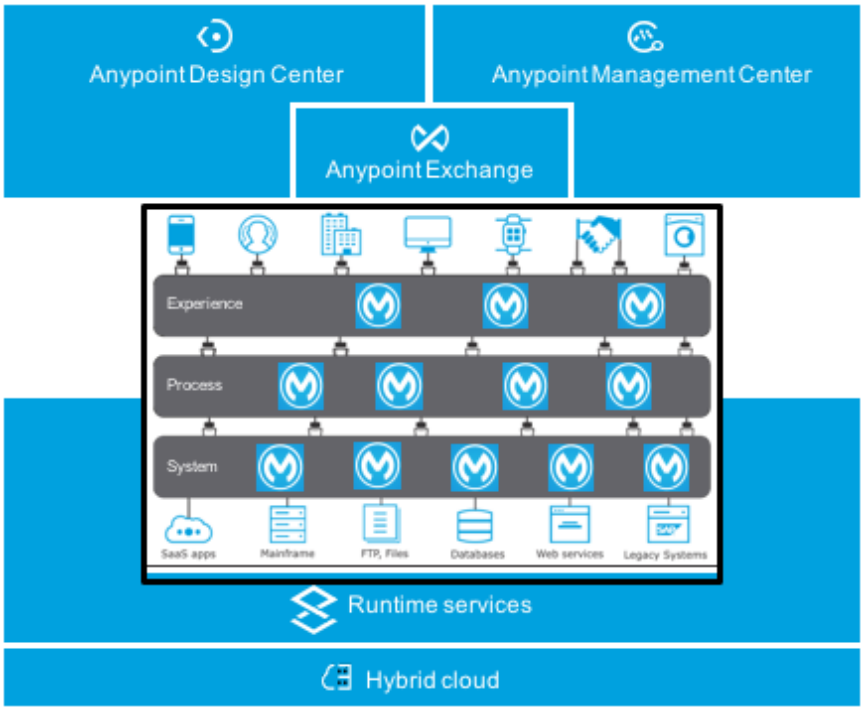
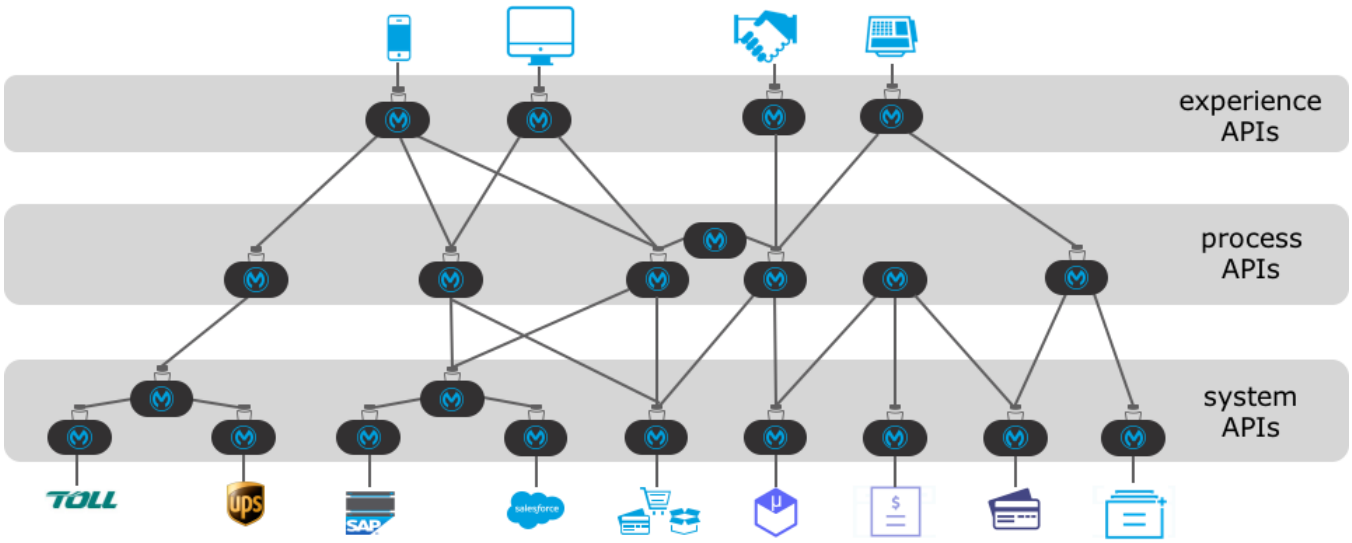
PART 1: Implementing API-Led Connectivity with Anypoint Platform



Objectives:

- Describe what API-led connectivity is and its benefits.
- Use Anypoint Platform to take an API through its complete lifecycle.
- Design, build, deploy, manage, and govern an API.

Module 1: Introducing API-Led Connectivity



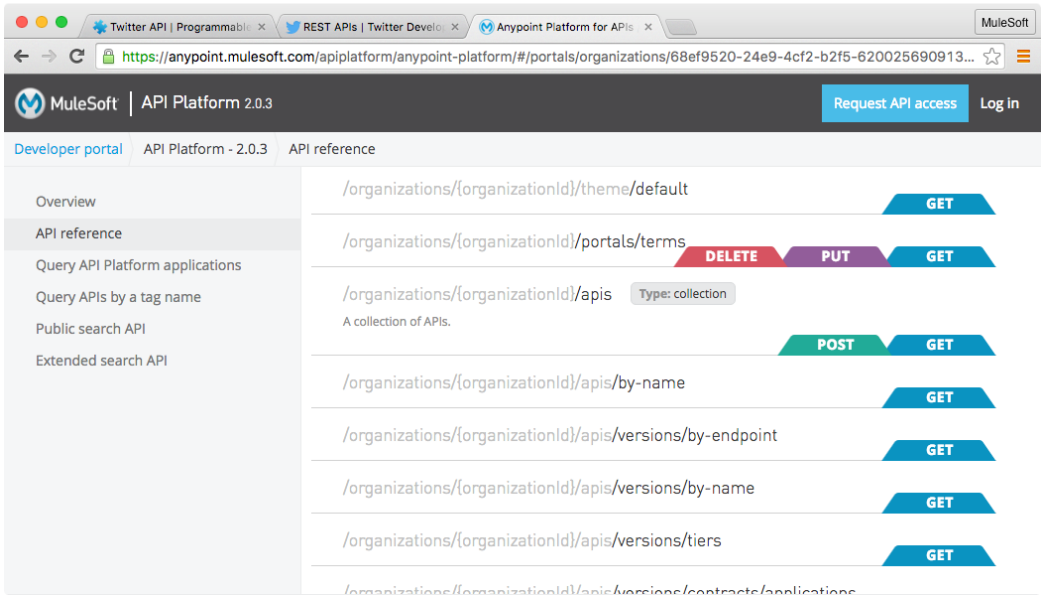
Objectives:

- Identify the problems faced by IT today.
- Describe what API-led connectivity is and its benefits.
- Explain what web services and APIs are.
- Explore API directories and portals.
- Make calls to secure and unsecured APIs.
- Introduce API-led connectivity with Anypoint Platform.
- Explore Anypoint Platform.

Walkthrough 1-1: Explore API directories and portals

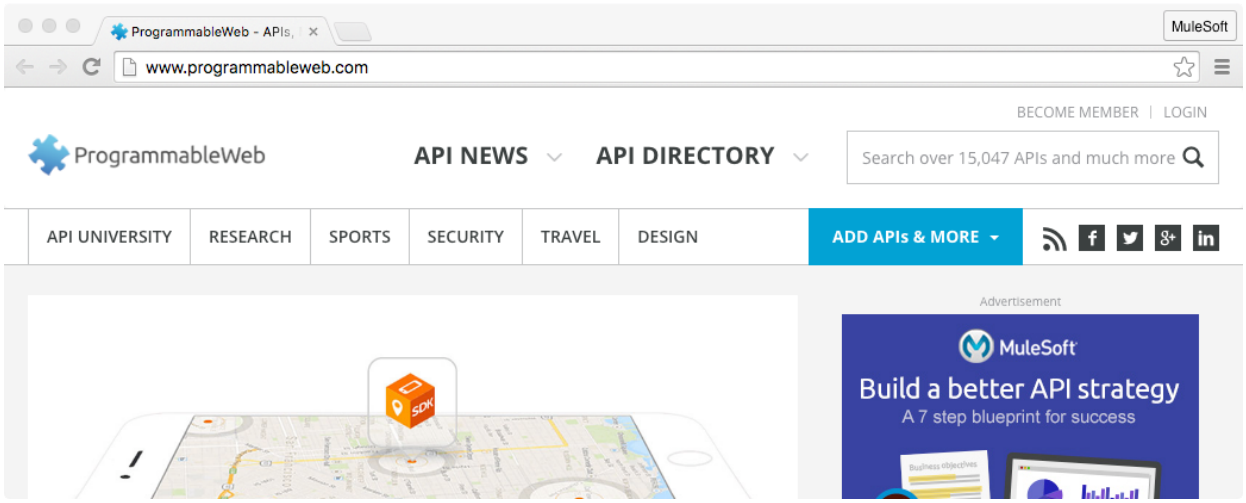
In this walkthrough, you make calls to a RESTful API. You will:

- Browse the ProgrammableWeb API directory.
- Explore the MuleSoft Developer portal for popular APIs.
- View an API definition file.
- Explore the MuleSoft Developer portal for Anypoint Platform.
- Use the API Console in an Anypoint Platform API Portal to make sample calls to an API.



