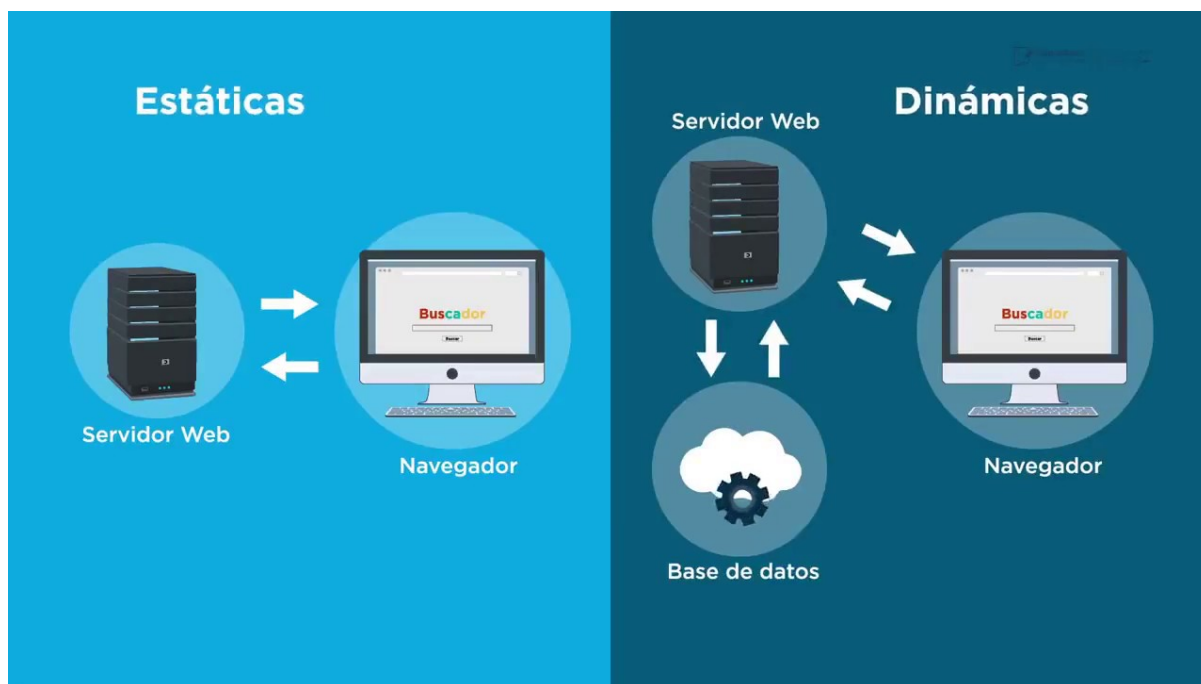


NF1-PAC02a Web Services - NASA



UF3

Desenv. EntornClient

Sergio Pereira

1.- A l'apartat "Browse APIs" escull una API per treballar.

The screenshot shows the NASA SBDB Close-Approach Data API documentation. The page title is "SBDB Close-Approach Data API". It includes a version number (1.4, 2021 July) and a link to the change log. A brief description states that the API provides access to current close-approach data for all asteroids and comets in JPL's SBDB (Small-Body DataBase). Defaults for query parameters are set for a typical CNEOS web-site search: NEO Earth close-approaches less than 0.05 au in the next 60 days sorted by date.

HTTP Request

GET `https://ssd-api.jpl.nasa.gov/cad.api`

Example Queries

- get all close-approach data for asteroid 433 Eros within 0.2 au between 1900-Jan-01 and 2100-Jan-01:
`https://ssd-api.jpl.nasa.gov/cad.api?des=433&date-min=1900-01-01&date-max=2100-01-01&dist-max=0.2`
- get Earth close-approach data for NEOs within 10 lunar distances on or after 2018-Jan-01 sorted by distance
`https://ssd-api.jpl.nasa.gov/cad.api?dist-max=10LD&date-min=2018-01-01&sort=dist`

Query Parameters

Most query parameters are filters effectively limiting the data to those matching the constraints, a few are object selectors (limit data to those matching the specified object), and one is a sort key. Filter-type query parameters are "additive" in that they are combined with logical AND when applied to the data. Boolean-type filter parameters are only applied when true. For example, setting "neo=false" simply disables that filter (it does not select non-NEOs).

