

JSON, AJAX, and External Web APIs

Listed APIs

- Random User Generator
- REST Country
- MARS Rover Photos
- The Internet Chuck Norris Database
- Weather Underground
- xkcd

Random User Generator

The web service generates a random user each time it is called.

Home Page

General information, and calling instructions

```
https://randomuser.me`
```

Request

```
$.ajax({
  url: 'https://randomuser.me/api/',
  dataType: 'json',
  success: function(data){
    console.log(data); // Or whatever
  }
});
```

Response

Returns JSON

```

{
  results: [{
    user: {
      gender: "female",
      name: {
        title: "ms",
        first: "manuela",
        last: "velasco"
      },
      location: {
        street: "1969 calle de alberto aguilera",
        city: "la coruña",
        state: "asturias",
        zip: "56298"
      },
      email: "manuela.velasco50@example.com",
      username: "heavybutterfly920",
      password: "enterprise",
      salt: ">egEn6YsO",
      md5: "2dd1894ea9d19bf5479992da95713a3a",
      sha1: "ba230bc400723f470b68e9609ab7d0e6cf123b59",
      sha256: "f4f52bf8c5ad7fc759d1d4156b25a4c7b3d1e2eec6c92d80e508aa0b7946d4ba",
      registered: "1303647245",
      dob: "415458547",
      phone: "994-131-106",
      cell: "626-695-164",
      DNI: "52434048-I",
      picture: {
        large: "http://api.randomuser.me/portraits/women/39.jpg",
        medium: "http://api.randomuser.me/portraits/med/women/39.jpg",
        thumbnail: "http://api.randomuser.me/portraits/thumb/women/39.jpg",
      },
      version: "0.6"
      nationality: "ES"
    },
    seed: "graywolf"
  }]
}

```

REST Countries

Get information about countries via a RESTful API

Home Page

General information, and a listing of the calls available.

<https://restcountries.eu/>

Request

There are a number of ways to retrieve country information, but only two are shown below, since they all follow the same format.

Retrieve country information using a partial spelling of the country name

```
https://restcountries.eu/rest/v1/name/Rus
```

Returns JSON objects for Belarus, Cyprus, and Russia

Retrieve country information using a specific country code

```
https://restcountries.eu/rest/v1/alpha/cy
```

Returns a single JSON object for Cyprus

Response

Returns JSON

Note, a number of the the calls can potentially return multiple countries, the resulting JSON objects may be wrapped in a JSON array as shown below. In the case where the call returns a single country JSON object, it will not be in wrapped inside an array.

```
[
  {
    "name": "United States",
    "capital": "Washington D.C.",
    "altSpellings": [
      "US",
      "USA",
      "United States of America"
    ],
    "relevance": "3.5",
    "region": "Americas",
    "subregion": "Northern America",
    "translations": {
      "de": "Vereinigte Staaten von Amerika",
      "es": "Estados Unidos",
      "fr": "États-Unis",
      "ja": "アメリカ合衆国",
      "it": "Stati Uniti D'America"
    },
    "population": 321645000,
    "latlng": [
      38,
      -97
    ],
    "demonym": "American",
    "area": 9629091,
    "gini": 48,
    "timezones": [
      "UTC-12:00",
      "UTC-11:00",
```

```

        "UTC-10:00",
        "UTC-09:00",
        "UTC-08:00",
        "UTC-07:00",
        "UTC-06:00",
        "UTC-05:00",
        "UTC-04:00",
        "UTC+10:00",
        "UTC+12:00"
    ],
    "borders": [
        "CAN",
        "MEX"
    ],
    "nativeName": "United States",
    "callingCodes": [
        "1"
    ],
    "topLevelDomain": [
        ".us"
    ],
    "alpha2Code": "US",
    "alpha3Code": "USA",
    "currencies": [
        "USD",
        "USN",
        "USS"
    ],
    "languages": [
        "en"
    ]
}
]

```

Mars Rover Photos

Retrieve black-and-white photos taken by the Mars Rover.