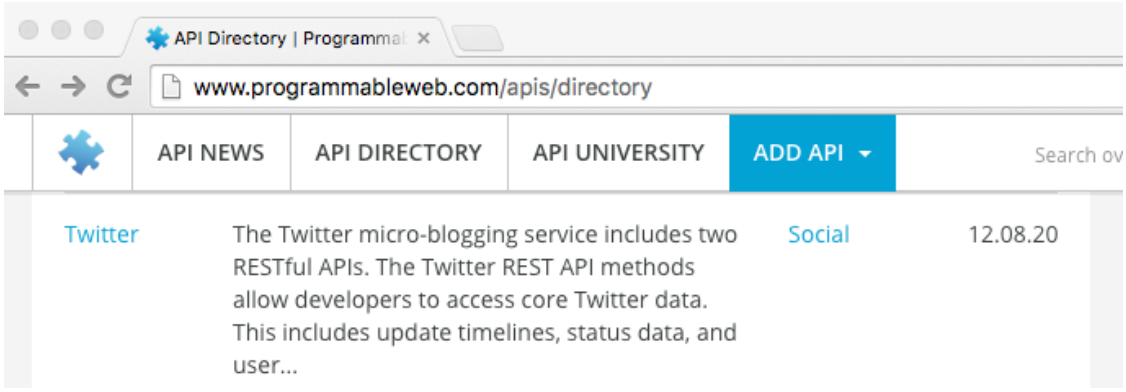
Explore the ProgrammableWeb API directory

1. In a web browser, navigate to http://www.programmableweb.com/.
2. Click the API directory link.

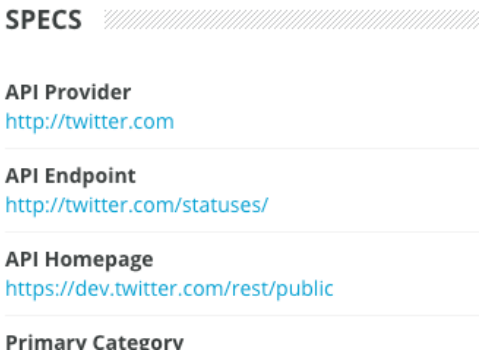


3. Scroll down and click the link for the Twitter API.

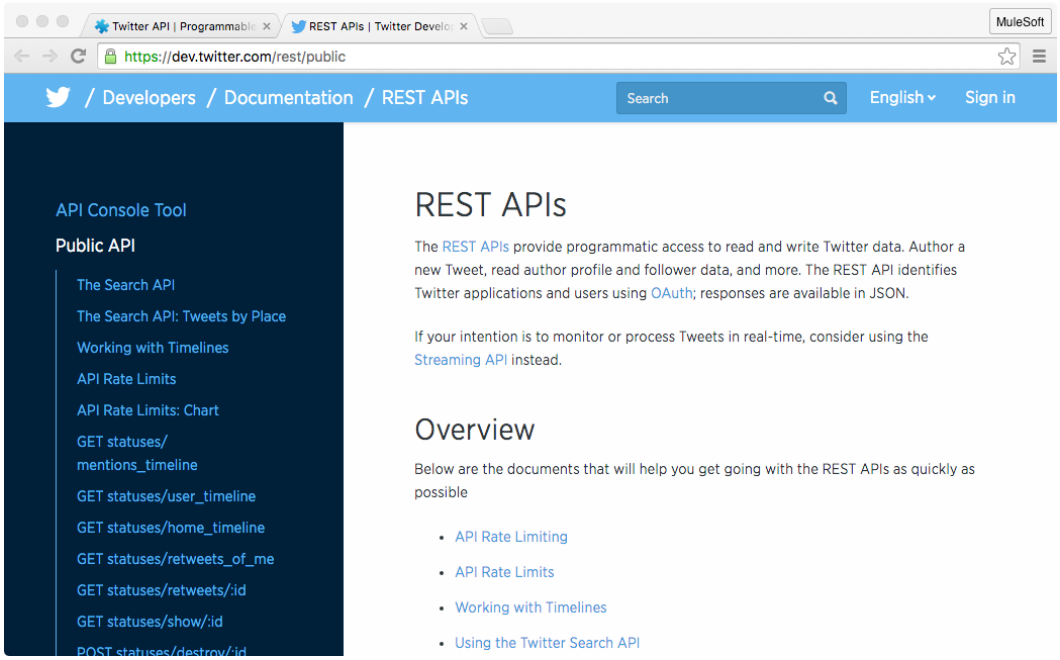
   Note: If Twitter is no longer displayed on the main page, search for it.



4. In the Specs section, click the API Homepage link.

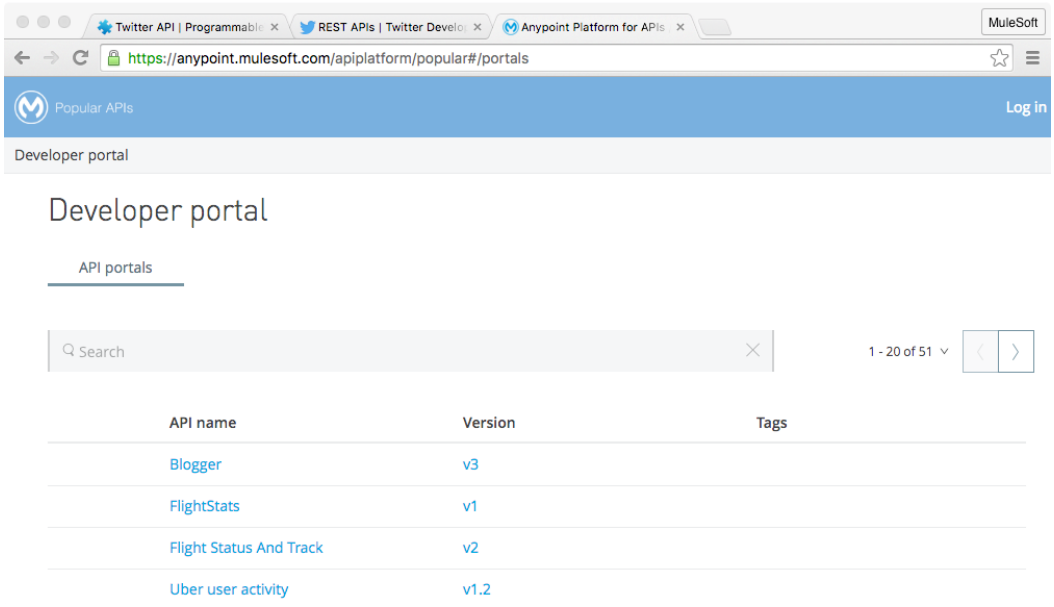


5. Browse the list of requests you can make to the API.

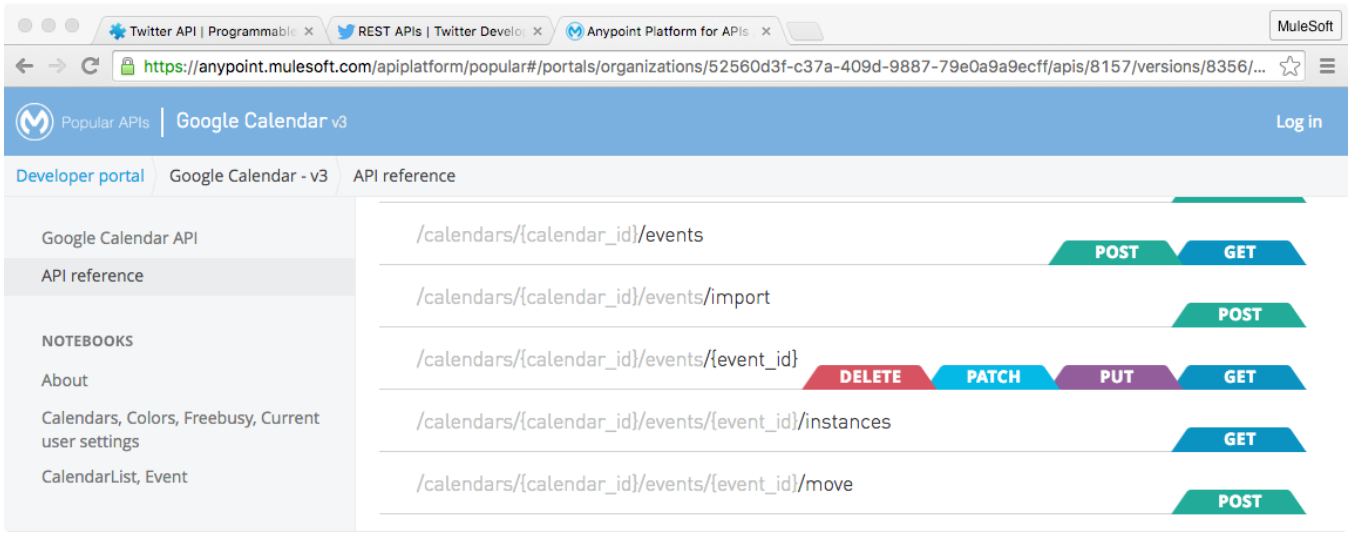


Explore the MuleSoft Developer portal for popular APIs

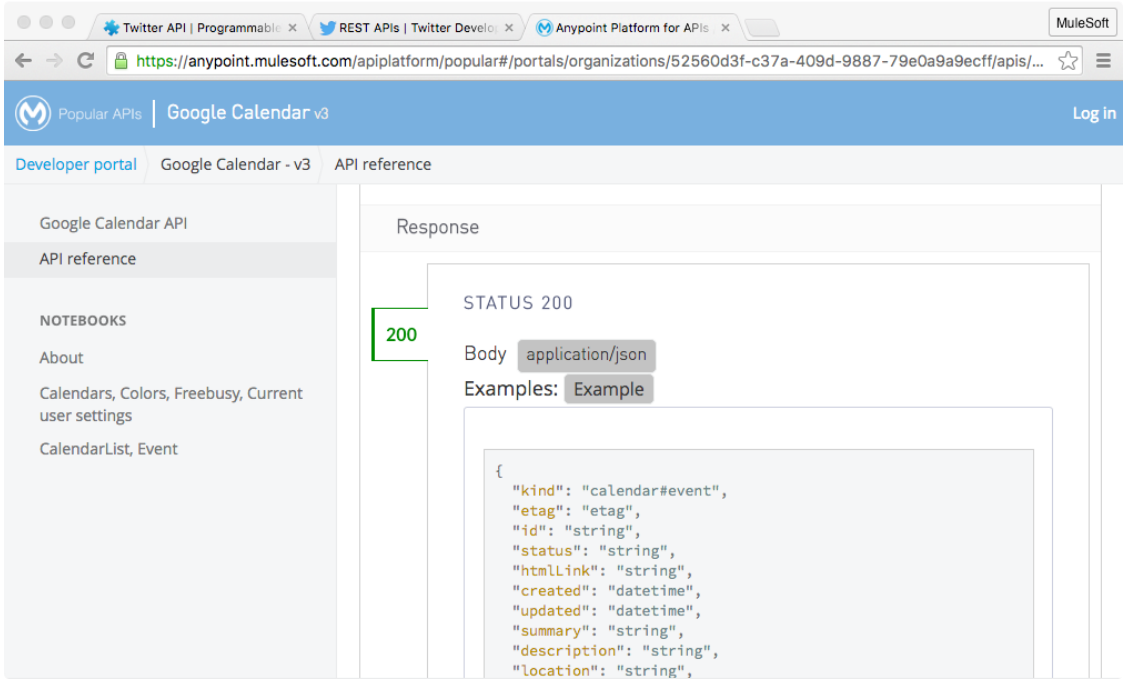
6. Return to the course snippets.txt file.
7. Copy the URL for the MuleSoft developer portal for popular APIs: https://anypoint.mulesoft.com/apiplatform/popular#/portals.
8. In a web browser, navigate to that URL.



