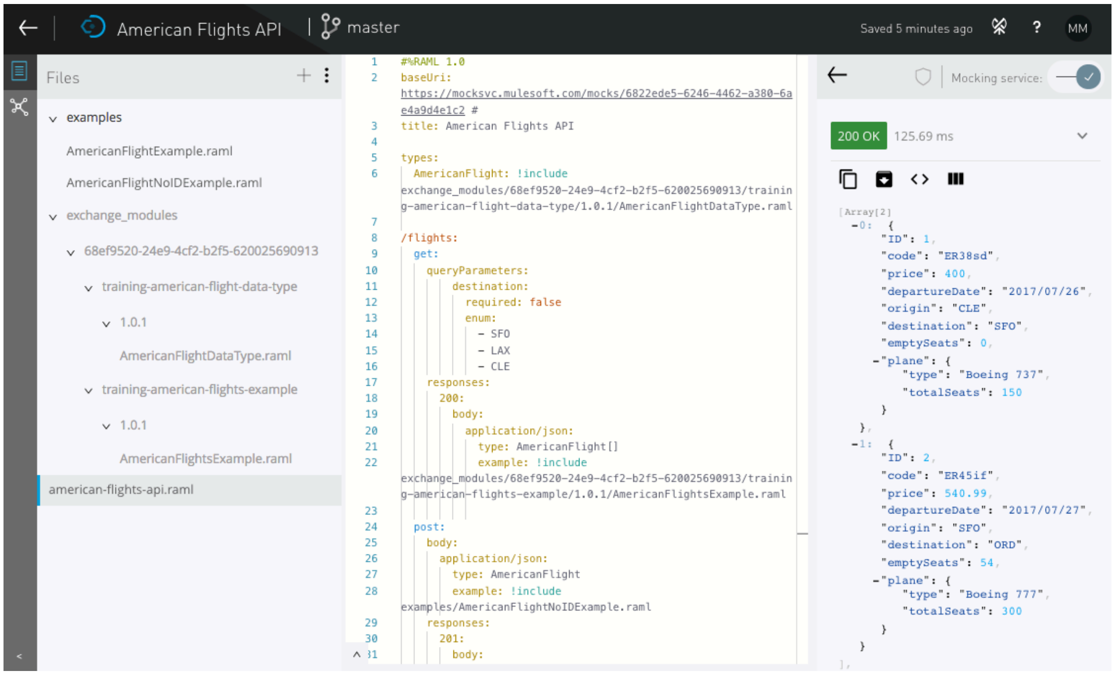
Walkthrough 3-3: Add request and response details

In this walkthrough, you add information about each of the methods to the API specification. You will:

- Use API fragments from Exchange.
- Add a data type and use it to define method requests and responses.
- Add example JSON requests and responses.
- Test an API and get example responses.

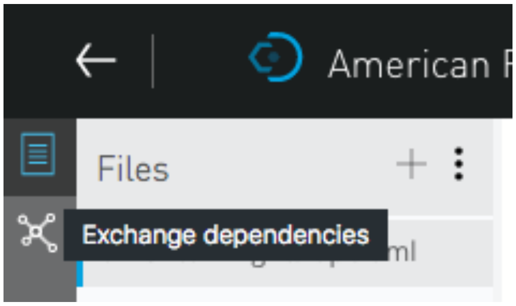

American Flights API
master
Saved 5 minutes ago
?
MM
Files
examples
AmericanFlightExample.raml
AmericanFlightNoIDExample.raml
exchange_modules
68ef9520-24e9-4cf2-b2f5-620025690913
training-american-flight-data-type
1.0.1
AmericanFlightDataType.raml
training-american-flights-example
1.0.1
AmericanFlightsExample.raml
american-flights-api.raml
Mocking service:
200 OK
125.69 ms

```
#%RAML 1.0
baseUri:
https://mocksvc.mulesoft.com/mocks/6822ede5-6246-4462-a380-6a
e4a9d4e1c2 #
title: American Flights API

types:
  AmericanFlight: !include
exchange_modules/68ef9520-24e9-4cf2-b2f5-620025690913/trainin
g-american-flight-data-type/1.0.1/AmericanFlightDataType.raml

/flights:
  get:
    queryParameters:
      destination:
        required: false
        enum:
          - SFO
          - LAX
          - CLE
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight[]
            example: !include
exchange_modules/68ef9520-24e9-4cf2-b2f5-620025690913/trainin
g-american-flights-example/1.0.1/AmericanFlightsExample.raml

  post:
    body:
      application/json:
        type: AmericanFlight
        example: !include
examples/AmericanFlightNoIDExample.raml
    responses:
      201:
        body:
```

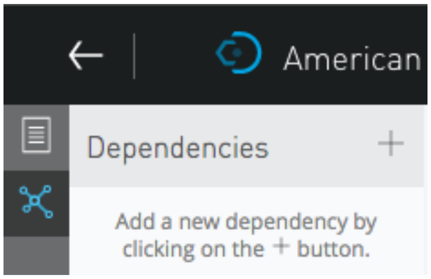
```
[Array[2]
 -0:  {
      "ID": 1,
      "code": "ER38sd",
      "price": 400,
      "departureDate": "2017/07/26",
      "origin": "CLE",
      "destination": "SFO",
      "emptySeats": 0,
     -"plane": {
         "type": "Boeing 737",
         "totalSeats": 150
      }
   },
 -1:  {
      "ID": 2,
      "code": "ER45if",
      "price": 540.99,
      "departureDate": "2017/07/27",
      "origin": "SFO",
      "destination": "ORD",
      "emptySeats": 54,
     -"plane": {
         "type": "Boeing 777",
         "totalSeats": 300
      }
   }
],
```