Home Page

NASA offers a surprising number of APIs. Check them out.

```
https://api.nasa.gov/index.html
```

Request

To request Mars Rover photos for a specific day, use the following URL. Set the `earth_date` (yyyy-m-d) request parameter to the desired day.

```
https://api.nasa.gov/mars-photos/api/v1/rovers/curiosity/photos?earth_date=2016-3-30&api_key=DEMO_KEY
```

Note, the request makes use of the DEMOKEY. *The DEMOKEY* is limited to 30 calls per hour, and 50 calls per day. Individual keys are available for free.

```
https://api.nasa.gov/index.html#apply-for-an-api-key
```

Response

Returns JSON

Sorry for the size and formatting of the JSON returned, but it isn't all that difficult to parse, plus, *THEY'RE PICTURES FROM MARS!*

Note, the number of photos returned can vary from day to day.

```
{
  "photos": [
    {
      "id": "550612",
      "sol": 1297,
      "camera": {
        "id": 20,
        "name": "FHAZ",
        "roverid": 5,
        "fullname": "Front Hazard Avoidance Camera"
      },
      "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/fcam/FLB512635476EDRF0532644FHAZ00323M.JPG",
      "earthdate": "2016-03-30",
      "rover": {
        "id": 5,
        "name": "Curiosity",
        "landingdate": "2012-08-06",
        "maxsol": 1298,
        "maxdate": "2016-03-31",
        "totalphotos": 246872,
        "cameras": [
          {
            "name": "FHAZ",
            "fullname": "Front Hazard Avoidance Camera"
          },
          {
            "name": "NAVCAM",
            "fullname": "Navigation Camera"
          },
          {
            "name": "MAST",
            "fullname": "Mast Camera"
          },
          {
            "name": "CHEMCAM",
            "fullname": "Chemistry and Camera Complex"
          },
          {
            "name": "MAHLI",
            "fullname": "Mars Hand Lens Imager"
          },
          {
            "name": "MARDI",
            "fullname": "Mars Descent Imager"
          },
          {
            "name": "RHAZ",
            "fullname": "Rear Hazard Avoidance Camera"
          }
        ]
      },
      "id": "550613",
      "sol": 1297,
      "camera": {
        "id": 20,
        "name": "FHAZ",
        "roverid": 5,
        "fullname": "Front Hazard Avoidance Camera"
      },
      "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/fcam/FRB512635476EDRF0532644FHAZ00323M.JPG",
      "earthdate": "2016-03-30",
      "rover": {
        "id": 5,
        "name": "Curiosity",
        "landingdate": "2012-08-06",
        "maxsol": 1298,
        "maxdate": "2016-03-31",
        "totalphotos": 246872,
        "cameras": [
          {
            "name": "FHAZ",
            "fullname": "Front Hazard Avoidance Camera"
          },
          {
            "name": "NAVCAM",
            "fullname": "Navigation Camera"
          },
          {
            "name": "MAST",
            "fullname": "Mast Camera"
          },
          {
            "name": "CHEMCAM",
            "fullname": "Chemistry and Camera Complex"
          },
          {
            "name": "MAHLI",
            "fullname": "Mars Hand Lens Imager"
          },
          {
            "name": "MARDI",
            "fullname": "Mars Descent Imager"
          },
          {
            "name": "RHAZ",
            "fullname": "Rear Hazard Avoidance Camera"
          }
        ]
      },
      "id": "550664",
      "sol": 1297,
      "camera": {
        "id": 21,
        "name": "RHAZ",
        "roverid": 5,
        "fullname": "Rear Hazard Avoidance Camera"
      },
      "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/rcam/RLB512635509EDRF0532644RHAZ00323M.JPG",
      "earthdate": "2016-03-30",
      "rover": {
        "id": 5,
        "name": "Curiosity",
        "landingdate": "2012-08-06",
        "maxsol": 1298,
        "maxdate": "2016-03-31",
        "totalphotos": 246872,
        "cameras": [
          {
            "name": "FHAZ",
            "fullname": "Front Hazard Avoidance Camera"
          },
          {
            "name": "NAVCAM",
            "fullname": "Navigation Camera"
          },
          {
            "name": "MAST",
            "fullname": "Mast Camera"
          },
          {
            "name": "CHEMCAM",
            "fullname": "Chemistry and Camera Complex"
          },
          {
            "name": "MAHLI",
            "fullname": "Mars Hand Lens Imager"
          },
          {
            "name": "MARDI",
            "fullname": "Mars Descent Imager"
          },
          {
            "name": "RHAZ",
            "fullname": "Rear Hazard Avoidance Camera"
          }
        ]
      },
      "id": "550665",
      "sol": 1297,
      "camera": {
        "id": 21,
        "name": "RHAZ",
        "roverid": 5,
        "fullname": "Rear Hazard Avoidance Camera"
      },
      "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/rcam/RRB512635509EDRF0532644RHAZ00323M.JPG",
      "earthdate": "2016-03-30",
      "rover": {
        "id": 5,
        "name": "Curiosity",
        "landingdate": "2012-08-06",
        "maxsol": 1298,
        "maxdate": "2016-03-31",
        "totalphotos": 246872,
        "cameras": [
          {
            "name": "FHAZ",
            "fullname": "Front Hazard Avoidance Camera"
          },
          {
            "name": "NAVCAM",
            "fullname": "Navigation Camera"
          },
          {
            "name": "MAST",
            "fullname": "Mast Camera"
          },
          {
            "name": "CHEMCAM",
            "fullname": "Chemistry and Camera Complex"
          },
          {
            "name": "MAHLI",
            "fullname": "Mars Hand Lens Imager"
          },
          {
            "name": "MARDI",
            "fullname": "Mars Descent Imager"
          },
          {
            "name": "RHAZ",
            "fullname": "Rear Hazard Avoidance Camera"
          }
        ]
      }
    ]
  }
}
```