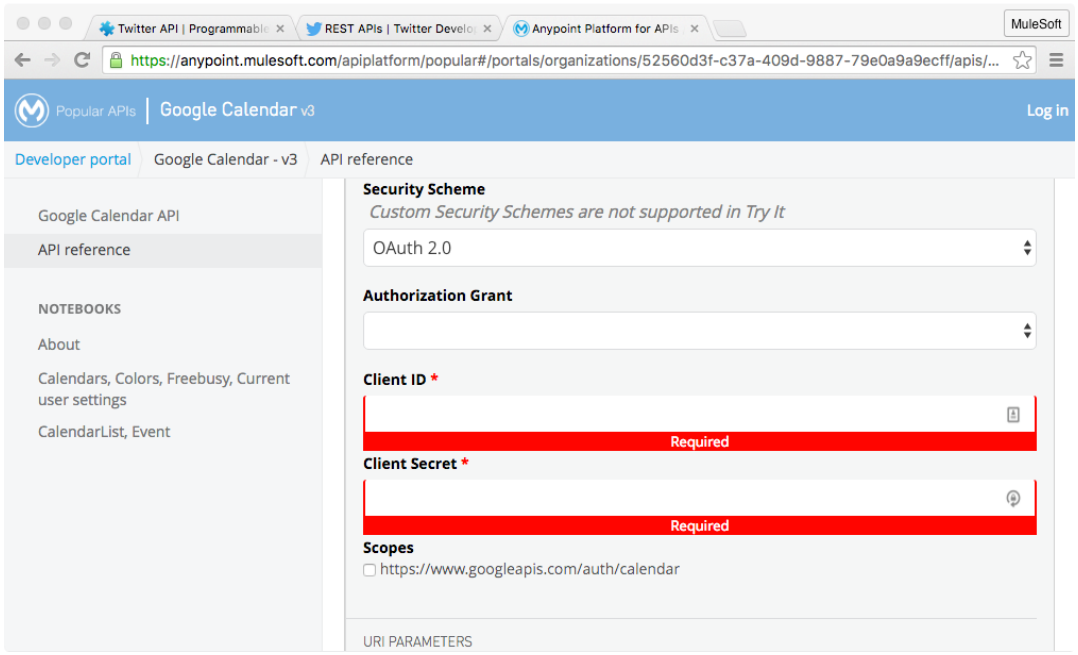
9. Scroll down and locate and click the Google Calendar link.
10. In the left-side navigation, click the API reference link.
11. Scroll the list of available resources.
12. Click the GET tab for the /calendars/{calendar_id}/events/{event_id} resource.



13. Scroll down and look at the sample response.

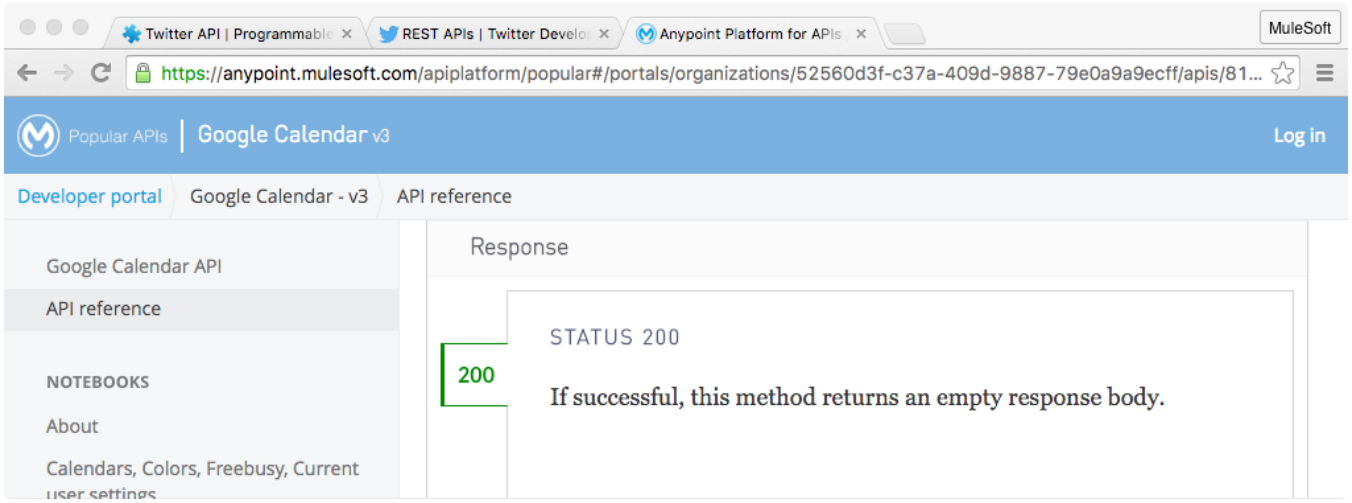


14. Click the Try it button.
15. Scroll down and locate and click the GET button; you should get errors that client id, client secret, event id, and version are required.

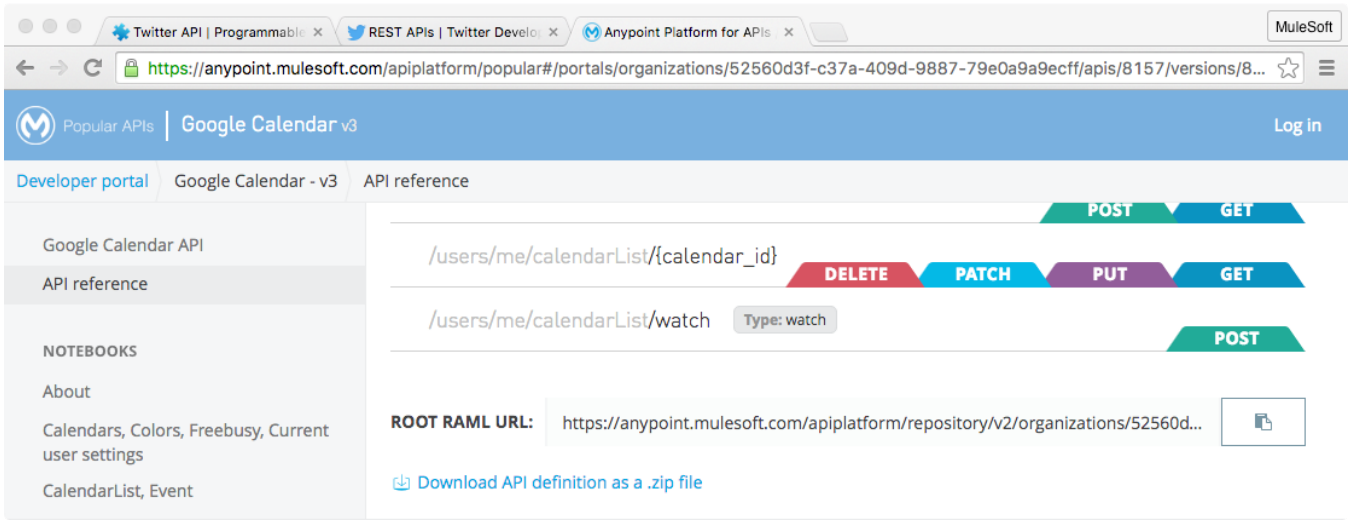


16. Scroll up and click the Close button in the upper-right corner.

17. Click the DELETE tab for the /calendars/{calendar_id}/events/{event_id} resource.
18. Scroll down and look at the sample response.



19. Scroll up and click the PUT tab for the /calendars/{calendar_id}/events/{event_id} resource.
20. Scroll down and look at the example body.
21. Scroll down and look at the sample response.
22. Scroll down to the bottom of the API reference page.
23. Click the Download API definition as a .zip file link.



24. In your computer's file browser, navigate to your downloads folder and unzip the API ZIP.
25. Open api.raml in a text editor.

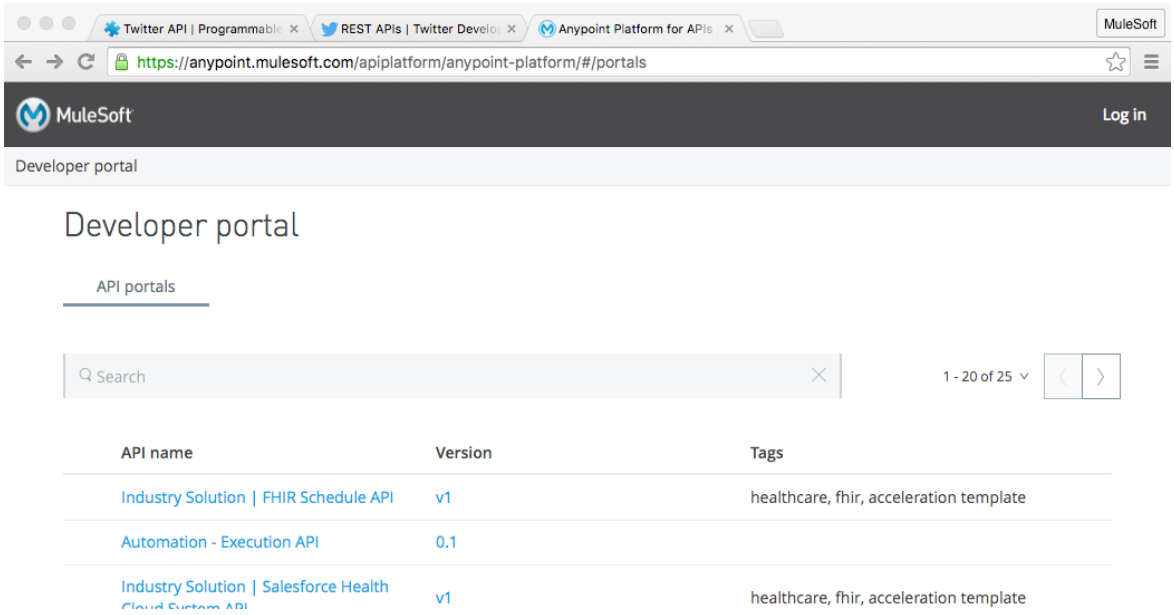
26. Take a quick look at the API definition file and then close it.

api.raml

```
/{event_id}:
  get:
    is: [ calendarEvent ]
    description: Returns an event.
    queryParameters:
      timeZone:
        description: Time zone used in the response. Optional. The default is the
        example: UTC
    responses:
      200:
        body:
          application/json:
            schema: eventResourceResponse
            example: !include examples/eventResourceResponse-example.json
  put:
    is: [ calendarEvent , sendNotifications ]
    description: Updates an event.
    body:
      application/json:
        schema: createEventResourceRequest
```

