

# BILLY TALKS

Part 02: API 101

# API

... Application Programming Interface ...

An API is a software intermediary that allows two applications to talk to each other. In other words, an API is the "**messenger**" that delivers your request to the provider that you're requesting it from and then delivers the response back to you.

# A MESSENGER ??

... *A messenger of what? Sorrow?* ...

No of course not.. It's all happy times with API's

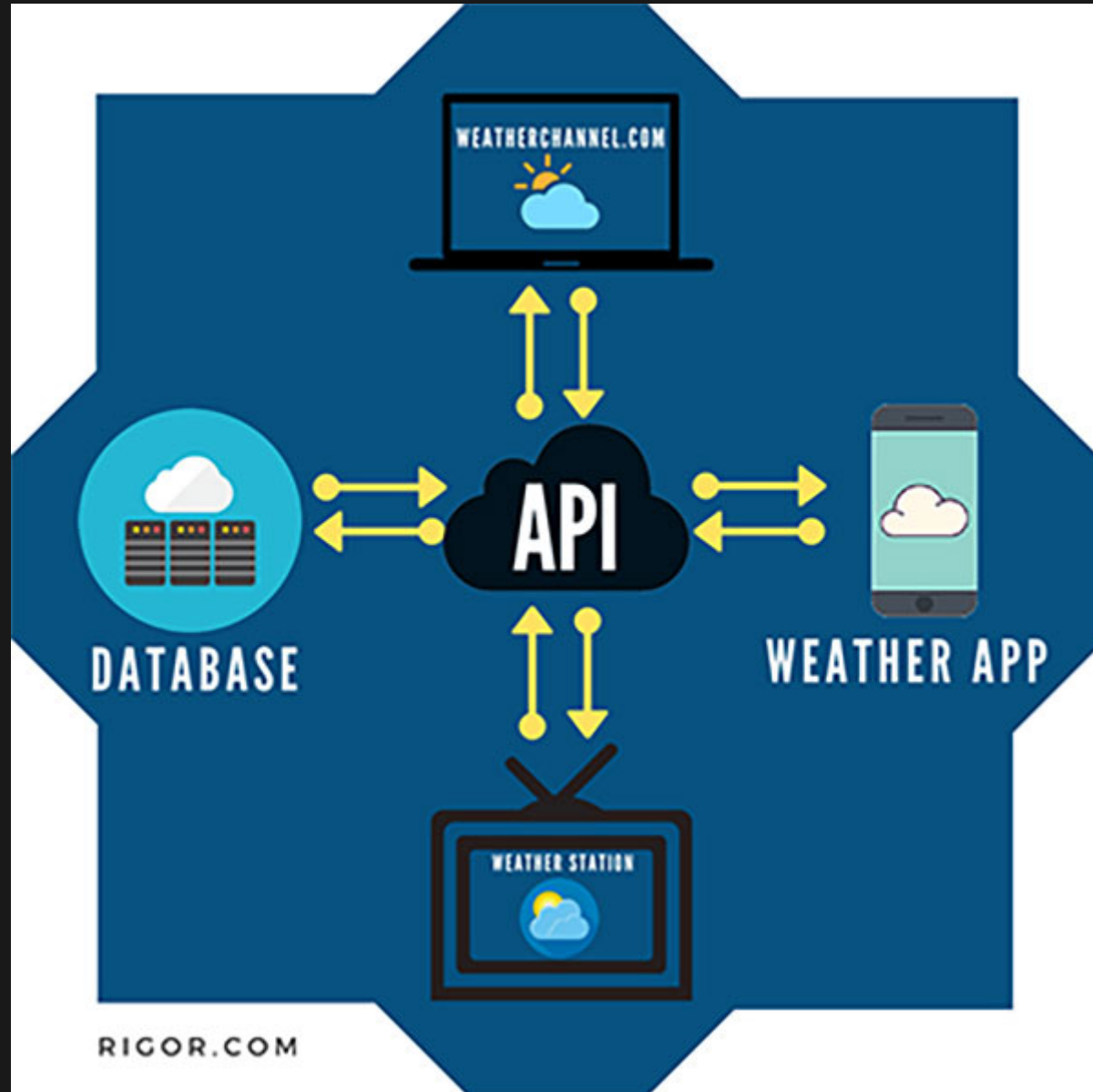
Developers use API's to send a request and get a response back

This request/response pattern is what makes up the messages

Requests are done over either the HTTP or HTTPS protocol

Responses are typically either returned in JSON or XML

# Here's an example of how a weather API might work



# TYPES OF API'S

- REST
- SOAP

*There are a few others, but they don't really concern us  
so F'em!!*

# REST

... Representational State Transfer ...