Add data type and example fragments from Exchange

1. Return to API designer.
2. In the file browser, click the Exchange dependencies button.

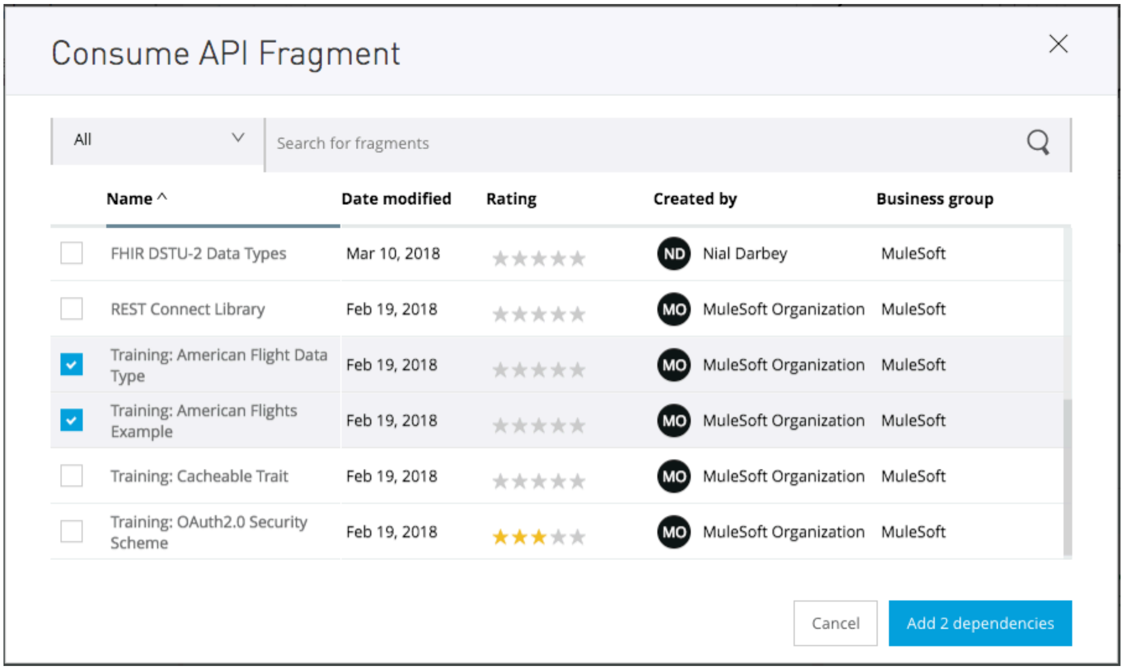


3. Click the Add button.



Add a new dependency by clicking on the + button.

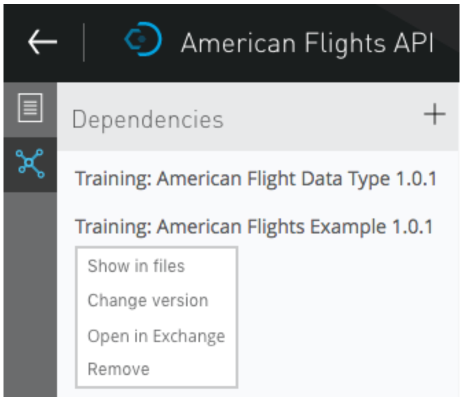
4. In the Consume API Fragment dialog box, select the Training: American Flight Data Type and the Training: American Flights Example.


Consume API Fragment

	Name ^	Date modified	Rating	Created by	Business group
□	FHIR DSTU-2 Data Types	Mar 10, 2018	☆☆☆☆☆	ND Nial Darbey	MuleSoft
□	REST Connect Library	Feb 19, 2018	☆☆☆☆☆	MO MuleSoft Organization	MuleSoft
☑	Training: American Flight Data Type	Feb 19, 2018	☆☆☆☆☆	MO MuleSoft Organization	MuleSoft
☑	Training: American Flights Example	Feb 19, 2018	☆☆☆☆☆	MO MuleSoft Organization	MuleSoft
□	Training: Cacheable Trait	Feb 19, 2018	☆☆☆☆☆	MO MuleSoft Organization	MuleSoft
□	Training: OAuth2.0 Security Scheme	Feb 19, 2018	★★★☆☆	MO MuleSoft Organization	MuleSoft

5. Click the Add 2 dependencies button.

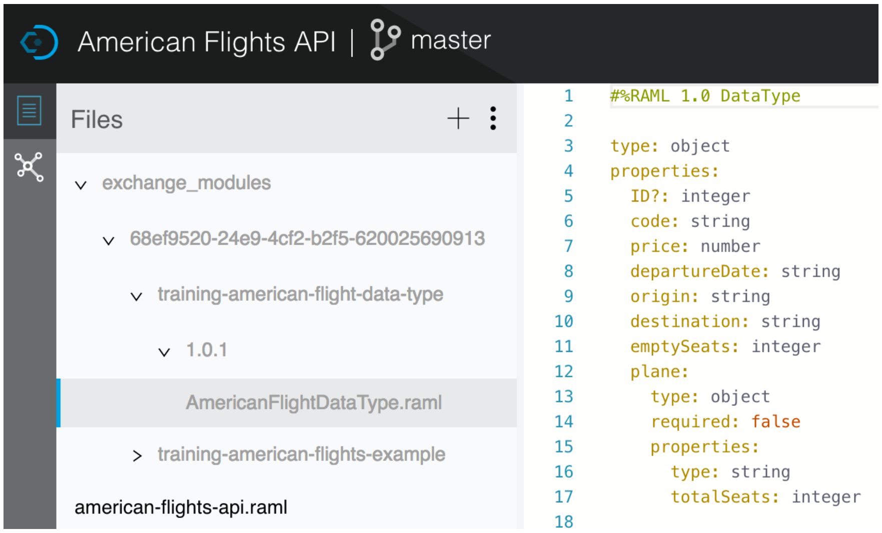
6. In the dependencies list, click the Training: American Flight Data Type and review the menu options.