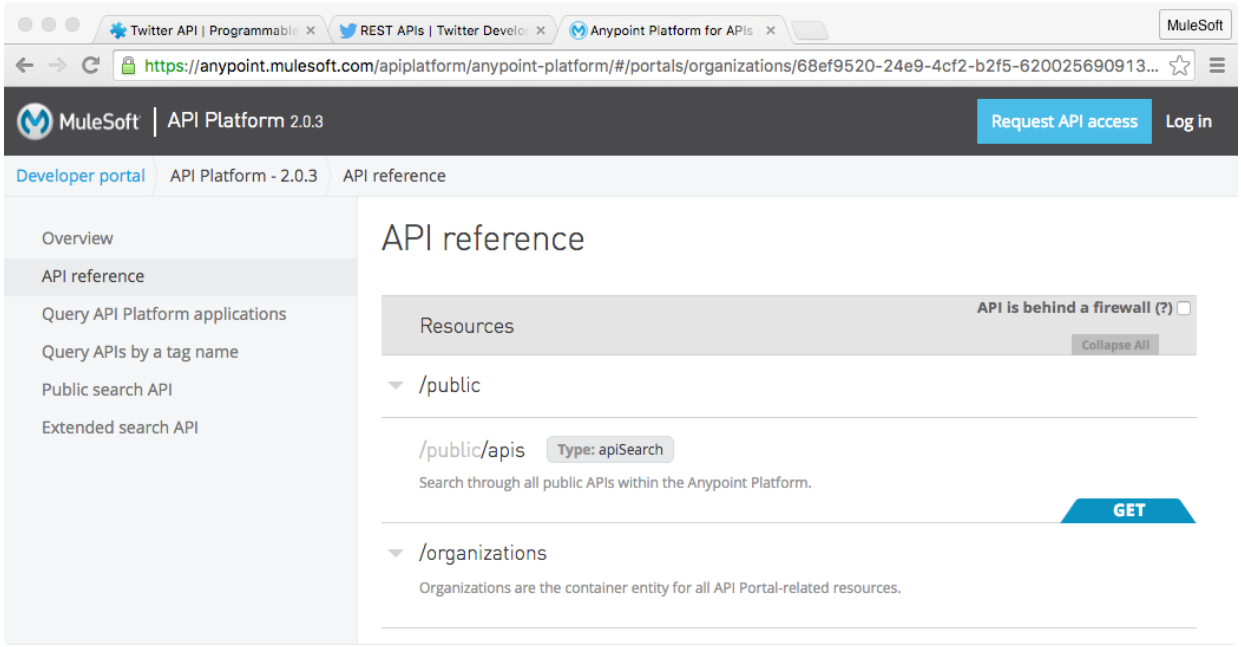
Explore the MuleSoft Developer portal for Anypoint Platform

27. Return to the course snippets.txt file and copy the URL for the MuleSoft developer portal for Anypoint Platform: https://anypoint.mulesoft.com/apiplatform/anypoint-platform/#/portals.
28. In a web browser, navigate to that URL.

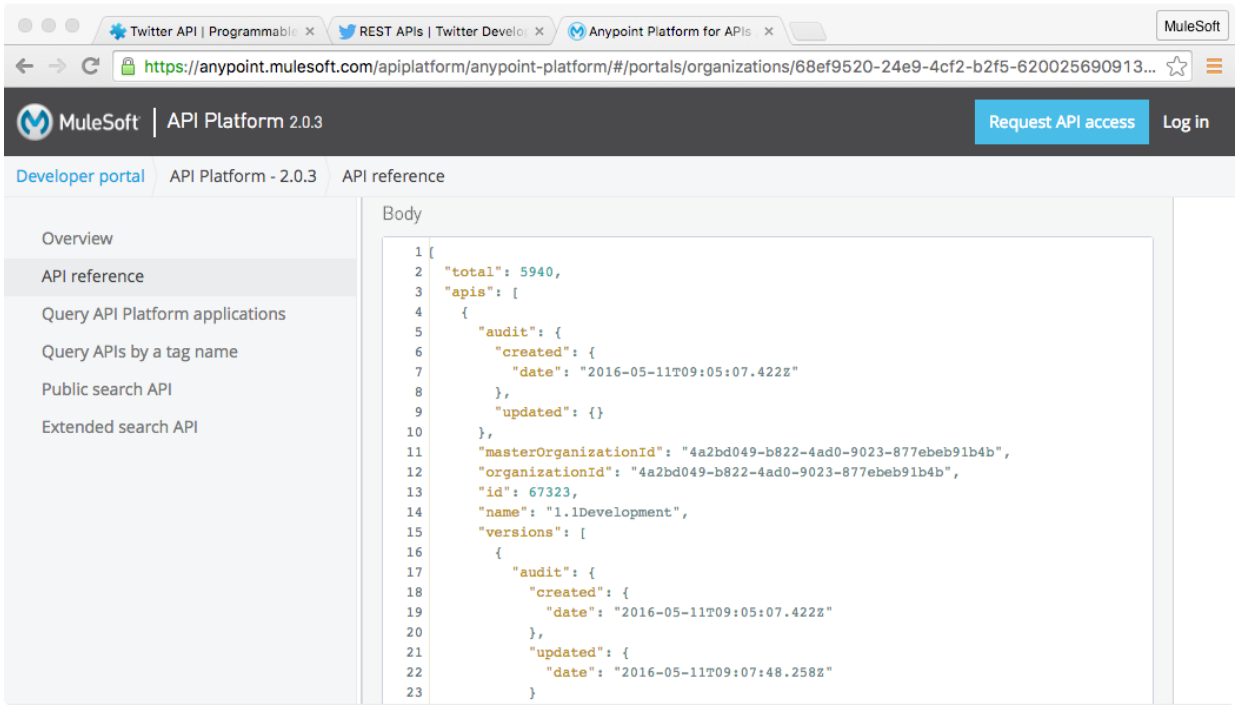


29. Scroll down and locate and click the API Platform link.

30. In the left-side navigation, click the API reference link.
31. Scroll the list of available resources.
32. Click the GET tab for the /public/apis resource.



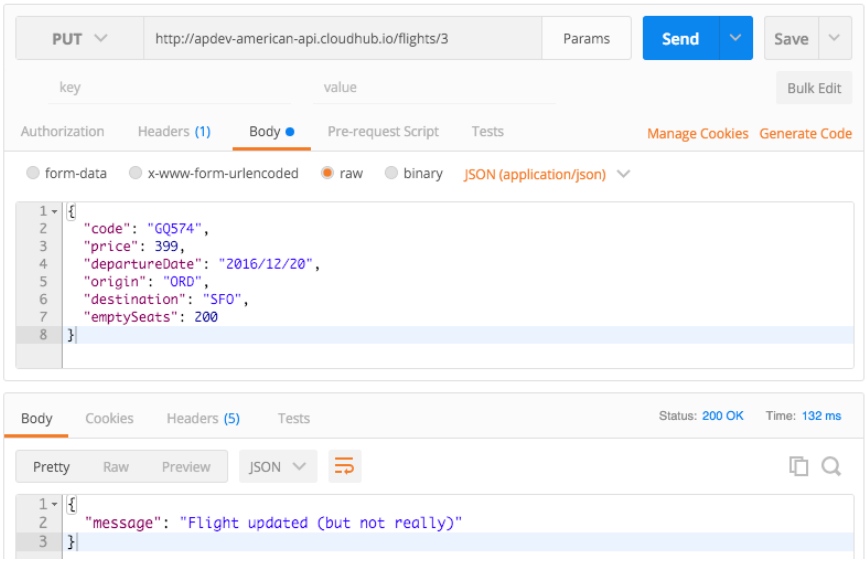
33. Click the Try it button.
34. Scroll down and locate and click the GET button.
35. Scroll down and look at the response body.



Walkthrough 1-2: Make calls to an API

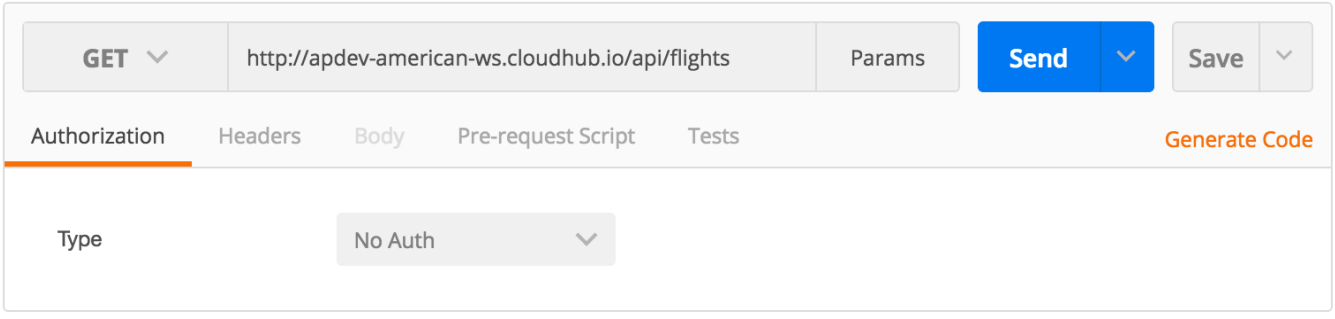
In this walkthrough, you make calls to a RESTful API. You will:

- Use Postman to make calls to an unsecured API.
- Make GET, DELETE, POST, and PUT calls.
- Use Postman to make calls to a secured API.

