JSON APIs

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05/24/2020

TOPICS

- What are JSON APIs?

- JSON API vs SOAP API

- JSON Request Headers

- JSON Request Body

- JSON Response Body

What are JSON APIs

- Application Program interfaces that sends data in JavaScript Object Notation.

- Use RESTful architecture

- A collection of key/value pairs

- These key/value pairs can be strings, objects, arrays, booleans, and more.

- These are replacing SOAP APIs

JSON APIs
vs
SOAP APIs

- SOAP is a protocol, whereas JSON is an object

- JSON uses javascript object notation whereas SOAP uses XML

- JSON is lighter on bandwidth in comparison to SOAP

- Since JSON is the lighter solution, processing speeds are quicker than SOAP APIs

- JSON apis use a RESTFUL architecture, whereas SOAP is it's own architecture
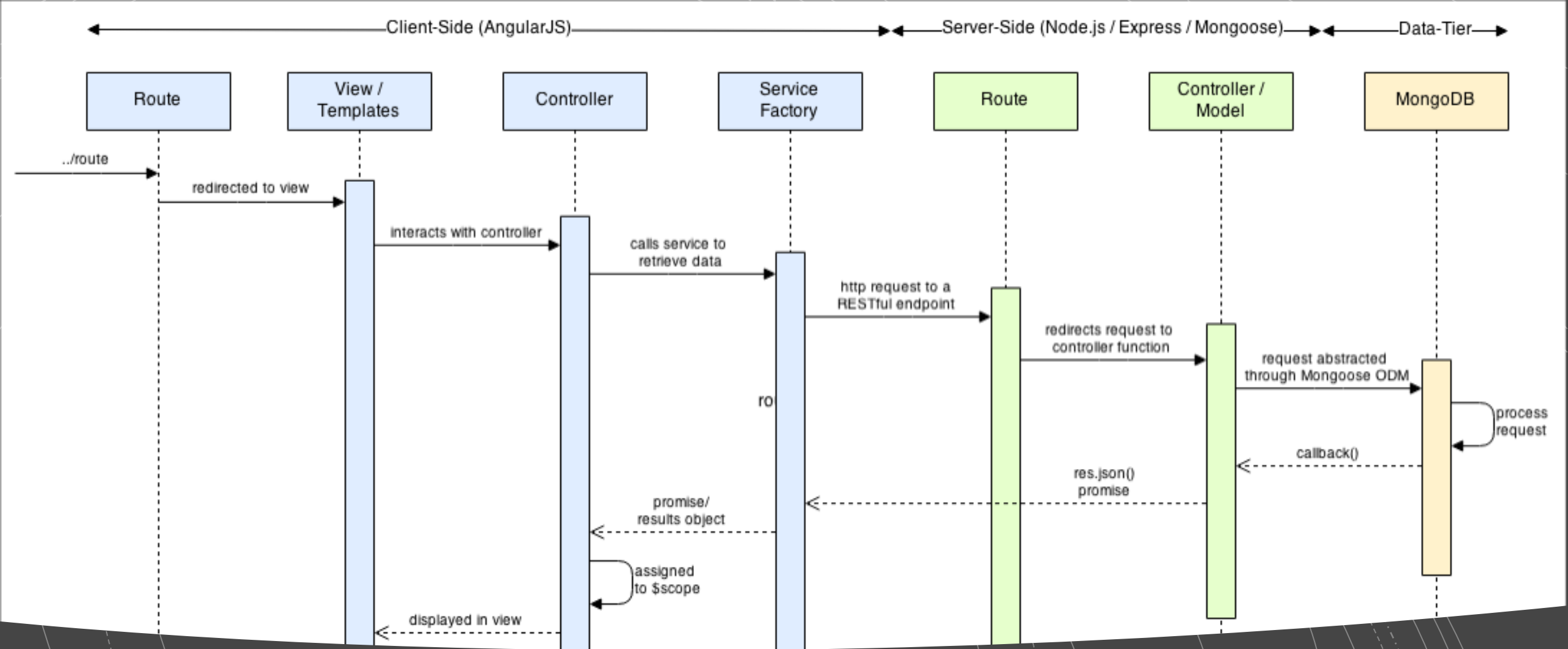
End to End Data Flow

