function will run for each value in the array.

```
[3, "a string", true, [3, 4], {name: "joe"}]
.forEach(function(d){
    //d will be 3
    //d will be "a string"
    //d will be true
    //d will be [3,4] (or d[0] will be 3)
    //d will be {name: "joe"} (or d.name will be Joe)
});
```

API

Application Programming
Interface

A couple of things to know:

URI == URL

(for our purposes)

`http://something.com?SomeCoolStuff`

Using the URI to fetch data

- Most RESTful APIs require you to send data to the service through the URI.
- We format the URI to specify which data we want to retrieve.

Using query strings

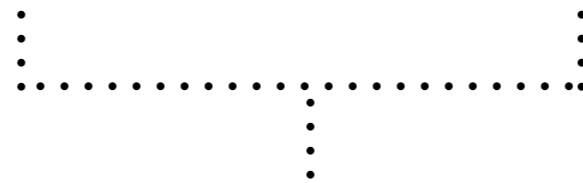
`http://something.com?`

Using query strings

`http://something.com?param=value`

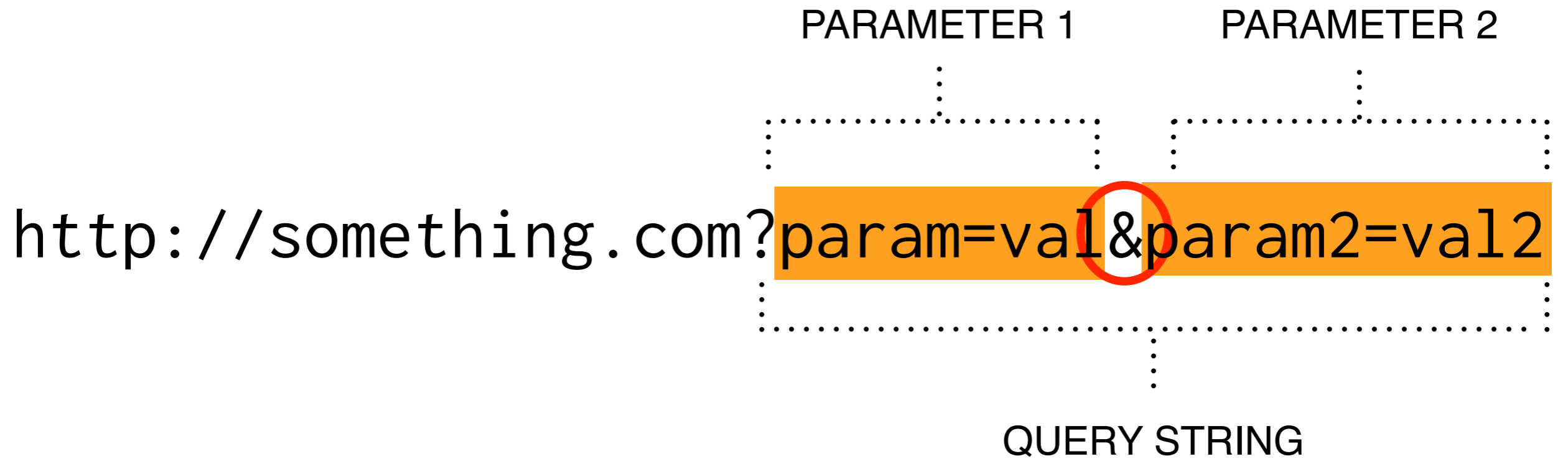
Query String

`http://something.com?param=value`



QUERY STRING

Query String



What are the query strings?

[https://api.instagram.com/v1/media/popular?
client_id=DSE8798DS898s](https://api.instagram.com/v1/media/popular?client_id=DSE8798DS898s)

What are the query strings?

`http://api.flickr.com/services/feeds/photos_friends.gne?
user_id=44908314@N00&format=json`

What are the parameters/arguments?

What are the values of those?

`http://api.nytimes.com/svc/search/v2/
articlesearch?q=news&sort=oldest&h1=false`

Build a query

Base URI

`http://mycoolapi.com`

Arguments/Parameters

<code>q</code>	<i>(string)</i>	Search terms
<code>sort</code>	<i>(string)</i>	Oldest or newest
<code>count</code>	<i>(number)</i>	Number of items to return
<code>api-key</code>	<i>(string)</i>	The key you used to register
<code>all</code>	<i>(boolean)</i>	Return all items?