REST is not a protocol like the other web services, instead, it is a set of architectural principles. The REST service needs to have certain characteristics, including simple interfaces, which are resources identified easily within the request and manipulation of resources using the interface.

# REST METHODS

Communication over the HTTP or HTTPS protocol using the following HTTP spec methods allows for an almost plain english type of communication

These methods are idempotent, meaning clients can make that same call repeatedly while producing the same result

Method	Description
GET	retrieve resource representation/information only.
POST	create new resources resources
PUT	update existing resource
DELETE	delete resources



# ENDPOINTS

... It's just a URL the API provider exposes and it forms the basis of reach request. ...

## Examples

```
1 https://leadiq.sparkroom.com/Sparkroom
2 https://zpnoago855.execute-api.us-west-2.amazonaws.com/
3 https://graph.facebook.com/v3
```

# Method Examples with the Endpoint assumed

```
1 GET: /users/12345
2
3 POST: /members/
4     Payload:
5     member_id=12345
6     member_name=Billy
7     member_state=AZ
8
9 GET: /api/v2/weather/phoenix/az/85022
10
11 PUT /user/12345/name/billy
```

# *A real live MyEmma REST JSON Response*

<https://api.e2ma.net/1902473/members/986811273>

```
{
  "status": "active",
  "confirmed_opt_in": null,
  "account_id": 1902473,
  "fields": {
    "first_name": "Billy",
    "last_name": "Neal",
    "contact-receive": "1|20190530143321",
    "source": "bubbies-icecream-team",
    "state": "Arizona",
    "birthday": "@D:2019-02-01",
    "consent-terms": "1|20190530143321"
  },
  "member_id": 986811273,
  "last_modified_at": null,
```

# SOAP

... Simple Object Access Protocol ...

This is a protocol that uses XML as a format to transfer data. Its main function is to define the structure of the messages and method of communication. It also uses WSDL, or Web Services Definition Language, in a machine-readable document to publish a definition of its interface.

# An example

```
1 POST /getMemberDetail HTTP/1.1
2 Payload: user_id=12345
3 Content-Type: application/soap+xml; charset=utf-8
```

# Response

```
1 <response>
2     <first_name>Billy</first_name>
3     <last_name>Neal</last_name>
4     <title>Dumbass</title>
5     <address>
6         <street>13002</street>
7         <city>Phoenix</city>
8         <state>Arizona</state>
9     </address>
10 </response>
```



Ok, that's all find and dandy, but what's the difference  
between the two?

# Difference between REST and SOAP

## SOAP

It has strict rules and advanced security to follow.

It is driven by Function

It requires more Bandwidth

## REST

There are loose guidelines to follow allowing developers to make recommendations easily