Parameter	Type	Default	Function	Description
date-min	string	"now"	filter	exclude data earlier than this date YYYY-MM-DD or date/time YYYY-MM-DDTHH:mm:ss or /now/ for the current date
date-max	string	"*50"	filter	exclude data later than this date YYYY-MM-DD or date/time YYYY-MM-DDTHH:mm:ss or /now/ for the current date or +D for "D" days after now ("D" must not be greater than 36525; be sure to URL-encode the plus sign "+" as %2B)
dist-min	string	none	filter	exclude data with an approach distance less than this, e.g., 0.05, 10LD (default units: au)
dist-max	string	"0.05"	filter	exclude data with an approach distance greater than this (see dist-min)
min-dist-min	string	none	filter	exclude data with an approach minimum-distance less than this, e.g., 0.05, 10LD (default

2- Escriu en els comentaris d'aquesta tasca l'API que has escollit.

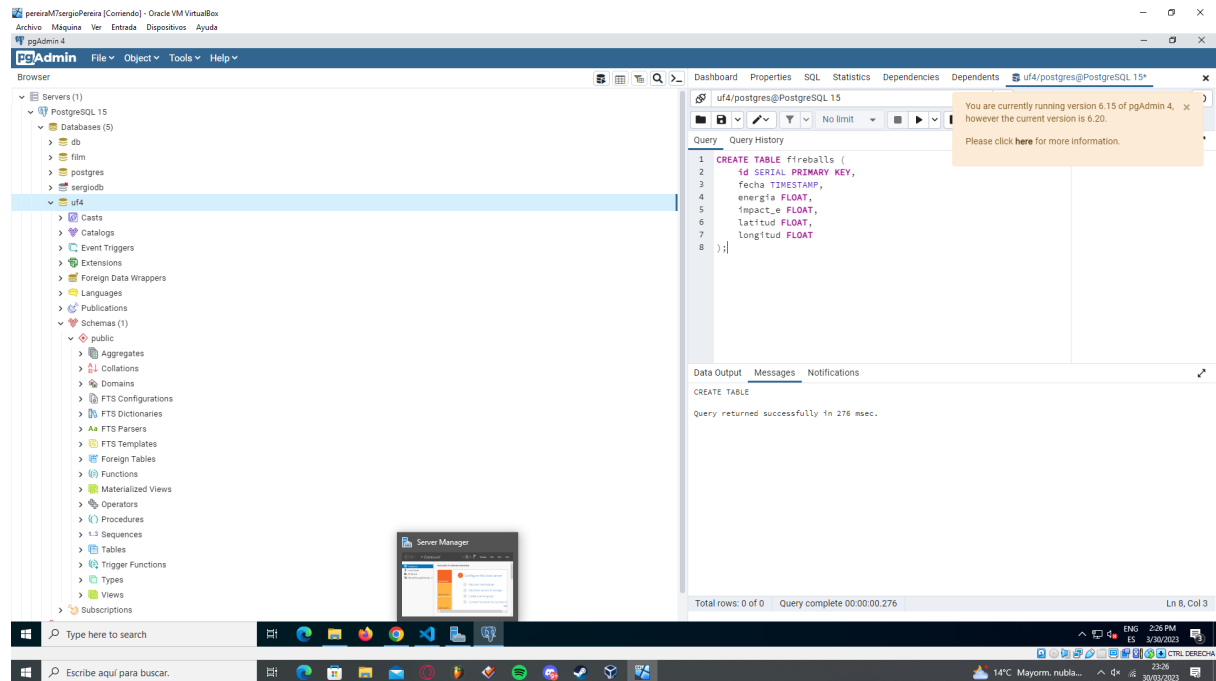
- donki
- Edgar MUÑOZ MANJON 16:32
eonet
- Rubén REDONDO BARROSO 17:59
Mars Rover Photos
- Sergio PEREIRA HIDALGO 23:03
SBDB Close-Approach Data API

3 - Aplica la teva key i obté la informació que et facilita l'API.