JSON Request Header

Where you specify:

- API end-point

- content type

- Authorization

- Custom key value pairs (an example of this would be to pass a value to specify a particular mode of an application)

```
1  curl --location --request POST 'https://api.sandbox.paypal.com/v1
       /oauth2/token' \
2  --header 'Content-Type: application/x-www-form-urlencoded' \
3  --header 'Authorization: Basic
       QVd0NHZlY0dLUVdONHpjWFM1QUh3UkRyUmJWdXV0Q2Z6Njl0LWZ4cTFmTHBUd
       0NCVUYtRWFJWEpuei13NzExTzg5U3dNUFB2S1FaOGhMamg6RUszb3A0WnZSZH
       lJa1QyRVlTSWJmdmVYNnBPSFJTdVdjTDh4U0JfRi1sdTJyZlFsWXVYTnlCMWh
       0Uzc1VGc3YXFsZkF0RVIyNURHQjZaTGU=' \
4  --header 'Content-Type: application/x-www-form-urlencoded' \
5  --data-urlencode 'grant_type=client_credentials'|
```

JSON Request Header Example

JSON Request Body

- This is where you declare your key/key value pairs.

- Can contain:
    - Objects
    - Arrays
    - Booleans
    - And more

JSON Request Body Example

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

```
1   {
2   "sender_batch_header":{
3
4       "sender_batch_id":"JRflUxwlYU+yVBmIHSh2gQ00",
5
6       "email_subject":"Your Rebate has Arrived"
7   },
8
9   "items":[
10      {
11          "recipient_type":"email",
12          "amount":{
13              "value":"1.00",
14              "currency":"USD"
15          },
16          "note":"$15.00 Rebate",
17          "sender_item_id":"21589920137624098",
18          "receiver":"jamesbrownbuyer@paypal.com",
19          "recipient_wallet":"VENMO"
20  }
21  ]
22  }
```
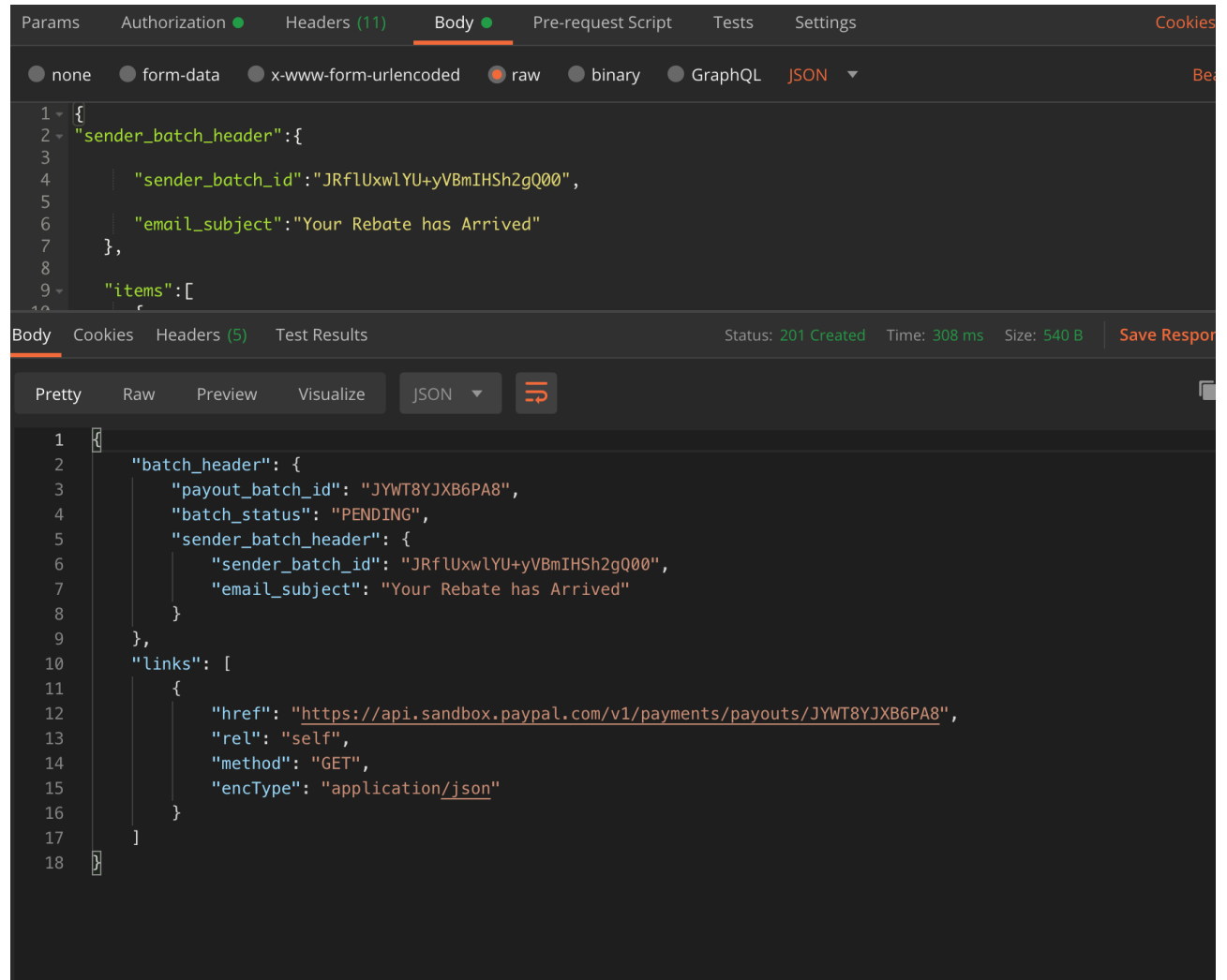
JSON Response Body