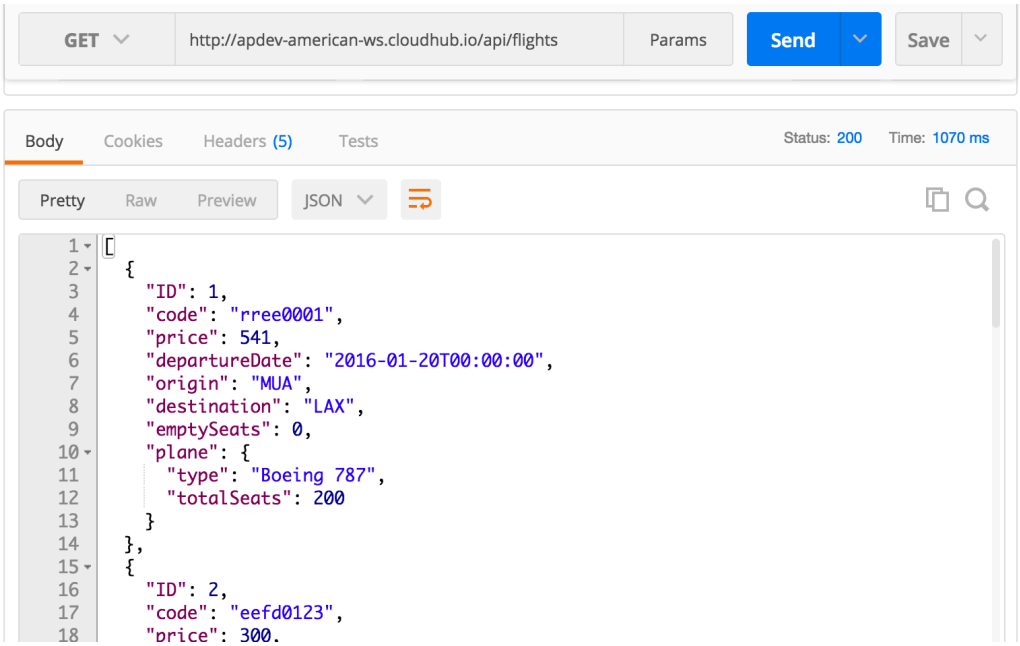


Make GET requests to retrieve data

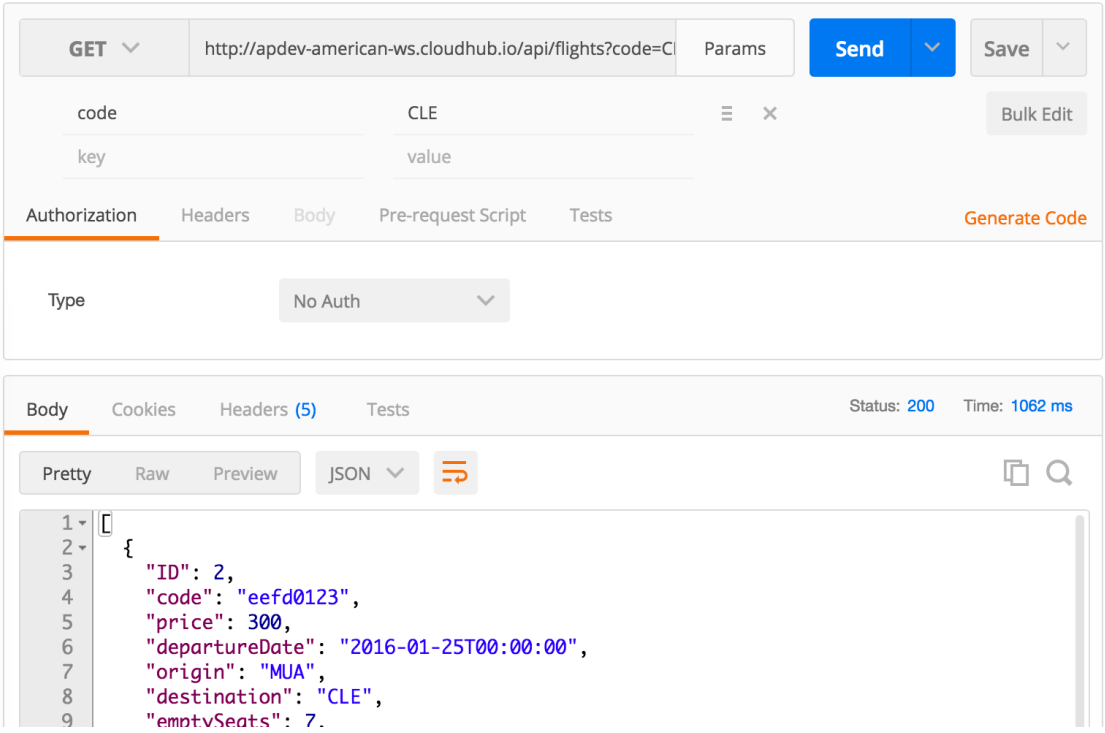
1. Return to or open Postman.
2. Make sure the method is set to GET.
3. Return to the course snippets.txt file.
4. Copy the URL for the American Flights web service: http://apdev-american-ws.cloudhub.io/api/flights.
5. Return to Postman and paste the URL in the text box that says Enter request URL.



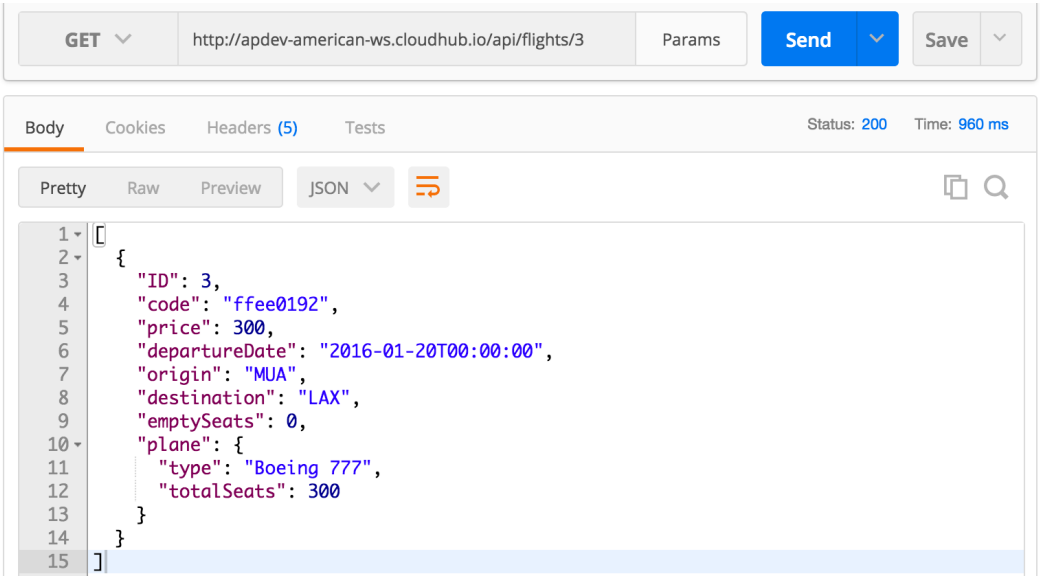
6. Click the Send button; you should get a response.
7. Locate and click the return HTTP status code of 200.
8. Review the response body containing flights to SFO, LAX, and CLE.



9. Click the Params button next to the URL.
10. In the area that appears, set the key to code and the value to CLE.
11. Click the Send button; you should get just flights to CLE returned.



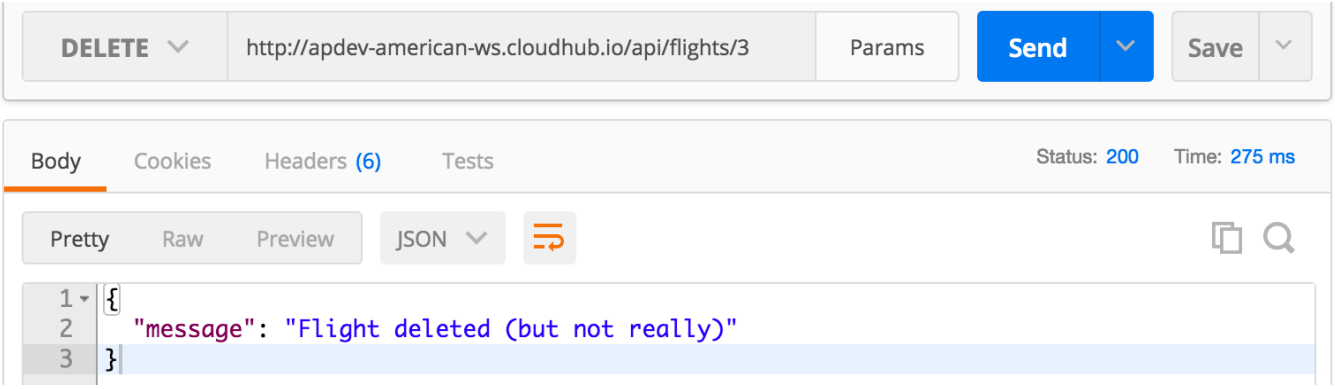
12. Click the X next to the parameter to delete it.
13. Change the request URL to use a uri parameter to retrieve the flight with an ID of 3: http://apdev-american-ws.cloudhub.io/api/flights/3
14. Click the Send button; you should see only the flight with that ID returned.



Make DELETE requests to delete data

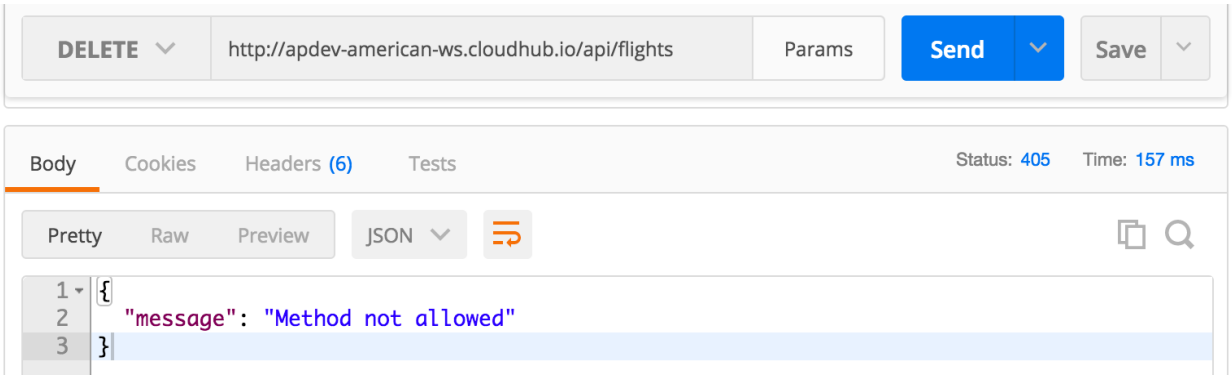
15. Change the method to DELETE.
16. Click the Send button; you should see a 200 response with a message that the was Flight deleted (but not really).

    Note: The database is not actually modified so that its data integrity can be retained for class.



17. Remove the URI parameter from the request: http://apdev-american-ws.cloudhub.io/api/flights.

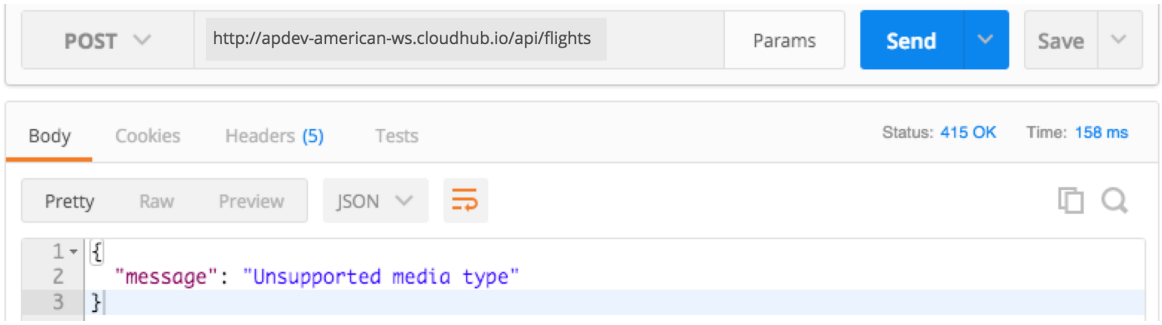
18. Click the Send button; you should get a 405 response with a message of method not allowed.