{*"name": "NAVCAM", "fullname": "Navigation Camera"*},{*"name": "MAST", "fullname": "Mast Camera"*},
{*"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"*},{*"name": "MAHLI", "fullname": "Mars Hand Lens Imager"*},{*"name": "MARDI", "fullname": "Mars Descent Imager"*},{*"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"*}}},{*"id": 550668, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/ncam/NLB512637743EDRS0532644NCAM00546M.JPG", "earthdate": "2016-03-30", "rover": {"id": 5, "name": "Curiosity", "landingdate": "2012-08-06", "maxsol": 1298, "maxdate": "2016-03-31", "totalphotos": 246872, "cameras": [{"name": "FHAZ", "fullname": "Front Hazard Avoidance Camera"}, {"name": "NAVCAM", "fullname": "Navigation Camera"}, {"name": "MAST", "fullname": "Mast Camera"}, {"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"}, {"name": "MAHLI", "fullname": "Mars Hand Lens Imager"}, {"name": "MARDI", "fullname": "Mars Descent Imager"}, {"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"}]}},{*"id": 550669, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/ncam/NLB512637670EDRS0532644NCAM00546M.JPG", "earthdate": "2016-03-30", "rover": {"id": 5, "name": "Curiosity", "landingdate": "2012-08-06", "maxsol": 1298, "maxdate": "2016-03-31", "totalphotos": 246872, "cameras": [{"name": "FHAZ", "fullname": "Front Hazard Avoidance Camera"}, {"name": "NAVCAM", "fullname": "Navigation Camera"}, {"name": "MAST", "fullname": "Mast Camera"}, {"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"}, {"name": "MAHLI", "fullname": "Mars Hand Lens Imager"}, {"name": "MARDI", "fullname": "Mars Descent Imager"}, {"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"}]}},{*"id": 550670, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/ncam/NLB512637597EDRS0532644NCAM00546M.JPG", "earthdate": "2016-03-30", "rover": {"id": 5, "name": "Curiosity", "landingdate": "2012-08-06", "maxsol": 1298, "maxdate": "2016-03-31", "totalphotos": 246872, "cameras": [{"name": "FHAZ", "fullname": "Front Hazard Avoidance Camera"}, {"name": "NAVCAM", "fullname": "Navigation Camera"}, {"name": "MAST", "fullname": "Mast Camera"}, {"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"}, {"name": "MAHLI", "fullname": "Mars Hand Lens Imager"}, {"name": "MARDI", "fullname": "Mars Descent Imager"}, {"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"}]}},{*"id": 550671, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/ncam/NLB512637524EDRS0532644NCAM00546M.JPG", "earthdate": "2016-03-30", "rover": {"id": 5, "name": "Curiosity", "landingdate": "2012-08-06", "maxsol": 1298, "maxdate": "2016-03-31", "totalphotos": 246872, "cameras": [{"name": "FHAZ", "fullname": "Front Hazard Avoidance Camera"}, {"name": "NAVCAM", "fullname": "Navigation Camera"}, {"name": "MAST", "fullname": "Mast Camera"}, {"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"}, {"name": "MAHLI", "fullname": "Mars Hand Lens Imager"}, {"name": "MARDI", "fullname": "Mars Descent Imager"}, {"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"}]}},{*"id": 550672, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-images/proj/msl/redops/ods/surface/sol/01297/opgs/edr/ncam/NLB512638071EDRM0532644NCAM00567M.JPG", "earthdate": "2016-03-30", "rover": {"id": 5, "name": "Curiosity", "landingdate": "2012-08-06", "maxsol": 1298, "maxdate": "2016-03-31", "totalphotos": 246872, "cameras": [{"name": "FHAZ", "fullname": "Front Hazard Avoidance Camera"}, {"name": "NAVCAM", "fullname": "Navigation Camera"}, {"name": "MAST", "fullname": "Mast Camera"}, {"name": "CHEMCAM", "fullname": "Chemistry and Camera Complex"}, {"name": "MAHLI", "fullname": "Mars Hand Lens Imager"}, {"name": "MARDI", "fullname": "Mars Descent Imager"}, {"name": "RHAZ", "fullname": "Rear Hazard Avoidance Camera"}]}},{*"id": 550673, "sol": 1297, "camera": {"id": 26, "name": "NAVCAM", "roverid": 5, "fullname": "Navigation Camera"}, "imgsrc": "http://mars.jpl.nasa.gov/msl-raw-******

