

Building REST API for DigitalUniverse

<http://star-api.herokuapp.com/>

Team



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wallyqs



zniazi



surenm



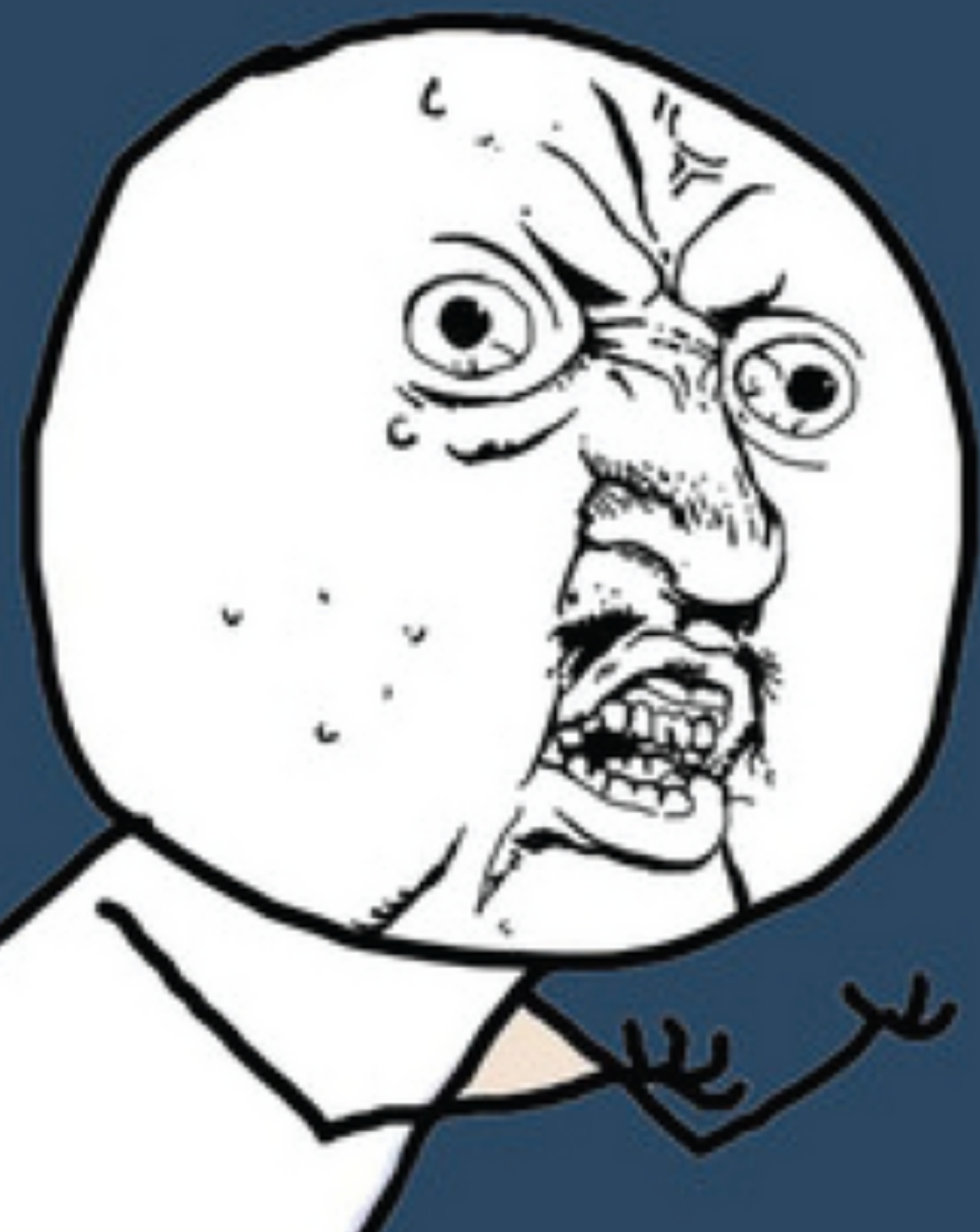
NancyKo



jdmcpeek

**I HAVE NO
IDEA WHAT
I'M DOING**





Y U NO
API ???

REST API for DigitalUniverse

Star-API provides easy and free API access to the American Museum of Natural History's Digital Universe Data. We provide access to positions, luminosity, color, and other data on over 100,000 stars as well as constellations, exo-planets, clusters and others.