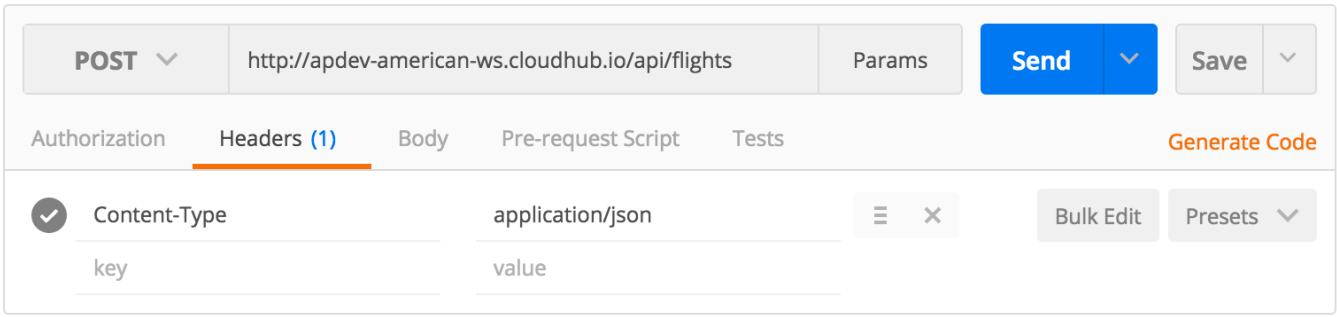
Make a POST request to add data

19. Change the method to POST.
20. Click the Send button; you should get a 415 response with a message of unsupported media type.

    Note: With the initial release of APIkit in Mule 3.8.0, you may get a different message of flow not found for resource.

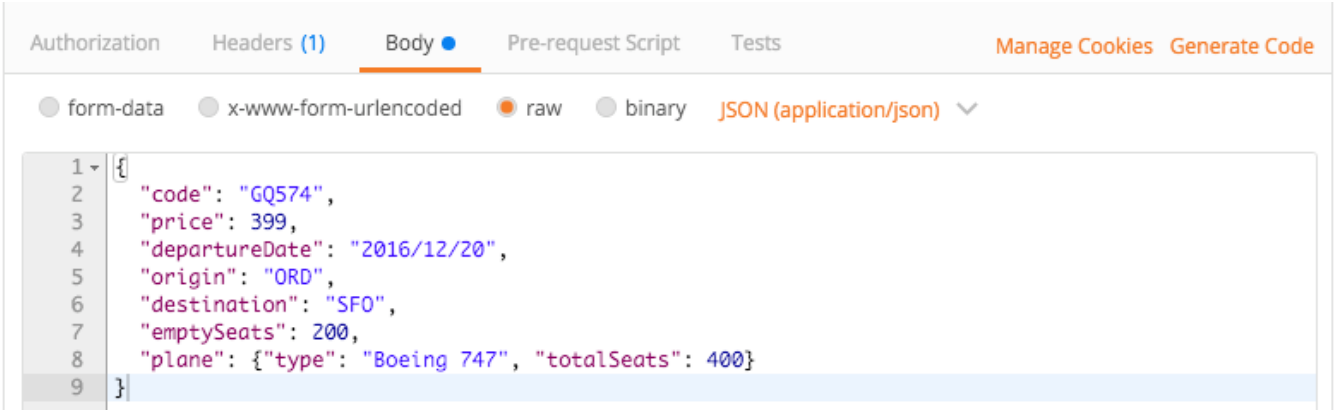


21. Click the Headers link under the request URL.
22. Click in the Headers key field, type C, and then select Content-Type.
23. Click in the Value field, type A, and then select application/json.

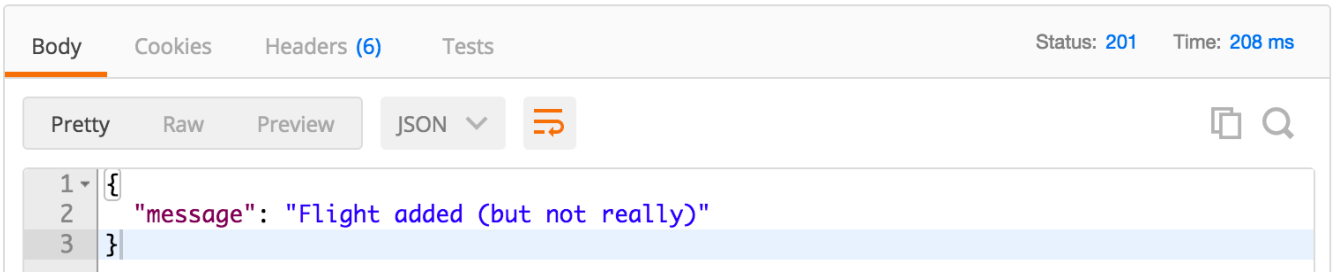


24. Click the Body link under the request URL.

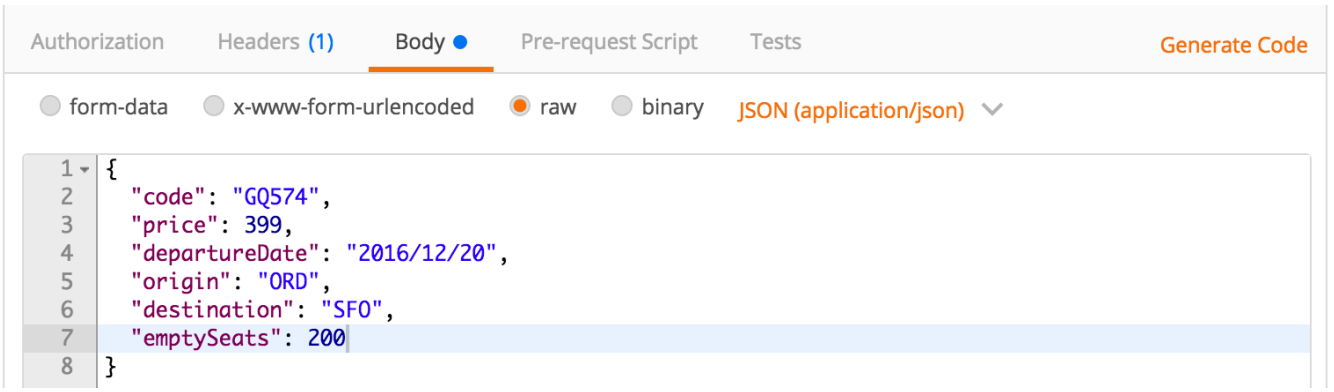
25. Select the raw radio button.
26. Return to the course snippets.txt file and copy the value for American Flights API post body.
27. Return to Postman and paste the code in the body text area.



28. Click the Send button; you should see a 201 response with the message Flight added (but not really).

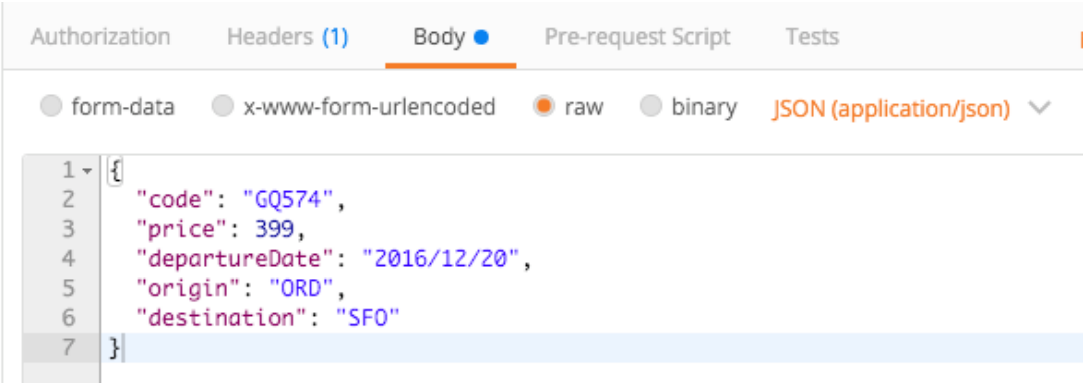


29. Return to the request body and remove the plane field and value from the request body.
30. Remove the comma after the emptySeats key/value pair.

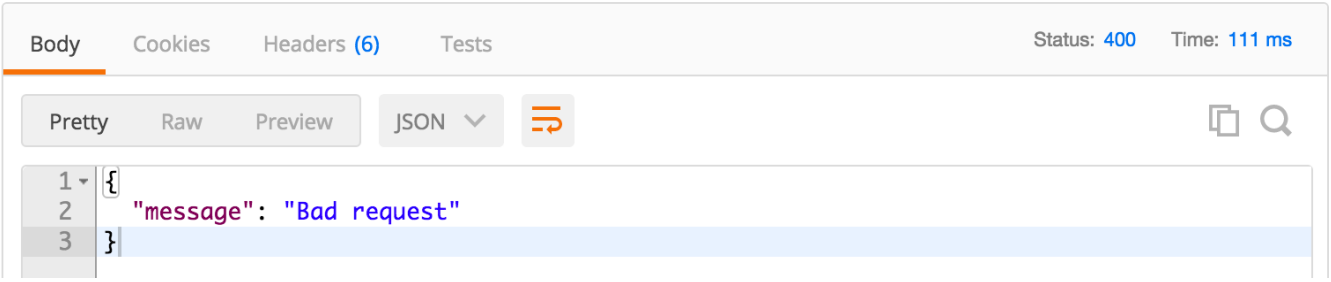


31. Send the request; the message should still post successfully.

32. In the request body, remove the emptySeats key/value pair.
33. Delete the comma after the destination key/value pair.