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Camera"}]}} ] }
```

The Internet Chuck Norris Database

Who doesn't love Chuck Norris jokes? Especially, if you can insert your name, or the name of a friend or loved one into it.

Home Page

General information.

```
http://www.icndb.com
```

See API for more information

```
http://www.icndb.com/api/
```

Request

There are several ways to access and modify the jokes outlined on the API page. Only obtaining a random is shown below.

```
http://api.icndb.com/jokes/random/
```

Channel your inner Chuck, and in the grand tradition of the master, roundhouse kick the rest of the calls into submission.

Response

Returns JSON

Note, the calls may return multiple jokes, in which case, they are wrapped in a JSON array as shown below. In the case where the call returns a single joke JSON object, it will not be in wrapped inside an array.

```
{
  "type": "success",
  "value":
    [
      { "id": 162, "joke": "Once you go Norris, you are physically unable to go back.", "categories": [] },
      { "id": 240, "joke": "In a fight between Batman and Darth Vader, the winner would be Chuck Norris.", "categories": [] }
    ]
}
```

Weather Underground

Weather information from around the world.

Home Page

General information.

```
https://www.wunderground.com/
```

API documentation.

```
https://www.wunderground.com/weather/api/d/docs
```

Request

There are a number of calls available. The simplest is getting the current weather for a given city in the US. For instance, the

following asks for Cleveland, OH.