[Try it Now!](#)

Goals

- Simple REST API (mostly just GET)
- Fast and efficient
- Advanced filtering and searching

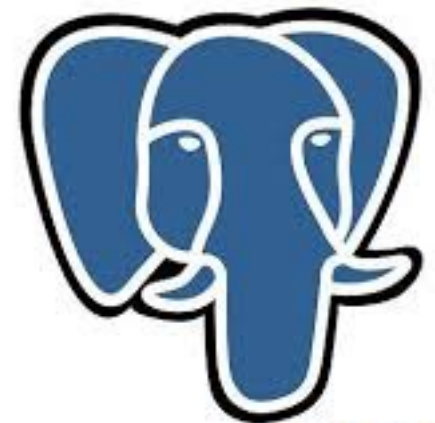
Technology



elasticsearch.



heroku



PostgreSQL

Stars

/api/v1/stars

/api/v1/stars?page=2

```
[
  - {
    id: 53794,
    label: "Sun",
    x: 0,
    y: 0,
    z: 0,
    lum: 0.8913,
    colorb_v: 0.65,
    absmag: 4.85,
    appmag: -26.72,
    texnum: 1,
    distly: 0,
    dcalc: 0,
    plx: 0,
    plxerr: 0,
    vx: 0,
    vy: 0,
    vz: 0,
    speed: 0,
    hipnum: 0,
    created_at: "2014-11-08T14:49:09.334Z",
    updated_at: "2014-11-08T14:49:09.334Z"
  },
  - {
    id: 53795,
    label: "HIP1 HD224700 G1i",
    x: -18.1007,
    y: 143.562,
```


Stars by label

`/api/v1/stars/Sun`

```
{  
  id: 53794,  
  label: "Sun",  
  x: 0,  
  y: 0,  
  z: 0,  
  lum: 0.8913,  
  colorb_v: 0.65,  
  absmag: 4.85,  
  appmag: -26.72,  
  texnum: 1,  
  distly: 0,  
  dcalc: 0,  
  plx: 0,  
  plxerr: 0,  
  vx: 0,  
  vy: 0,  
  vz: 0,  
  speed: 0,  
  hipnum: 0,  
  created_at: "2014-11-08T14:49:09.334Z",  
  updated_at: "2014-11-08T14:49:09.334Z"  
}
```

Filters

```
/api/v1/stars?max[lum]=0.3
```

```
/api/v1/stars?min[colorb_v]=-1.0&max[colorb_v]=0
```

Other datasets

/api/v1/**exo_planets**

expl.speck

/api/v1/**constellations**

constellations.speck

/api/v1/**local_groups**

localgroup.speck

/api/v1/**open_clusters**

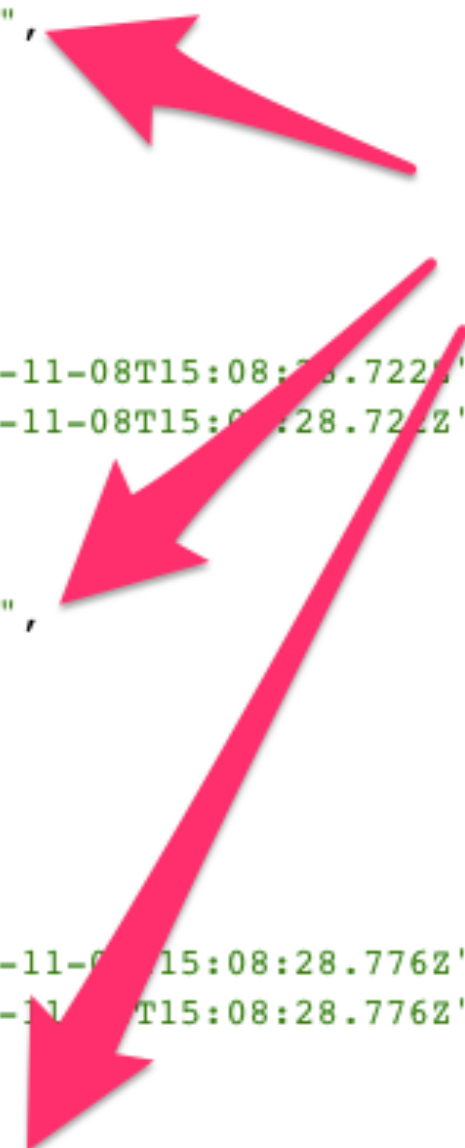
oc.speck

Search

/api/v1/search?q=sun

/api/v1/search?q=HD

```
{
  stars: [ ],
  - exo_planets: [
    - {
      id: 123,
      label: "HD 102195",
      x: -0.6806,
      y: -14.0095,
      z: 25.3563,
      numplanets: 1,
      distance: 94.5,
      texture: 1,
      created_at: "2014-11-08T15:08:28.722Z",
      updated_at: "2014-11-08T15:08:28.722Z"
    },
    - {
      id: 128,
      label: "HD 103197",
      x: 19.2373,
      y: -44.3516,
      z: 9.8337,
      numplanets: 1,
      distance: 160.8,
      texture: 1,
      created_at: "2014-11-08T15:08:28.776Z",
      updated_at: "2014-11-08T15:08:28.776Z"
    },
    - {
      id: 130,
      label: "HD 104985",
      x: -46.3566,
```



Whats ahead??

/api/v2/stars_in_region/?x,y,z,radius

/api/v2/2mass/?x,y,z

/api/v2/NORAD/?satellite



Fin.

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