Training: American Flight Data Type 1.0.1

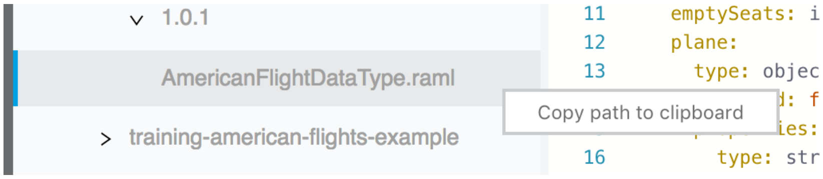
Training: American Flights Example 1.0.1

7. Click the Files button (above the Exchange dependencies button).
8. Expand the exchange_modules section until you see AmericanFlightDataType.raml.
9. Click AmericanFlightDataType.raml and review the code.


American Flights API | master
Files
exchange_modules
68ef9520-24e9-4cf2-b2f5-620025690913
training-american-flight-data-type
1.0.1
AmericanFlightDataType.raml
training-american-flights-example
american-flights-api.raml

```
#%RAML 1.0 DataType

type: object
properties:
  ID?: integer
  code: string
  price: number
  departureDate: string
  origin: string
  destination: string
  emptySeats: integer
  plane:
    type: object
    required: false
    properties:
      type: string
      totalSeats: integer

```

10. In the file browser, click the options menu button next to AmericanFlightsDataType.raml and select Copy path to clipboard.

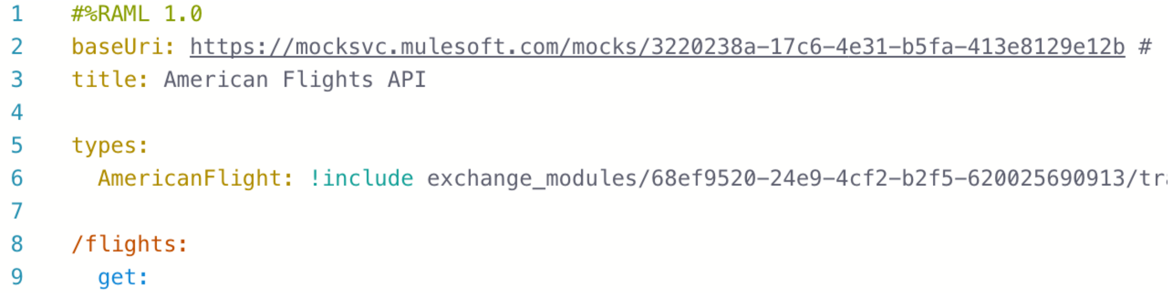

1.0.1
AmericanFlightDataType.raml
training-american-flights-example
Copy path to clipboard

```
    emptySeats: i
    plane:
      type: objec
              d: f
              ies:
        type: str
```

Define an AmericanFlight data type for the API

11. Return to american-flights-api.raml.
12. Near the top of the code above the /flights resource, add a types element.
13. Indent under types and add a type called AmericanFlight.
14. Add the !include keyword and then paste the path you copied.

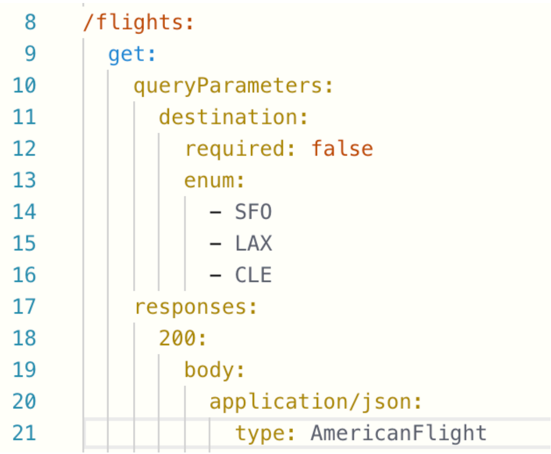
Note: You can also add the path by navigating through the exchange_modules folder in the shelf.



```
#%RAML 1.0
baseUri: https://mocksvc.mulesoft.com/mocks/3220238a-17c6-4e31-b5fa-413e8129e12b #
title: American Flights API

types:
  AmericanFlight: !include exchange_modules/68ef9520-24e9-4cf2-b2f5-620025690913/tr

/flights:
  get:
```

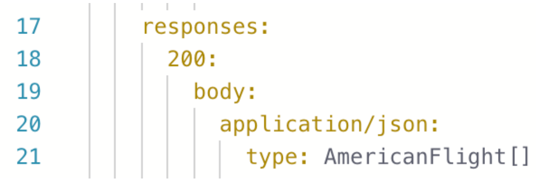
Specify the /flights:get method to return an array of AmericanFlight objects