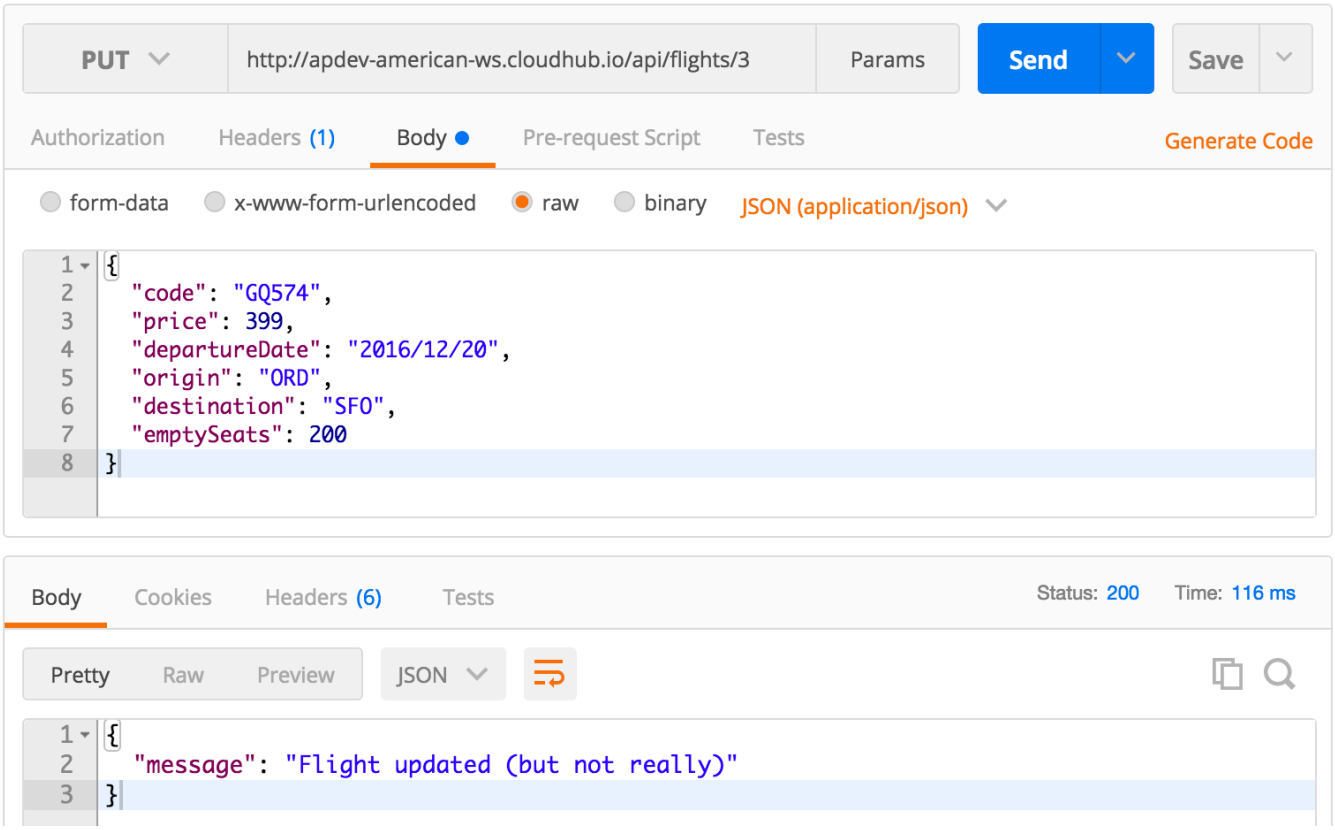
34. Send the request; you should see a 400 response with the message Bad request.



Make a PUT request to update data

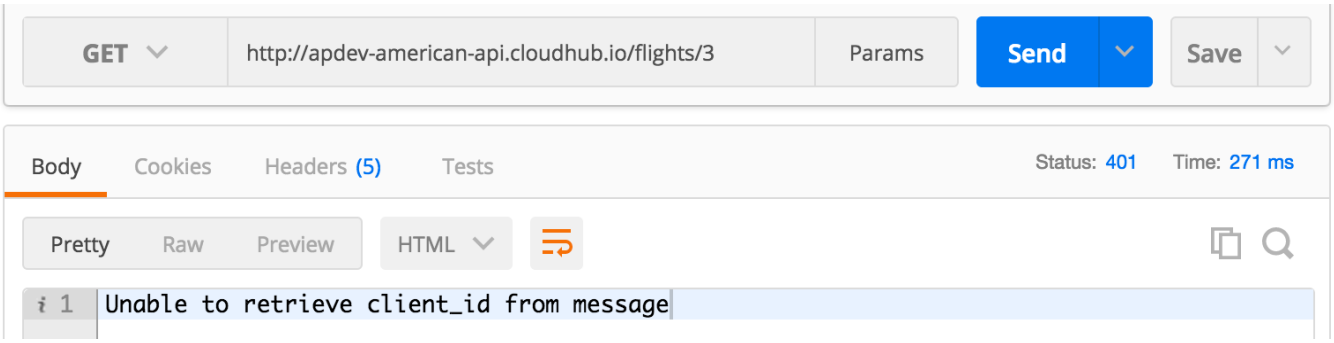
35. Change the method to PUT.
36. Add a flight ID to the URL to modify a particular flight.
37. Click the Send button; you should get a bad request message.
38. In the request body field, press Cmd+Z or Ctrl+Z so the emptySeats field is added back.

39. Send the request; you should see the response Flight updated (but not really).



Make a request to a secured API

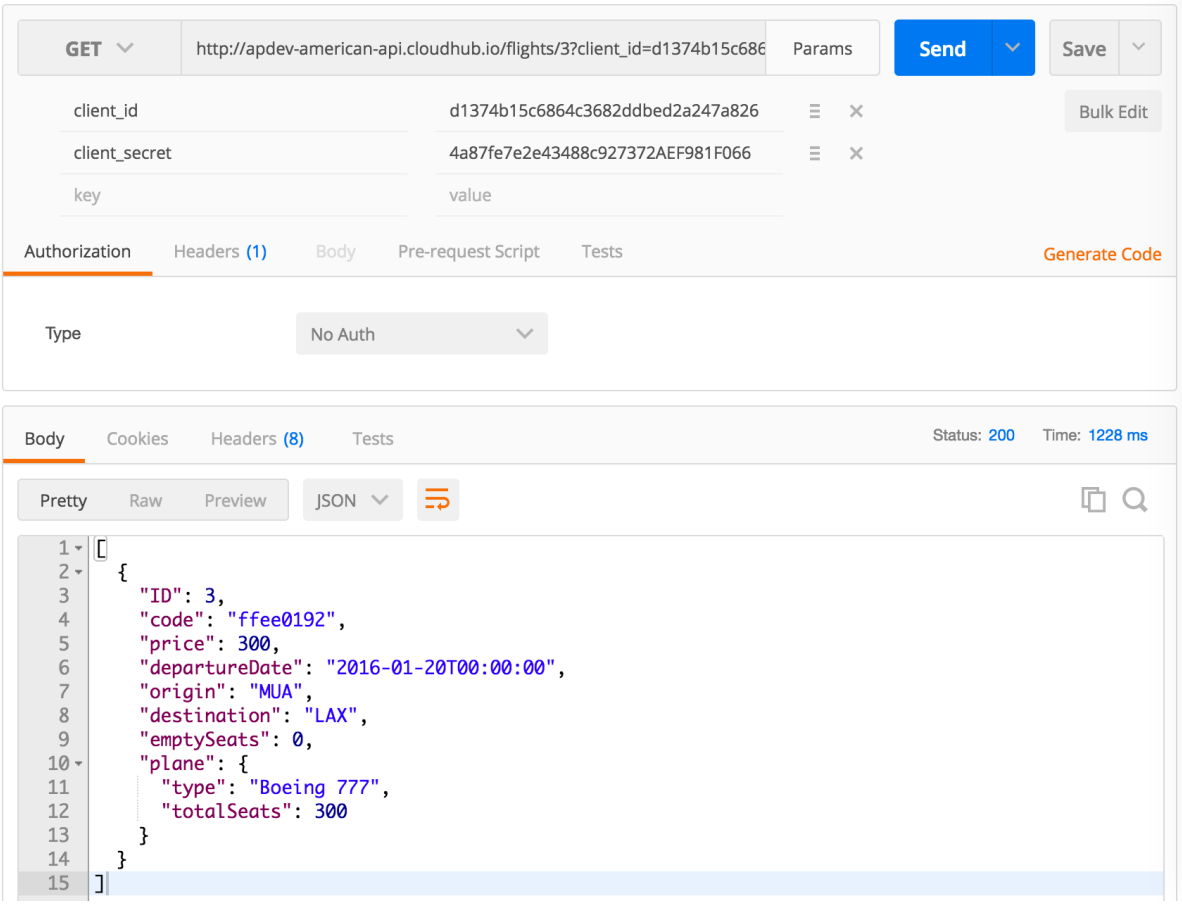
40. Change the method to GET.
41. Change the request URL to http://apdev-american-api.cloudhub.io/flights/3.
42. Click the Send button; you should get a message about a missing client_id.



43. Return to the course snippets.txt file and copy the value for the American Flights API client_id.
44. Return to Postman and add a request parameter called client_id.
45. Set client_id to the value you copied from the snippets.txt file.

46. Return to the course snippets.txt file and copy the value for the American Flights API client_secret.
47. Return to Postman and add a request parameter called client_secret.
48. Set client_secret to the value you copied from the snippets.txt file.
49. Click the Send button; you should get data for flight 3 again – or a message that API calls have been exceeded).

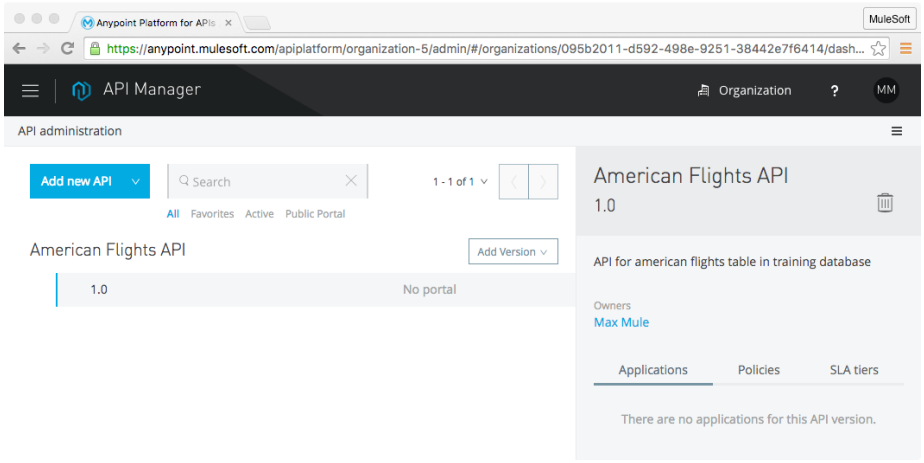
    Note: The API service level agreement (SLA) for the application with this client ID and secret has been set to allow one API call per second.



Walkthrough 1-3: Explore Anypoint Platform

In this walkthrough, you get familiar with the Anypoint Platform web application. You will:

- Explore Anypoint Platform.
- Add an API to Anypoint Platform.