It is driven by Data

It requires minimum Bandwidth





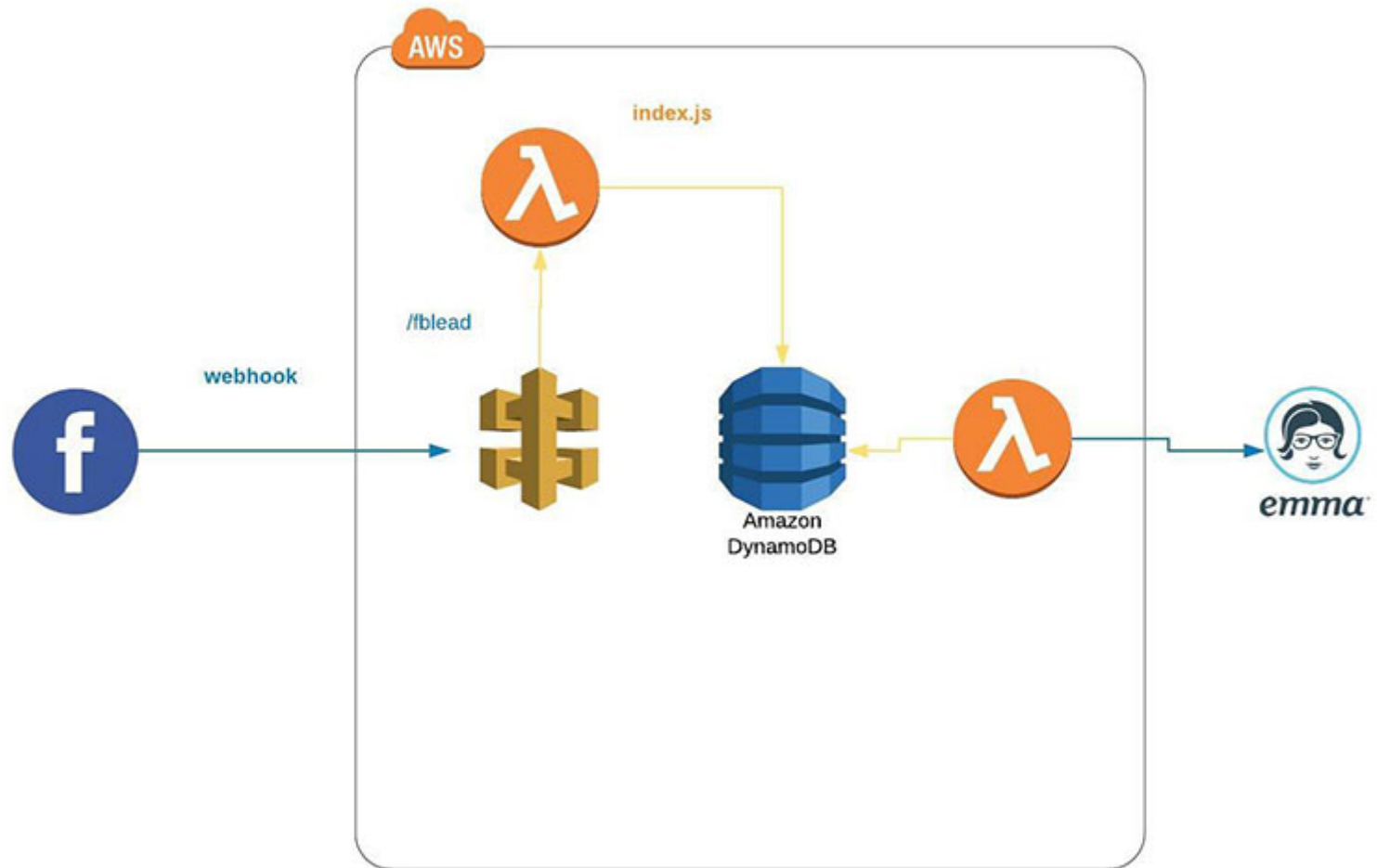
**DEFERO LIKES RESTFUL API'S**

# WHERE DO WE USE THEM

... All over the place. That's where. ...