The response body is the result you get from the API when it is invoked

This contains key value pairs

These details allow you to make decisions with your application based on the result

JSON Response Body Example

Params   Authorization ●   Headers (11)   Body ●   Pre-request Script   Tests   Settings   Cookies

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

```
1  {
2    "sender_batch_header":{
3
4      "sender_batch_id":"JRflUxwlYU+yVBmIHSh2gQ00",
5
6      "email_subject":"Your Rebate has Arrived"
7    },
8
9    "items":[
```

Body   Cookies   Headers (5)   Test Results   Status: 201 Created   Time: 308 ms   Size: 540 B   Save Respon

Pretty   Raw   Preview   Visualize   JSON

```
1  {
2      "batch_header": {
3          "payout_batch_id": "JYWT8YJXB6PA8",
4          "batch_status": "PENDING",
5          "sender_batch_header": {
6              "sender_batch_id": "JRflUxwlYU+yVBmIHSh2gQ00",
7              "email_subject": "Your Rebate has Arrived"
8          }
9      },
10     "links": [
11         {
12             "href": "https://api.sandbox.paypal.com/v1/payments/payouts/JYWT8YJXB6PA8",
13             "rel": "self",
14             "method": "GET",
15             "encType": "application/json"
16         }
17     ]
18 }
```

Sources

- "Calling Third-Party HTTP-Based RESTful APIs from the MEAN Stack." *Programmatic Ponderings*, 13 Jan. 2015, programmaticponderings.com/2015/01/06/calling-third-party-web-apis-from-the-mean-stack/.

- "REST." – *REST API Tutorial*, restfulapi.net/json-syntax/.