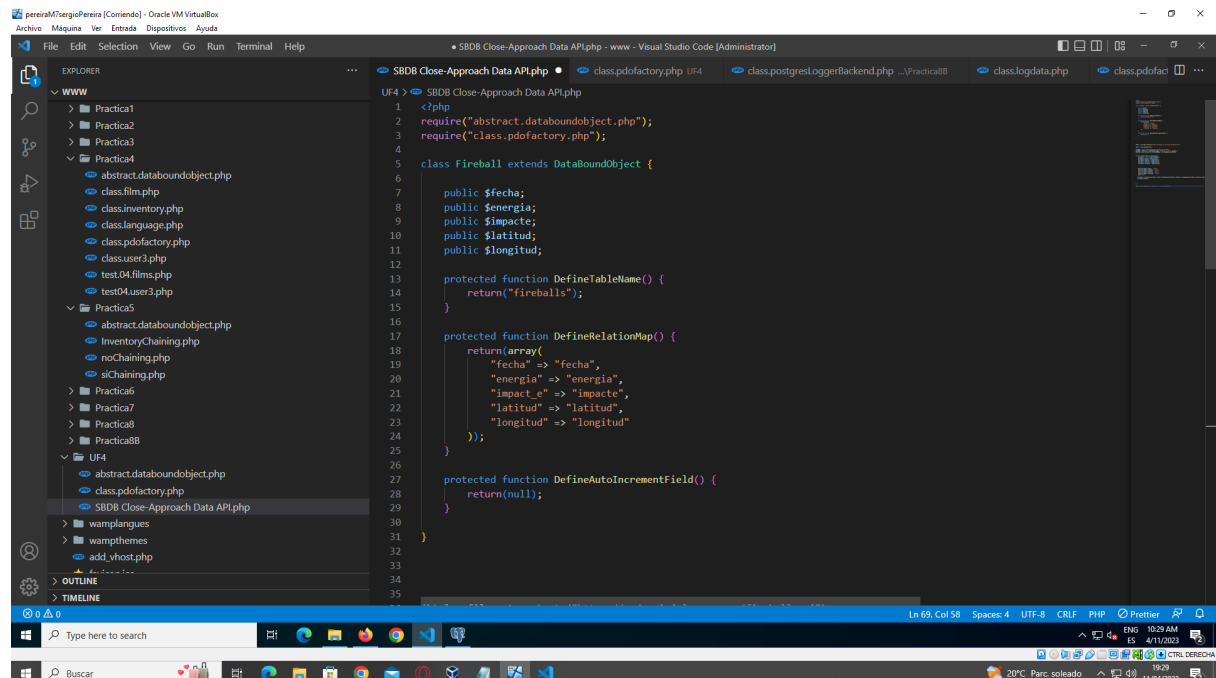
The screenshot shows a Gmail inbox with an email from noreply@api.data.gov. The email subject is "Your API key". The body of the email says: "Hi, You are receiving this email to confirm the creation of an API key. If you did not request this, please disregard this email. Your API key for pereirahidalgo@falleia.com is: 1PzxLfqeforTduH1JBxbJQREKIVL3wmmMTt5hLUV". It also states: "You can start using this key to make web service requests by referring to the relevant agency's API documentation. This API key is for your use and should not be shared." At the bottom, it provides contact information: "For additional support, please contact us. When contacting us, please tell us what API you're accessing and provide the following account details so we can quickly find you: Account Email: pereirahidalgo@falleia.com Account ID: 8646be02-9726-47de-916f-72b33865cac3".

4.- Insereix programant en PHP la informació en una taula de base de dades. (nomApi.php)

Creación de la base de datos



Codigo



```
25 }
26
27 protected function DefineAutoIncrementField() {
28     return(null);
29 }
30
31
32
33
34
35
36 $html = file_get_contents("https://ssd-api.jpl.nasa.gov/fireball.api");
37
38 $json = json_decode($html);
39
40 $strDSN = "pgsql:dname=uf4:host=localhost:port=5432";
41 $objPDO = PDOFactory::GetPDO($strDSN, "postgres", "root", array());
42 $objPDO->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
43
44
45 foreach ($json->data as $approach) {
46     $fireball = new Fireball($objPDO);
47     $fireball->fecha = $approach[0];
48     $fireball->energia = $approach[1];
49     $fireball->impacte = $approach[2];
50     $fireball->latitud = $approach[3];
51     $fireball->longitud = $approach[5];
52
53
54
55     echo $fireball->fecha . "<br>";
56     echo $fireball->energia . "<br>";
57     echo $fireball->impacte . "<br>";
58     echo $fireball->latitud . "<br>";
59     echo $fireball->longitud . "<br>";
60 }
```

```
61 $fireball->setfecha($fireball->fecha)->setenergia($fireball->energia)->setimpacte($fireball->impacte)->setlatitud($fireball->latitud)->setlongitud($fireball->longitud)->save();
62
63
64
65
66
67 }
68
69 echo "Se han guardado los datos de la api correctamente";
70
71
```

Ejecución del programa

periraMTergioPereira [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

localhost/UF4/SDB/Close x +

localhost/UF4/SDB/Close-Approach Data API.php

109.9

2023-02-14 22:55:25

18.4

0.52

48.0

53.3

2023-02-02 20:49:22

3.0

0.1

26.2

143.1

2023-01-22 17:11:43

2.0

0.073

3.5

76.2

2023-01-17 06:56:59

2.9

0.1

33.1

173.7

2023-01-11 23:59:50

4.6

0.15

31.5

18.6

2023-01-09 01:17:14

9.0

0.28

45.7

135.0

pgAdmin 4

File Object Tools Help

Dashboard Properties SQL Statistics Dependencies Dependents uf4/postgres@PostgreSQL 15*