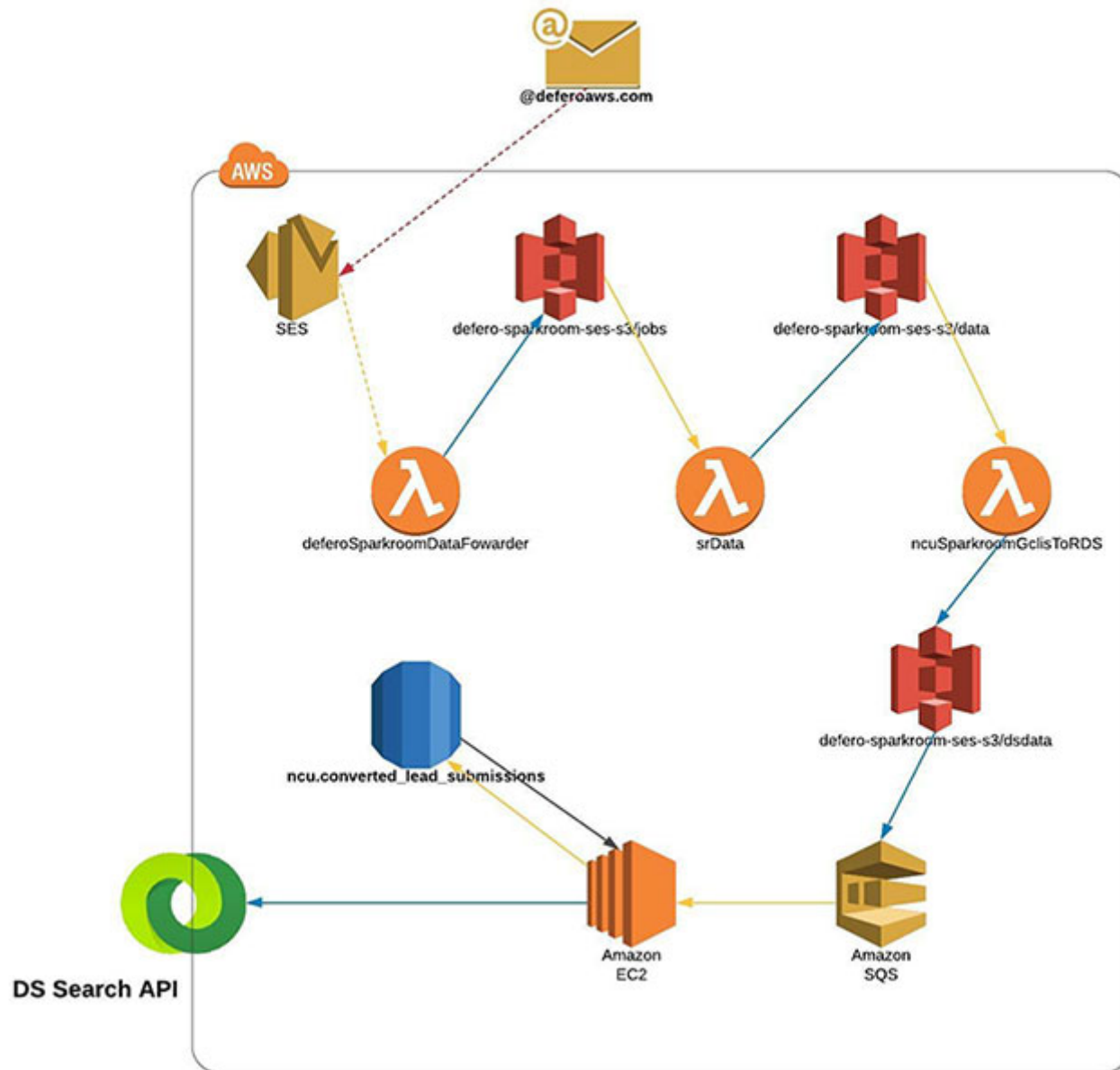
Add or Update subscribers inside MyEmma  
(via FB Lead Ads)