`http://mycoolapi.com ?q=story &sort=oldest
&count=12 &api-key=1234 &all=false`

Query String Examples

`http://google.com/search?q={SEARCH HERE}`

`http://richmondconfidential.org?p=50238`

Encoding URLs

<http://google.com/search?q=uc%20berkeley%20j%2Dschoo1>

ASCII Character	URL-encoding
space	%20
-	%2D
"	%22
:	%3A
\$	%24
/	%2F
&	%26
.	%2E

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<http://google.com/search?q=uc%20berkeley%20%2Dschool>

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Encoding URLs

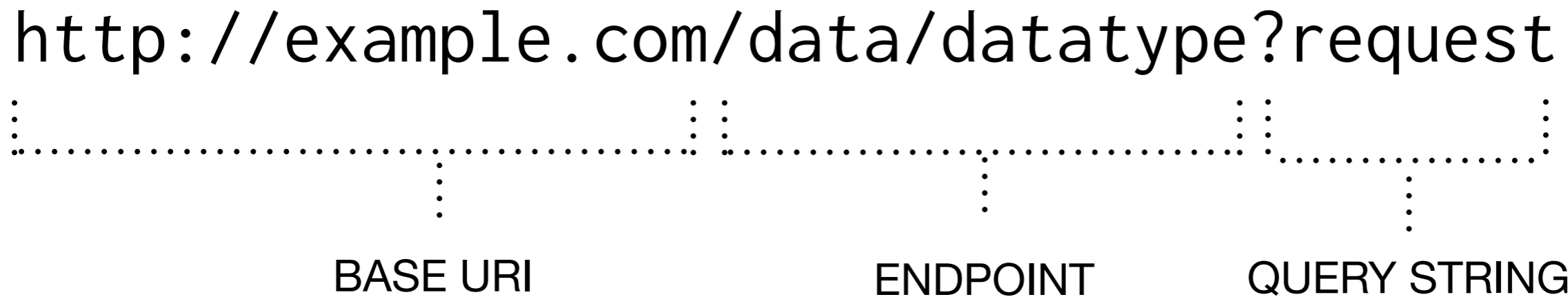
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ASCII Character	URL-encoding
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Endpoints

`http://someservice.com/data/datatype?request`

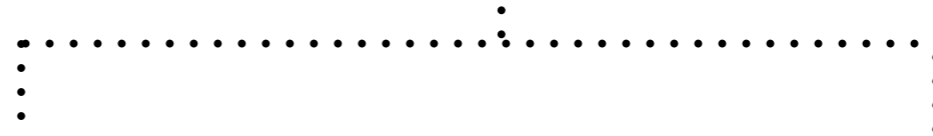
Endpoints



Endpoints are the URIs you should use to request certain resources

Endpoints

ENDPOINT



`http://api.nytimes.com/svc/search/v1/article`

`?query=UC%20Berkeley&begin_date=20010101&end_date=20120131`

PARAMETER	DESCRIPTION
QUERY	Search keyword
begin_date	YYYYMMDD
end_date	YYYYMMDD
facets	Category, or desk

API Key

- Most API services require you to register for an account.
- This allows them to track your usage for API queries.
- This is becoming the new standard for data access.



OAuth (authentication)

Authentication protocol so that you can make changes to an account.

Example: Update twitter, or add to a Google Spreadsheet.

```
http://api.twitter.com/1/statuses/update.json
```

```
?
```

```
status=Hey%20everyone%20posting%20on%20twitter%20from%  
20the%20api&access_token=S42MDK465DSFS5
```

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OAuth

- Cannot be done with just a username and password.
- User has to authorize an "application" to give access to that account, and can revoke it at any time.
- Works with API "keys" that are long strings of encrypted characters.
- You **SHOULD NOT** put private API keys inside your JavaScript.

How to request data?