15. Go to a new line of code at the end of the /flights get method and indent to the same level as queryParameters.
16. In the shelf, click responses > 200 > body > application/json > type > AmericanFlight.



```
/flights:
  get:
    queryParameters:
      destination:
        required: false
        enum:
          - SFO
          - LAX
          - CLE
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight
```

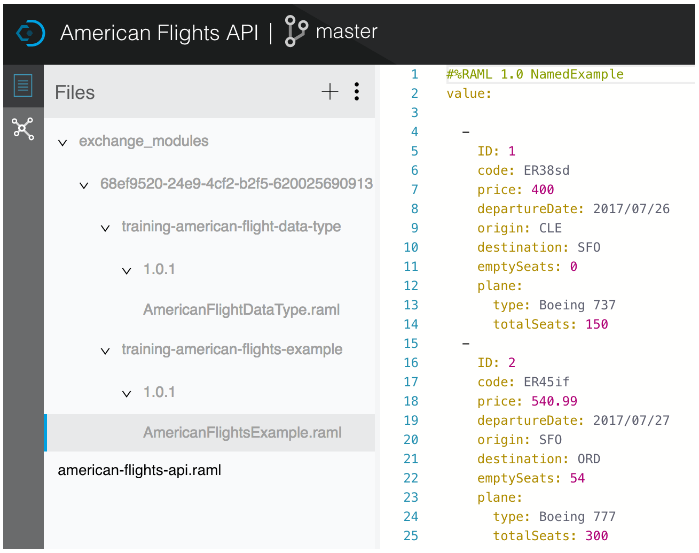
17. Set the type to be an array of AmericanFlight objects: AmericanFlight[].



```
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight[]
```

Add an example response for the /flights:get method

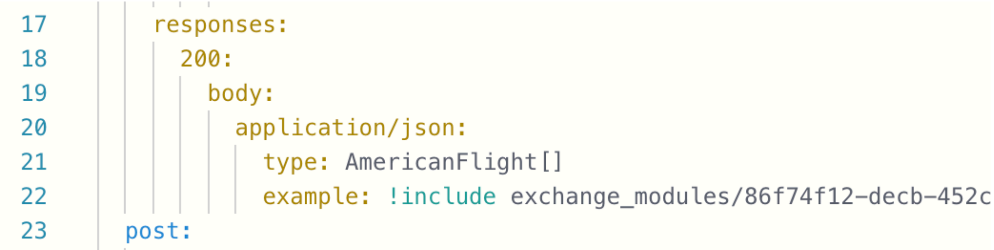
18. In the file browser, locate AmericanFlightsExample.raml in exchange_modules and review the code.


American Flights API | master
Files
exchange_modules
68ef9520-24e9-4cf2-b2f5-620025690913
training-american-flight-data-type
1.0.1
AmericanFlightDataType.raml
training-american-flights-example
1.0.1
AmericanFlightsExample.raml
american-flights-api.raml

```
#%RAML 1.0 NamedExample
value:

  -
    ID: 1
    code: ER38sd
    price: 400
    departureDate: 2017/07/26
    origin: CLE
    destination: SFO
    emptySeats: 0
    plane:
      type: Boeing 737
      totalSeats: 150
  -
    ID: 2
    code: ER45if
    price: 540.99
    departureDate: 2017/07/27
    origin: SFO
    destination: ORD
    emptySeats: 54
    plane:
      type: Boeing 777
      totalSeats: 300
```

19. In the file browser, click the options menu next to AmericanFlightsExample.raml and select Copy path to clipboard.
20. Return to american-flights-api.raml.
21. In the editor, go to a new line after the type declaration in the /flights:get 200 response (at the same indentation as type).
22. In the shelf, click example.
23. Add the !include keyword and then paste the path you copied.

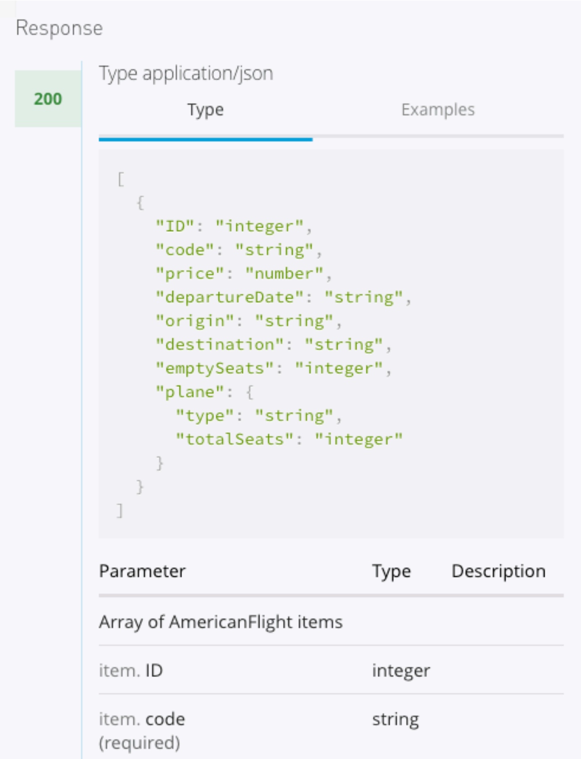
Note: You can also add the path by navigating through the exchange_modules folder in the shelf.



```
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight[]
            example: !include exchange_modules/86f74f12-decb-452c
  post:
```

