

Entregables Laboratorio 4 BI - Numeral 2

Escenarios de Prueba de la API Variando Datos de entrada

1. Caso fallido GRE score negativo

```
{
  "serial_no": 1,
  "gre_score": -172,
  "toefl_score": 3,
  "university_rating": 10,
  "sop": 3.5,
  "lor": 8.3,
  "cgpa": 0,
  "research": 1
}
```

The screenshot shows a REST client interface with a POST request to `http://127.0.0.1:8000/predict`. The request body is a JSON object with the following fields: `serial_no`: 1, `gre_score`: -172, `toefl_score`: 3, `university_rating`: 10, `sop`: 3.5, `lor`: 8.3, `cgpa`: 0, and `research`: 1. The response status is 200 OK, with a response time of 23 ms and a body size of 159 B. The response body is a JSON object: `{ "Prediction": -30.926462917548726 }`.

```
POST http://127.0.0.1:8000/predict
```

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "serial_no": 1,
3   "gre_score": -172,
4   "toefl_score": 3,
5   "university_rating": 10,
6   "sop": 3.5,
7   "lor": 8.3,
8   "cgpa": 0,
9   "research": 1
10 }
```

Body Cookies Headers (4) Test Results 200 OK 23 ms 159 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "Prediction": -30.926462917548726
3 }
```

2. University rating mayor al esperado.

```
{
  "serial_no": 112345,
  "gre_score": 299,
  "toefl_score": 3,
  "university_rating": 10,
  "sop": 3.5,
  "lor": 8.3,
  "cgpa": 0,
  "research": 1
}
```

The screenshot shows a REST client interface with a POST request to `http://127.0.0.1:8000/predict`. The request body is a JSON object with the following fields: `serial_no`, `gre_score`, `toefl_score`, `university_rating`, `sop`, `lor`, `cgpa`, and `research`. The response is a 200 OK status with a response time of 15 ms and a body size of 157 B. The response body is a JSON object with a single field: `Prediction`.

```
POST http://127.0.0.1:8000/predict
```

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
{  2  "serial_no":112345,  3  "gre_score":299,  4  "toefl_score":3,  5  "university_rating":10,  6  "sop":3.5,  7  "lor":8.3,  8  "cgpa":0,  9  "research":1 10 }
```

Body Cookies Headers (4) Test Results 200 OK 15 ms 157 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {  2   "Prediction": 51.44830140934708  3 }
```

3. Gre Score con errores de escritura.

```
{  "serial_no":1452,  "gre_score":"-237.a2",  "toefl_score":3,  "university_rating":10,  "sop":3.5,  "lor":8.3,  "cgpa":0,  "research":1}
```

The screenshot shows a REST client interface with the following details:

- Method:** POST
- URL:** http://127.0.0.1:8000/predict
- Body Type:** JSON
- Body Content:**

```
1 {
2   "serial_no":1452,
3   "gre_score":"-237.a2",
4   "toefl_score":3,
5   "university_rating":10,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":1
10 }
11
```
- Response:** 500 Internal Server Error (1171 ms, 174 B)
- Response Body:**

```
1 Internal Server Error
```

Es un error porque no puede existir un lógicamente un gre_score con datos de texto en base al diccionario

4. Research con error de tipado

```
{
"serial_no":143,
"gre_score":29,
"toefl_score":3,
"university_rating":3,
"sop": 3.5,
"lor":8.3,
"cgpa":0,
"research":"abss"
}
```

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no":143,
3   "gre_score":29,
4   "toefl_score":3,
5   "university_rating":3,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":"abss"
10 }
11
```

Body Cookies Headers (4) Test Results 422 Unprocessable Entity 18 ms 245 B Save Response

Pretty Raw Preview Visualize JSON

```
8   "msg": "value is not a valid float",
9   "type": "type_error.float"
```

5. Caso correcto - Vemos una predicción de 83.38 frente al valor real de 84.47