AJAX

Asynchronous JavaScript and XML

How to request data with d3

d3 d3 method, (can be csv, json, text)

⋮

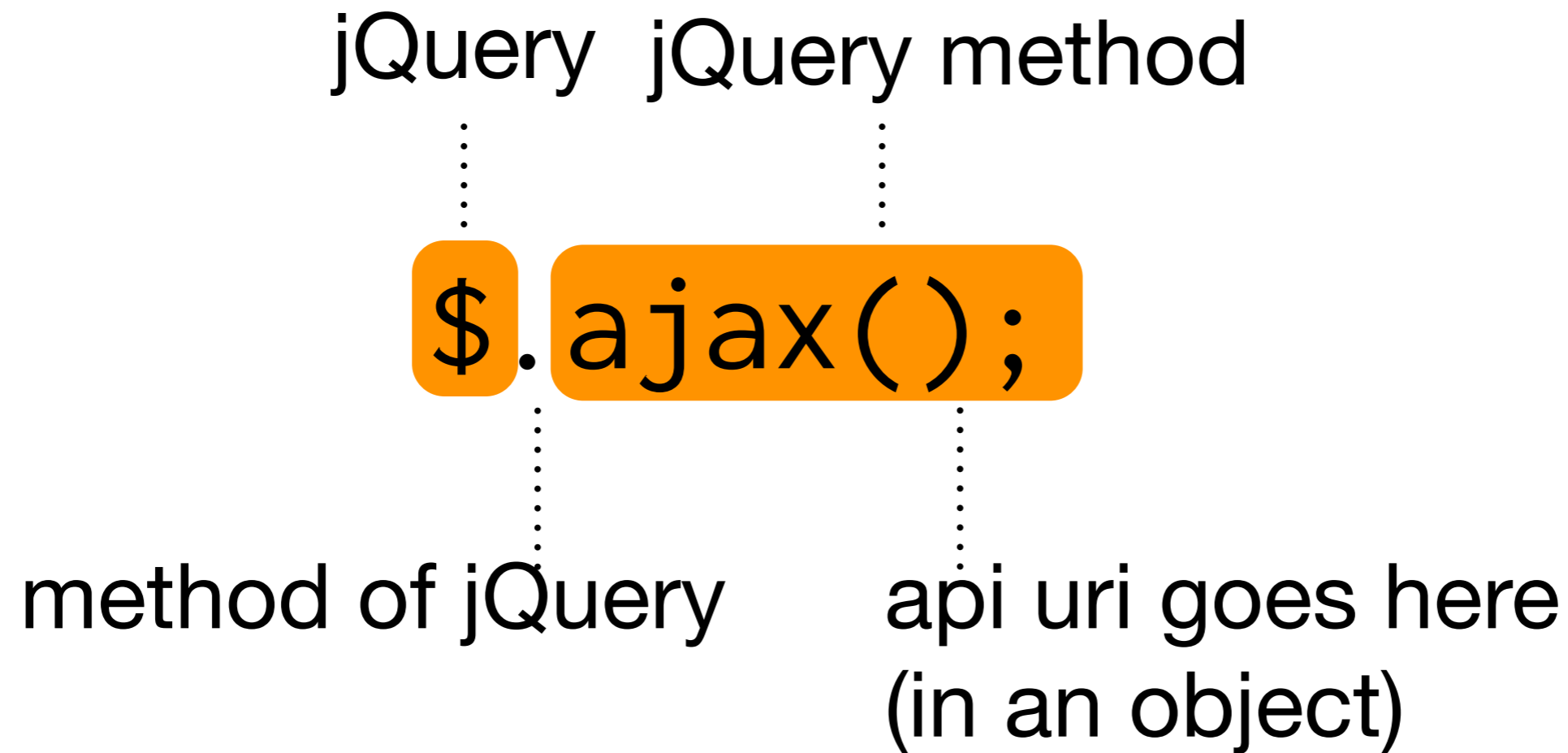
⋮

d3.csv("some_file.csv")

⋮

uri goes here

How to request data



How to request data

```
$.ajax({  
  url      : "http://api...",  
  dataType : "jsonp",  
  jsonpCallback : "flickrFeed"  
})  
.done(function(d){  
  
});
```

JSON vs JSONP

- Most browsers have a built-in protection system that prevents JSON data from being read *by another website* using JavaScript.
- In order to get around this, some website APIs employed another version of JSON called "JSONP." This allows other websites to request data.
- The technical explanation is that JSONP puts some "padding" around the JSON file to make it appear inside a function. This tricks the server into thinking it's not JSON information...