Review and test the /flights:get resource in API console

24. In API console, click the /flights:get method.
25. Look at the type information in the response information.



Response

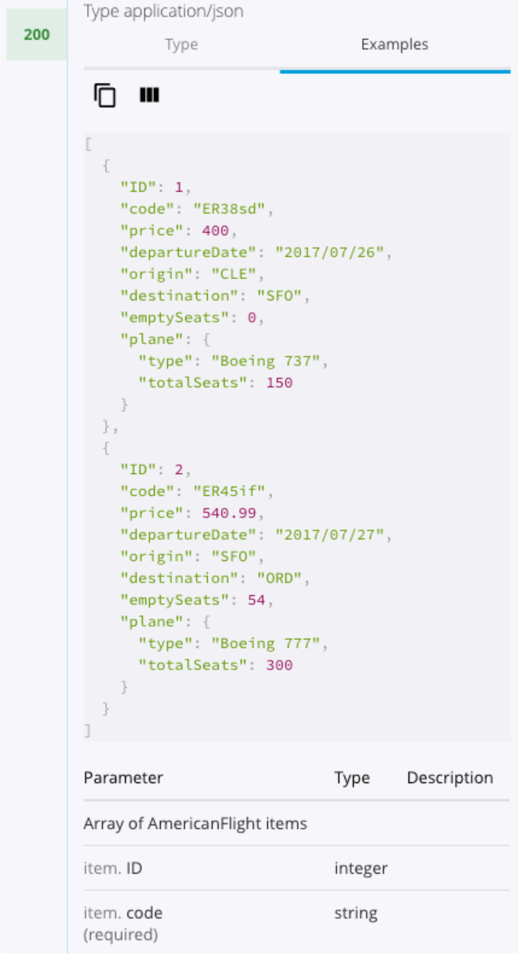
200

Type application/json

```
[
  {
    "ID": "integer",
    "code": "string",
    "price": "number",
    "departureDate": "string",
    "origin": "string",
    "destination": "string",
    "emptySeats": "integer",
    "plane": {
      "type": "string",
      "totalSeats": "integer"
    }
  }
]
```

Parameter	Type	Description
Array of AmericanFlight items		
item. ID	integer	
item. code (required)	string	

26. Click the Examples tab; you should see the example array of AmericanFlight objects.



```
[
  {
    "ID": 1,
    "code": "ER38sd",
    "price": 400,
    "departureDate": "2017/07/26",
    "origin": "CLE",
    "destination": "SFO",
    "emptySeats": 0,
    "plane": {
      "type": "Boeing 737",
      "totalSeats": 150
    }
  },
  {
    "ID": 2,
    "code": "ER45if",
    "price": 540.99,
    "departureDate": "2017/07/27",
    "origin": "SFO",
    "destination": "ORD",
    "emptySeats": 54,
    "plane": {
      "type": "Boeing 777",
      "totalSeats": 300
    }
  }
]
```

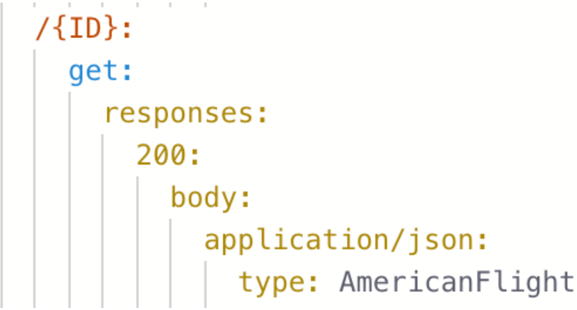
Parameter	Type	Description
Array of AmericanFlight items		
item. ID	integer	
item. code (required)	string	

27. Click the Try it button and click Send; you should now see the example response with two flights.

Specify the /{ID}:get method to return an AmericanFlight object

28. In the editor, indent under the /{ID} resource get method.

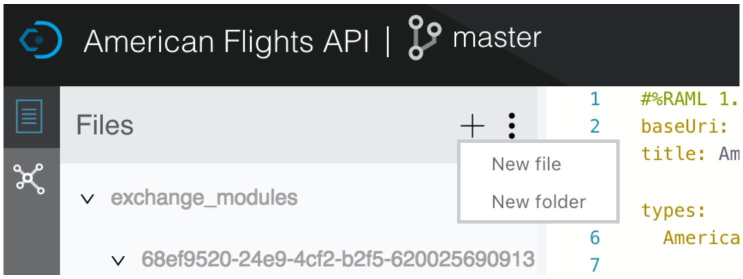
29. In the shelf, click responses > 200 > body > application/json > type > AmericanFlight.



```
/{ID}:
  get:
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight
```

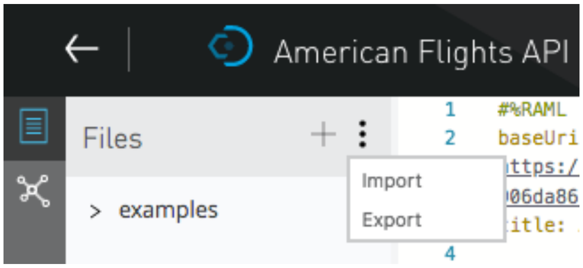
Define an example response for the /flights:get method in a new folder

30. In the file browser, click the add button and select New folder.


American Flights API | master
Files
New file
New folder
exchange_modules
68ef9520-24e9-4cf2-b2f5-620025690913