```
http://api.wunderground.com/api/api-key/conditions/q/OH/Cleveland.json
```

Tech Elevator's limited api-key: ff29edd8a8808b08

Response

Returns JSON

```
{
  "response": {
    "version": "0.1",
    "termsOfService": "http://www.wunderground.com/weather/api/d/terms.html",
    "features": {
      "conditions": 1
    }
  },
  "current_observation": {
    "image": {
      "url": "http://icons.wxug.com/graphics/wu2/logo_130x80.png",
      "title": "Weather Underground",
      "link": "http://www.wunderground.com"
    },
    "display_location": {
      "full": "Cleveland, OH",
      "city": "Cleveland",
      "state": "OH",
      "state_name": "Ohio",
      "country": "US",
      "country_iso3166": "US",
      "zip": "44101",
      "magic": "1",
      "wmo": "99999",
      "latitude": "41.49306870",
      "longitude": "-81.66831970",
      "elevation": "210.00000000"
    },
    "observation_location": {
      "full": "LeanDog, Cleveland, Ohio",
      "city": "LeanDog, Cleveland",
      "state": "Ohio",
      "country": "US",
      "country_iso3166": "US",
      "latitude": "41.510742",
      "longitude": "-81.691978",
      "elevation": "574 ft"
    },
    "estimated": {
    },
    "station_id": "KOHCLEVE65",
```

```

"observation_time":"Last Updated on April 1, 11:48 AM EDT",
"observation_time_rfc822":"Fri, 01 Apr 2016 11:48:00 -0400",
"observation_epoch":"1459525680",
"local_time_rfc822":"Fri, 01 Apr 2016 11:48:09 -0400",
"local_epoch":"1459525689",
"local_tz_short":"EDT",
"local_tz_long":"America/New_York",
"local_tz_offset":"-0400",
"weather":"Overcast",
"temperature_string":"44.5 F (6.9 C)",
"temp_f":44.5,
"temp_c":6.9,
"relative_humidity":"85%",
"wind_string":"From the ESE at 13.0 MPH",
"wind_dir":"ESE",
"wind_degrees":108,
"wind_mph":13.0,
"wind_gust_mph":0,
"wind_kph":20.9,
"wind_gust_kph":0,
"pressure_mb":"1004",
"pressure_in":"29.64",
"pressure_trend":"+",
"dewpoint_string":"40 F (5 C)",
"dewpoint_f":40,
"dewpoint_c":5,
"heat_index_string":"NA",
"heat_index_f":"NA",
"heat_index_c":"NA",
"windchill_string":"38 F (3 C)",
"windchill_f":"38",
"windchill_c":"3",
"feelslike_string":"38 F (3 C)",
"feelslike_f":"38",
"feelslike_c":"3",
"visibility_mi":"10.0",
"visibility_km":"16.1",
"solarradiation":"--",
"UV":"2","precip_1hr_string":"0.00 in ( 0 mm)",
"precip_1hr_in":"0.00",
"precip_1hr_metric":" 0",
"precip_today_string":"0.00 in (0 mm)",
"precip_today_in":"0.00",
"precip_today_metric":"0",
"icon":"cloudy",
"icon_url":"http://icons.wxug.com/i/c/k/cloudy.gif",
"forecast_url":"http://www.wunderground.com/US/OH/Cleveland.html",
"history_url":"http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=KOHCLEVE65",
"ob_url":"http://www.wunderground.com/cgi-bin/findweather/getForecast?query=41.510742,-81.69
1978",
"nowcast":""

```

```

}
```

```
}
```

xkcd

Get any xkcd cartoon.

Home Page

API documentation (in the the form of a cartoon, of course)

```
https://xkcd.com/1481/
```

Request

There are really only two requests possible, today's

```
http://xkcd.com/info.0.json
```

or a previous, for instance, number 614.

```
http://xkcd.com/614/info.0.json
```

Response

Returns JSON

```
{
  "month": "3",
  "num": 1662,
  "link": "",
  "year": "2016",
  "news": "", "safe_title":
  "Jack and Jill", "transcript": "",
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  \\/ the bedrock shake \\/ and Jack came tumbling down.",
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