```
{
"serial_no":132,
"gre_score":327,
"toefl_score":113,
"university_rating":4,
"sop":4,
"lor":2.77,
"cgpa":8.88,
"research":1
}
```

The screenshot displays a REST client interface. At the top, a POST request is configured to `http://127.0.0.1:8000/predict`. The 'Body' tab is selected, showing a JSON payload with the following fields: `serial_no`, `gre_score`, `toefl_score`, `university_rating`, `sop`, `lor`, `cgpa`, and `research`. Below the request, the 'Response' tab shows a successful status of 200 OK, with a response time of 19 ms and a body size of 156 B. The response body is displayed in 'Pretty' format, showing `"Prediction": 83.3826671430164`.

Estrategía para mitigar incoherencia y errores de ejecución:

Lo primero radica en tener un método de filtrado de datos apropiado desde el Json, esto se puede arreglar implementando reglas de negocio a la API, por ejemplo unas reglas de negocio adecuadas son:

1. Valores no negativos, y eliminando caracteres no numéricos.
2. Valores dentro del rango esperado, notificando el caso en que no sea así, y manejando el caso de forma independiente.
3. toefl_score, y demás categorías decimales.
4. Manejar el caso en que solo se envíe un dato para el cálculo de R^2 , pues para su cálculo se requieren al menos 2.

Estas reglas de negocio permiten que los datos se mantengan correctos y que por ende no afecten generando o errores de ejecución o incoherencia en la entrada de datos a la página. Requests con estrategias de mitigación.

1. Gre score negativo.

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no": 1,
3   "gre_score": -172,
4   "toefl_score": 3,
5   "university_rating": 10,
6   "sop": 3.5,
7   "lor": 8.3,
8   "cgpa": 0,
9   "research": 1
10 }
```

Body Cookies Headers (4) Test Results 200 OK 136 ms 156 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "Prediction": 29.2368469093136
3 }
```

1.2 Gre score incoherente. Manejo de la excepción:

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no": 1,
3   "gre_score": -8002,
4   "toefl_score": 3,
5   "university_rating": 10,
6   "sop": 3.5,
7   "lor": 8.3,
8   "cgpa": 0,
9   "research": 1
10 }
```

Body Cookies Headers (4) Test Results 412 Precondition Failed 15 ms 200 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "detail": "El valor de GRE_SCORE es mayor a lo previsto."
3 }
```

- University Rating cambiado por 5, en caso en que sea mayor, reflejando una predicción mucho menor.

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no":112345,
3   "gre_score":299,
4   "toefl_score":3,
5   "university_rating":10,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":1
```

Body Cookies Headers (4) Test Results 200 OK 109 ms 157 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "Prediction": 16.45858415296712
3 }
```

Runner Trash

3. GRE Score notificando un input incorrecto, y manejando letras respectivamente.

FastAPI LAB / New Request Save

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no":1452,
3   "gre_score":"-1237..2",
4   "toefl_score":3,
5   "university_rating":10,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":1
10 }
11
```

Body Cookies Headers (4) Test Results 412 Precondition Failed 14 ms 196 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "detail": "El valor de GRE_SCORE cuenta con errores."
3 }
```

Runner Trash

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no":1452,
3   "gre_score": "-237.a2",
4   "toefl_score":3,
5   "university_rating":10,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":1
10 }
11
```

Body Cookies Headers (4) Test Results 200 OK 110 ms 157 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "Prediction": 40.60491417311026
3 }
```

4. Notificación del research incorrecto.

POST http://127.0.0.1:8000/predict Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

```
1 {
2   "serial_no":143,
3   "gre_score":29,
4   "toefl_score":3,
5   "university_rating":3,
6   "sop":3.5,
7   "lor":8.3,
8   "cgpa":0,
9   "research":"abss"
10 }
11
```

Body Cookies Headers (4) Test Results 412 Precondition Failed 27 ms 195 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "detail": "El valor de Research cuenta con errores."
3 }
```

Runner Trash