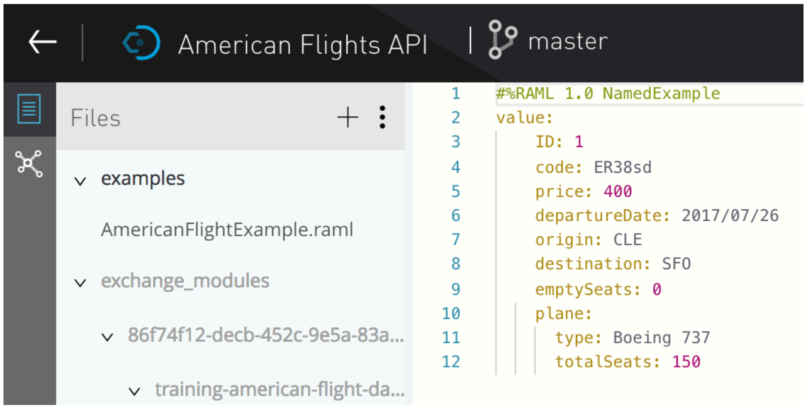
```
#%RAML 1.
baseUri:
title: Am

types:
  America
```

31. In the Add new folder dialog box, set the name to examples and click Create.
32. In the file browser, click the menu button and select Import.



```
#%RAML
baseUri
ttps:/
06da86
itle:
```

33. In the Import dialog box, leave File or ZIP selected and click the Choose file button.
34. Navigate to your student files and select the AmericanFlightExample.raml file in the examples folder.
35. In the Import dialog box, click Import; you should see the new file in API designer.
36. Review the code.
37. In the file browser, drag AmericanFlightExample.raml into the examples folder.


American Flights API | master
Files
examples
AmericanFlightExample.raml
exchange_modules
86f74f12-decb-452c-9e5a-83a...
training-american-flight-da...

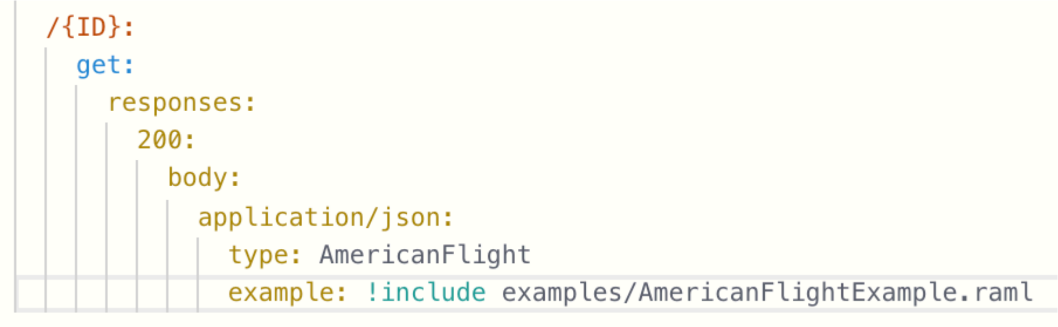
```
#%RAML 1.0 NamedExample
value:
    ID: 1
    code: ER38sd
    price: 400
    departureDate: 2017/07/26
    origin: CLE
    destination: SFO
    emptySeats: 0
    plane:
      type: Boeing 737
      totalSeats: 150
```

Add an example response for the /{ID}:get method

38. Return to american-flights-api.raml.
39. In the editor, go to a new line after the type declaration in {ID}:/get (at the same indentation).

40. In the shelf, click example.

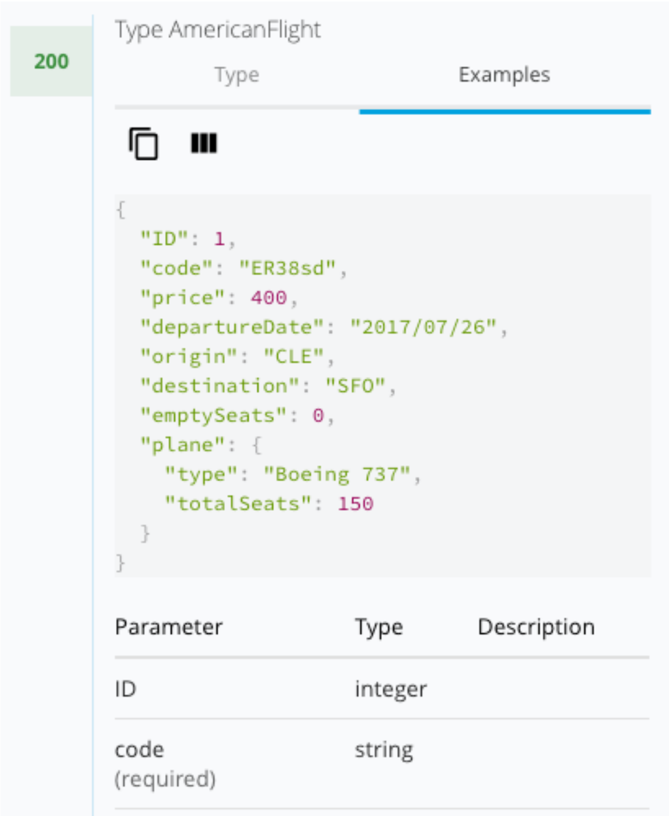
41. Add an include statement and include the example in examples/AmericanFlightExample.raml.



```
/{ID}:
  get:
    responses:
      200:
        body:
          application/json:
            type: AmericanFlight
            example: !include examples/AmericanFlightExample.raml
```