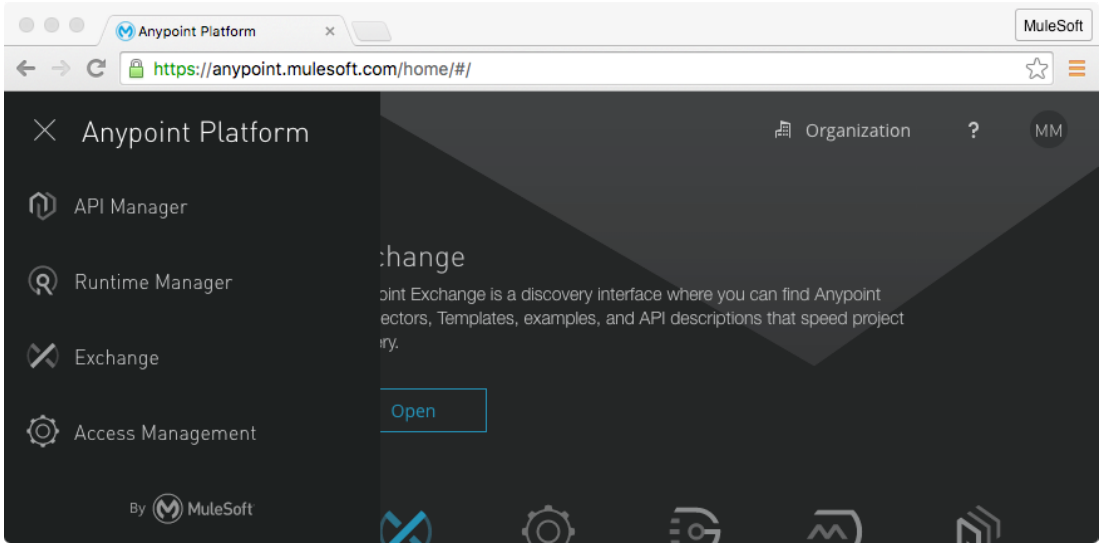
Return to Anypoint Platform

1. Return to Anypoint Platform in a web browser.

   Note: If you closed the browser window or logged out, return to https://anypoint.mulesoft.com and log in.

2. Click the menu button located in the upper-left in the main menu bar.
3. In the menu that appears, click Anypoint Platform; this will return you to the home page.

   Note: This will be called the main menu from now on.

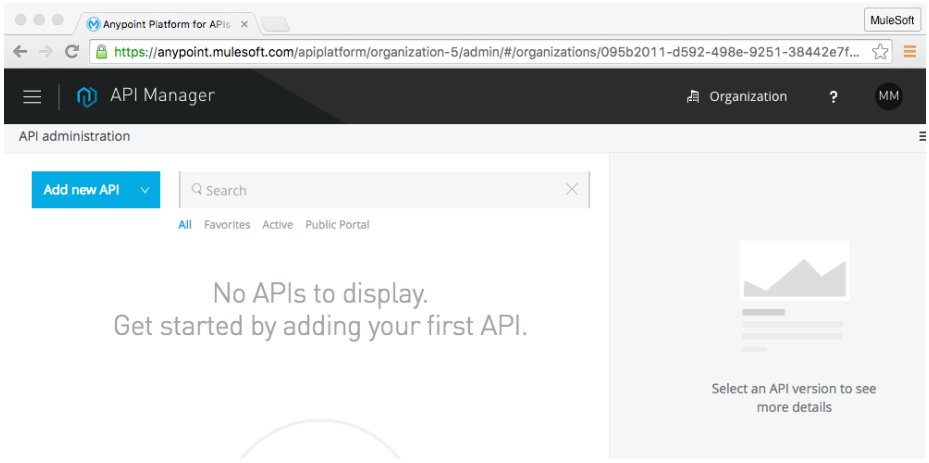


Explore Anypoint Platform

4. In the main menu, select Access Management.
5. In the main menu, select API Manager.
6. In the main menu, select Exchange.
7. In the main menu, select Runtime Manager.

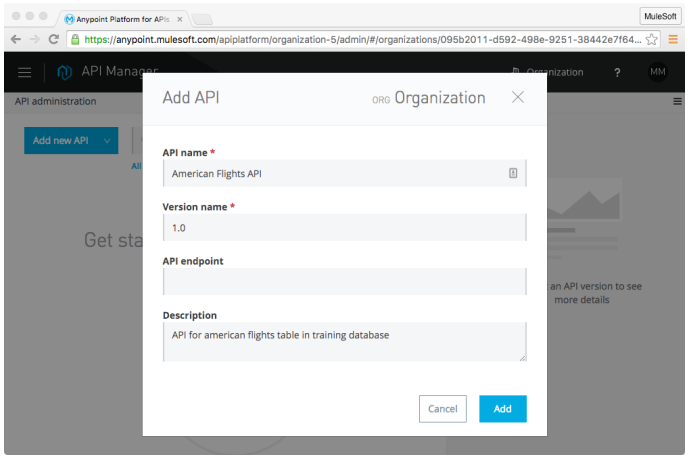
Add an API to Anypoint Platform

8. In the main menu, select API Manager again.
9. Click the Add new API button.

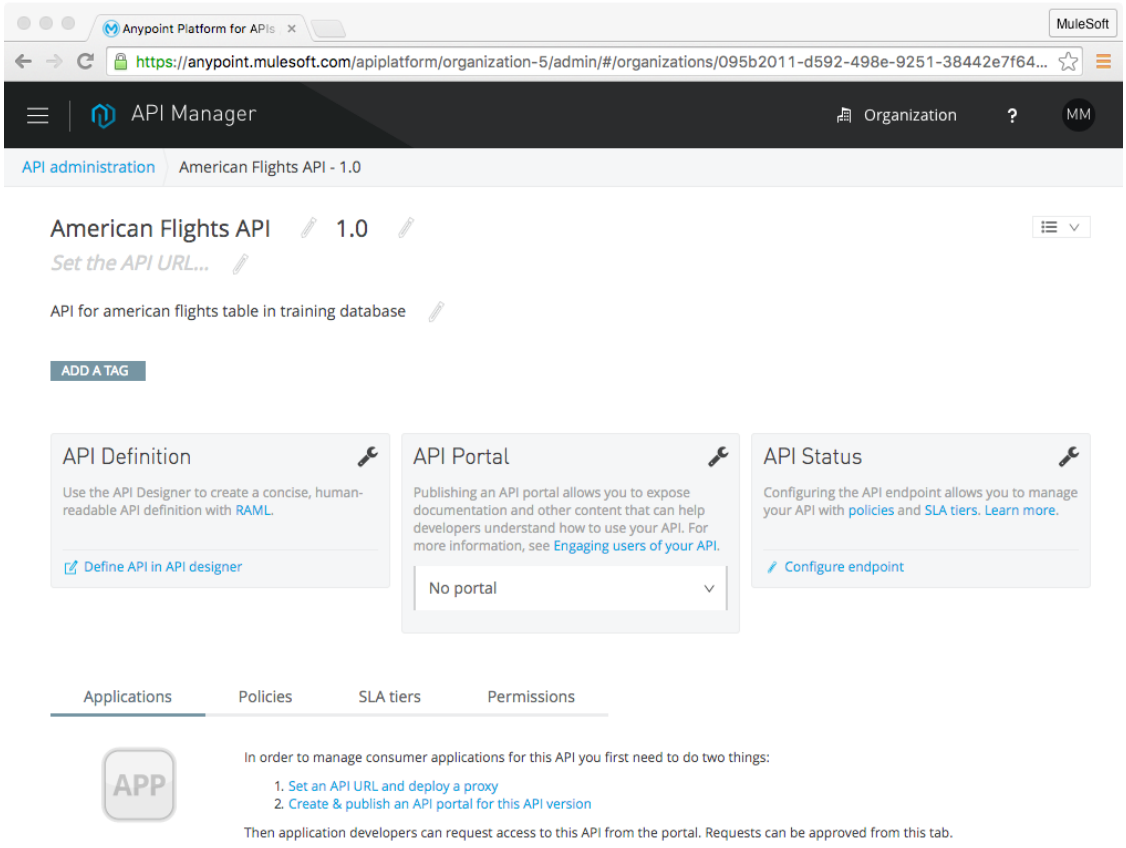


10. In the Add API dialog box, enter the following information.

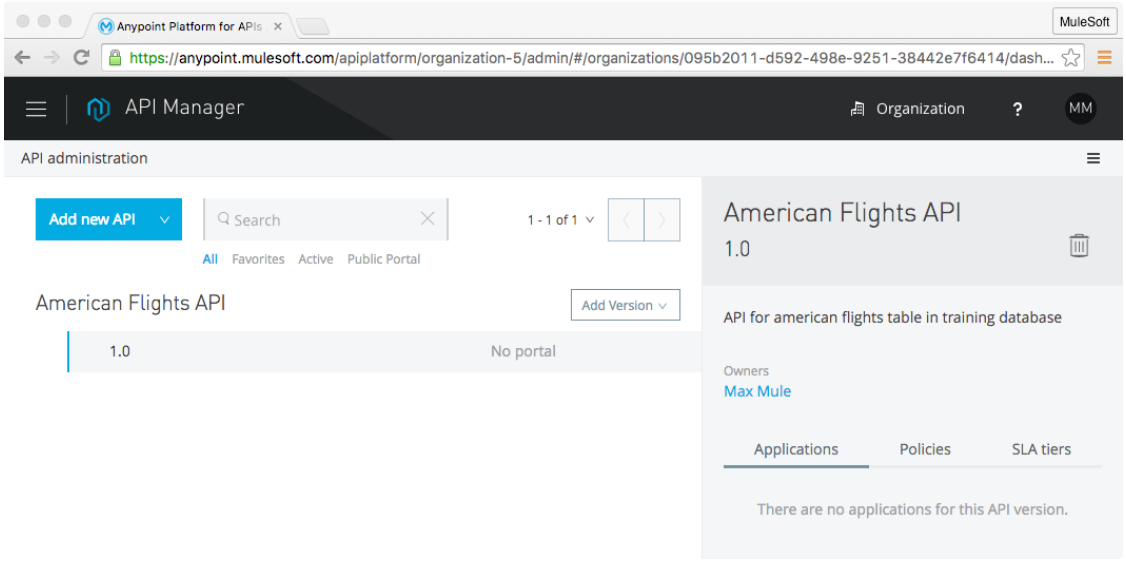
    - API name: American Flights API
    - Version name: 1.0
    - API endpoint: *Leave blank*
    - Description: API for american flights table in training database



11. Click Add.
12. Look at the different sections and links for the API on the API administration page.



13. Click the API administration link in the main menu; you should see your new API listed.
14. Click the row containing version 1.0 of your API; you should see details for it displayed on the right.



15. Click the version 1.0 link for the API; you should return to the details page for that API.