## Facebook Lead Ads Integration



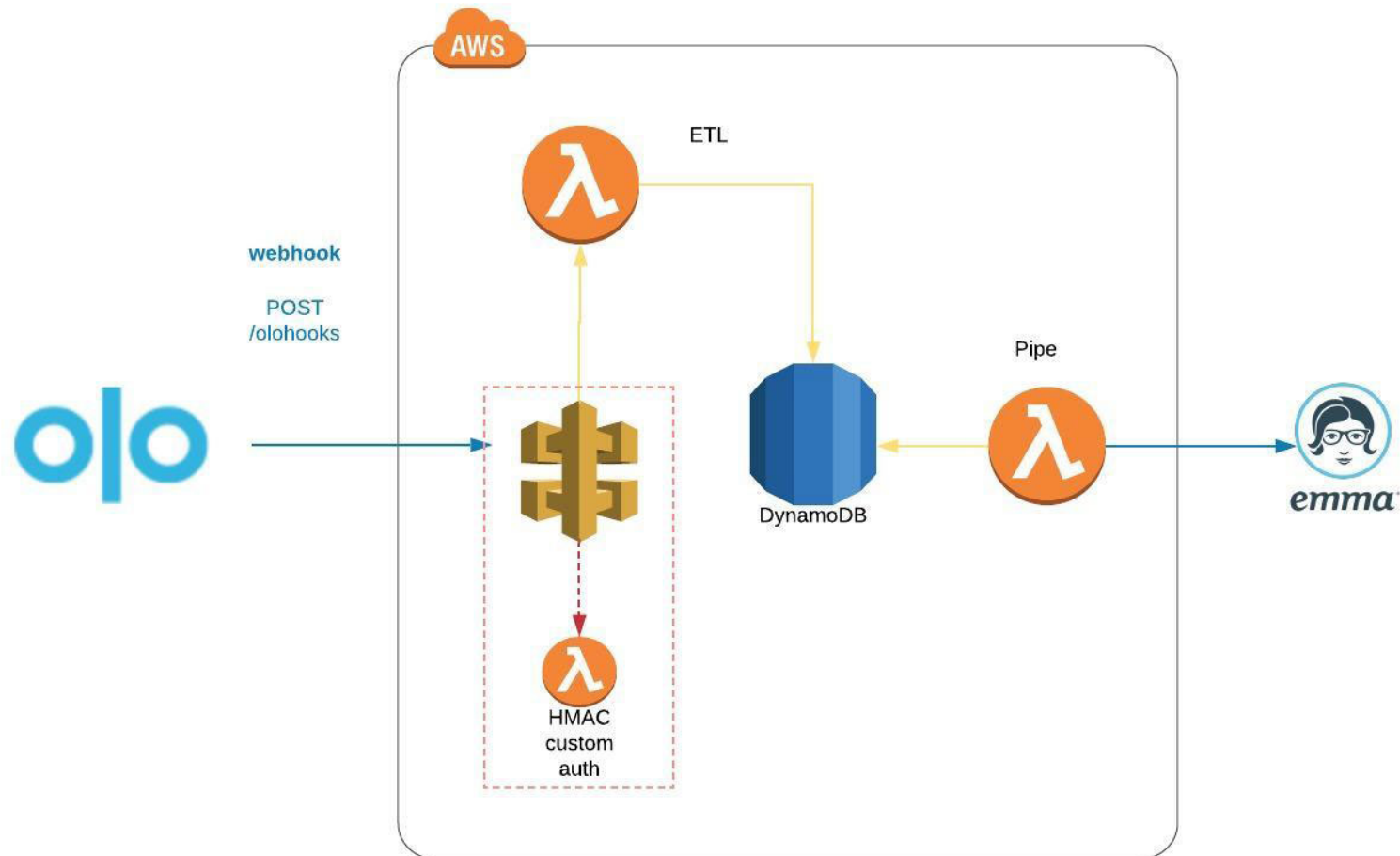
Send some data from one system (Sparkroom)  
to another system (DS)

## Sparkroom Milestones to Double click



Maybe someday we will send some OLO data to  
MyEmma

## FRC OLO Webhook Integration



### API Endpoints:

**Dev:** <https://npqpd73rb9.execute-api.us-west-1.amazonaws.com/dev/olohooks>

**Prod:** <https://npqpd73rb9.execute-api.us-west-1.amazonaws.com/prod/olohooks>



enough with the diagrams!!

Ok, here's some code that sends member data to Qples so they can print some killer coupon...

```
1 $data = array(  
2     "couponID" => "3468",  
3     "token" => "YOUR_UNIQUE_USER_TOKEN",  
4     "apiKey" => "XYQPLESMUYT6ZRTY4W328f62769c5e  
5 );  
6  
7 $url_send = "https://mv7izvuqle.execute-api.us-east-1.amazon  
8 $str_data = json_encode($data);  
9  
10 $ch = curl_init($url_send);  
11 curl_setopt($ch, CURLOPT_CUSTOMREQUEST, "POST");  
12 curl_setopt($ch, CURLOPT_RETURNTRANSFER, true);  
13 curl_setopt($ch, CURLOPT_POSTFIELDS, $str_data);  
14 curl_setopt($ch, CURLOPT_FOLLOWLOCATION, 1);  
15
```

# THE END

... Thanks Everyone!!