Review and test the /{ID}:get resource in API console

42. In API console, return to the /{ID}:get method; you should now see the response will be of type AmericanFlight.

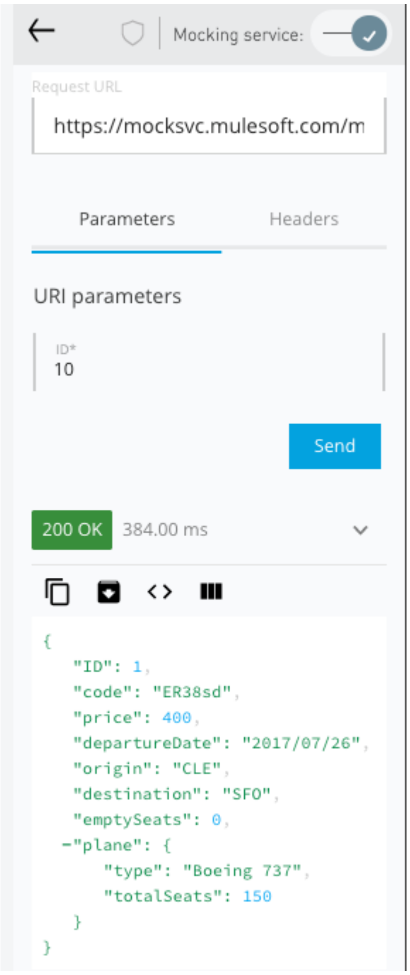


```
{
  "ID": 1,
  "code": "ER38sd",
  "price": 400,
  "departureDate": "2017/07/26",
  "origin": "CLE",
  "destination": "SFO",
  "emptySeats": 0,
  "plane": {
    "type": "Boeing 737",
    "totalSeats": 150
  }
}
```

Parameter	Type	Description
ID	integer	
code (required)	string	

43. Select the Examples tab; you should see the example AmericanFlightExample data.

44. Click the Try it button, enter an ID, and click Send; you should now see the example flight data returned.



Request URL: https://mocksvc.mulesoft.com/m

ID*: 10

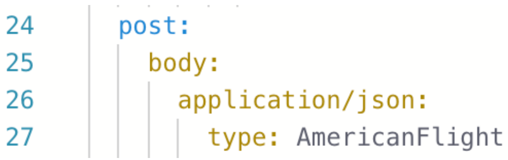
200 OK 384.00 ms

```
{
    "ID": 1,
    "code": "ER38sd",
    "price": 400,
    "departureDate": "2017/07/26",
    "origin": "CLE",
    "destination": "SFO",
    "emptySeats": 0,
  -"plane": {
        "type": "Boeing 737",
        "totalSeats": 150
    }
}
```

Specify the /flights:post method request to require an AmericanFlight object

45. In the editor, indent under the /flights post method.

46. In the shelf, click body > application/json > type > AmericanFlight.



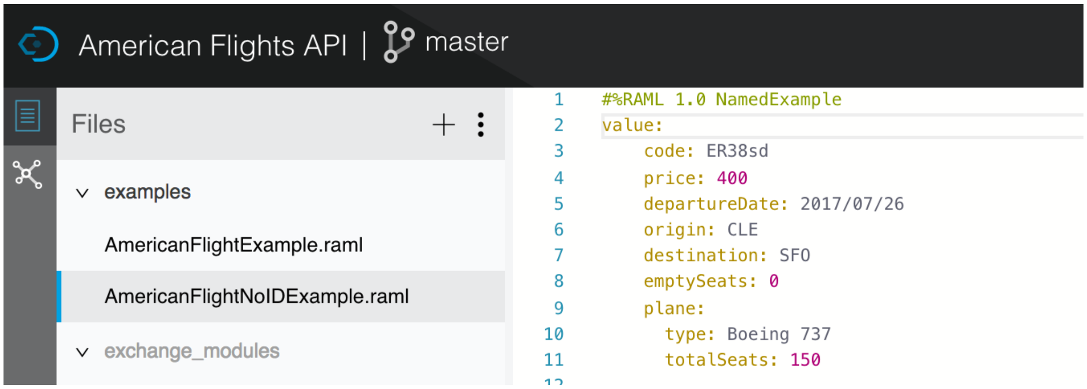
```
post:
  body:
    application/json:
      type: AmericanFlight
```

Define an example request body for the /flights:post method

47. Return to AmericanFlightExample.raml and copy all the code.

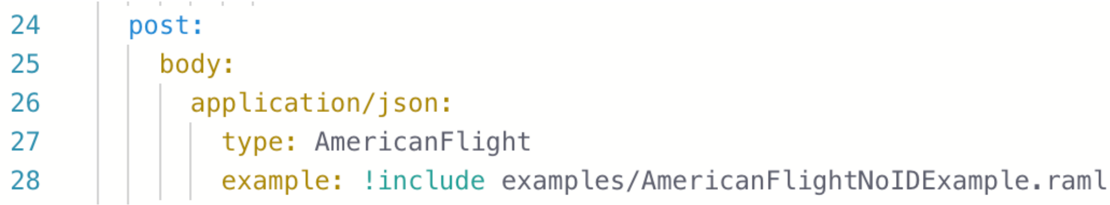
48. In the file browser, click the add button next to the examples folder and select New file.

49. In the Add new file dialog box, set the following values:
    - Version: RAML 1.0
    - Type: Example
    - File name: AmericanFlightNoIDExample.raml
50. Click Create.
51. Delete any code in the new file and then paste the code you copied.
52. Delete the line of code containing the ID.


American Flights API | master
Files
examples
AmericanFlightExample.raml
AmericanFlightNoIDExample.raml
exchange_modules

```
#%RAML 1.0 NamedExample
value:
    code: ER38sd
    price: 400
    departureDate: 2017/07/26
    origin: CLE
    destination: SFO
    emptySeats: 0
    plane:
      type: Boeing 737
      totalSeats: 150
```

53. Return to american-flights-api.raml.
54. In the post method, go to a new line under type and add an example element.
55. Use an include statement to set the example to examples/AmericanFlightNoIDExample.raml.