Query Query History

1 select * from fireballs;

Scratch Pad

Data Output Messages Notifications

	id [PK] integer	fecha timestamp without time zone	energia double precision	impactLa double precision	latitud double precision	longitud double precision
1	484	2023-04-06 14:47:39	7.2	0.23	57.4	109.9
2	485	2023-04-01 00:02:03	2.4	0.086	16.8	76
3	486	2023-03-20 06:53:23	2.7	0.095	23.7	132.6
4	487	2023-03-11 08:21:28	44.4	1.1	74.7	79.5
5	488	2023-03-03 02:53:54	6.4	0.2	40.1	87.4
6	489	2023-02-19 06:15:34	20.3	0.57	7.9	109.9
7	490	2023-02-14 22:55:25	18.4	0.52	48	53.3
8	491	2023-02-02 20:49:22	3	0.1	26.2	143.1
9	492	2023-01-22 17:11:43	2	0.073	3.5	76.2
10	493	2023-01-17 06:56:59	2.9	0.1	33.1	173.7
11	494	2023-01-11 23:59:50	4.6	0.15	31.5	18.6

Total rows: 69 of 69 Query complete 00:00:00.069

Un 1, Col 25

- Muestra les dades de la taula (viewApi.php)

Visual Studio Code interface showing a web browser window displaying a table of data. The table has columns: Fecha, Energia, Impacto, Latitud, and Longitud. The data is displayed in a grid format.

Fecha	Energia	Impacto	Latitud	Longitud
2023-04-06 14:47:39	7.2	0.23	57.4	109.9
2023-04-01 00:02:03	2.4	0.086	16.8	76
2023-03-20 06:53:23	2.7	0.095	23.7	132.6
2023-03-11 08:21:28	44.4	1.1	74.7	79.5
2023-03-03 02:53:54	6.4	0.2	40.1	87.4
2023-02-19 06:15:34	20.3	0.57	7.9	109.9
2023-02-14 22:55:25	18.4	0.52	48	53.3
2023-02-02 20:49:22	3	0.1	26.2	143.1
2023-01-22 17:11:43	2	0.073	3.5	76.2
2023-01-17 06:56:59	2.9	0.1	33.1	173.7
2023-01-11 23:59:50	4.6	0.15	31.5	18.6
2023-01-09 01:17:14	9	0.28	45.7	135
2023-01-02 16:38:02	5	0.16	1.5	129
2022-12-29 06:52:09	6.2	0.2	42.3	92.9
2022-12-13 17:26:01	6.2	0.2	32.75	2.1
2022-11-20 15:35:21	3.3	0.11	17	95.7
2022-11-20 13:53:54	3.4	0.12	15	109.7
2022-11-08 08:54:01	3.9	0.13	77.2	93.2
2022-10-28 17:40:11	4.7	0.16	7.1	118.9
2022-10-20 20:55:07	4.7	0.16	26.6	165.1
2022-09-15 02:49:02	2.7	0.095	22.7	97.6
2022-09-14 23:31:15	3.2	0.11	40.8	63.4
2022-09-04 03:54:55	2.4	0.086	20	165.9
2022-08-21 16:35:49	2.1	0.076	6.3	51.5
2022-08-14 07:39:18	46.8	1.2	35	78.4
2022-07-28 01:36:08	25.1	0.68	6	86.9
2022-07-27 04:41:30	52.4	1.3	44.8	2.9
2022-07-25 07:28:17	8.7	0.27	40.5	76.6

Visual Studio Code interface showing the source code of the web application. The code is in PHP and uses PDO to connect to a PostgreSQL database. It displays the data from the 'fireballs' table in an HTML table.

```
17 <table>
18 <tr>
19 <td></td>
20 </tr>
21 </table>
22
23 <?php
24
25
26
27 $conexion = pg_connect("host=localhost dbname=uf4 user=postgres password=root");
28 $query="SELECT * FROM fireballs";
29 $resultado=pg_query($conexion,$query);
30
31
32 echo "<table>";
33 echo "<thead>";
34 echo "<tr>";
35     echo "<th>Fecha</th>";
36     echo "<th>Energia</th>";
37     echo "<th>Impacto</th>";
38     echo "<th>Latitud</th>";
39     echo "<th>Longitud</th>";
40 echo "</tr>";
41 echo "</thead>";
42 while($obj=pg_fetch_object($resultado)){
43     echo "<tr>";
44     echo "<td>$obj->fecha</td>";
45     echo "<td>$obj->energia</td>";
46     echo "<td>$obj->impacto</td>";
47     echo "<td>$obj->latitud</td>";
48     echo "<td>$obj->longitud</td>";
49 }
50
51
```