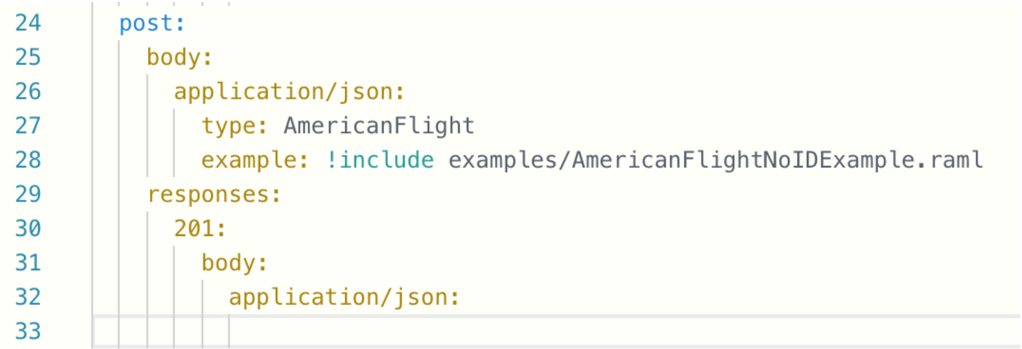


```
post:
  body:
    application/json:
      type: AmericanFlight
      example: !include examples/AmericanFlightNoIDExample.raml
```

Specify an example response for the /flights:post method

56. Go to a new line of code at the end of the /flights:post method and indent to the same level as body.

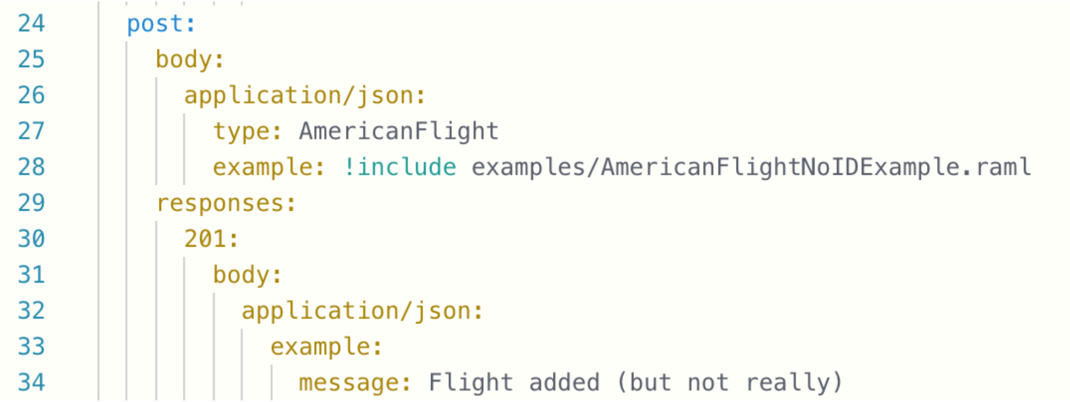
57. Add a 201 response of type application/json.



```
  post:
    body:
      application/json:
        type: AmericanFlight
        example: !include examples/AmericanFlightNoIDExample.raml
    responses:
      201:
        body:
          application/json:

```

58. In the shelf, click example.

59. Indent under example and add a message property equal to the string: Flight added (but not really).

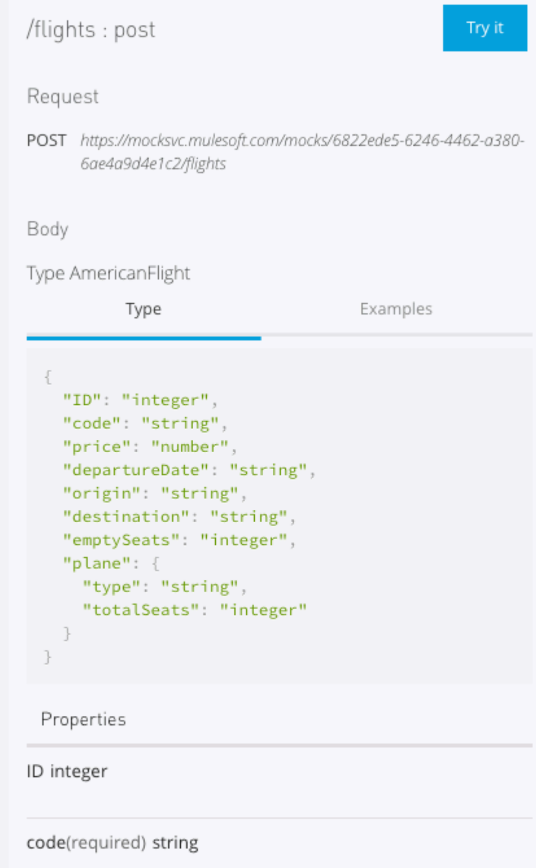


```
  post:
    body:
      application/json:
        type: AmericanFlight
        example: !include examples/AmericanFlightNoIDExample.raml
    responses:
      201:
        body:
          application/json:
            example:
              message: Flight added (but not really)
```

Review and test the /flights:post resource in API console

60. In API console, return to the /flights:post method.

61. Look at the request information; you should now see information about the body - that it is type AmericanFlight and it has an example.



/flights : post

Request

POST https://mocksvc.mulesoft.com/mocks/6822ede5-6246-4462-a380-6ae4a9d4e1c2/flights

Body

Type AmericanFlight

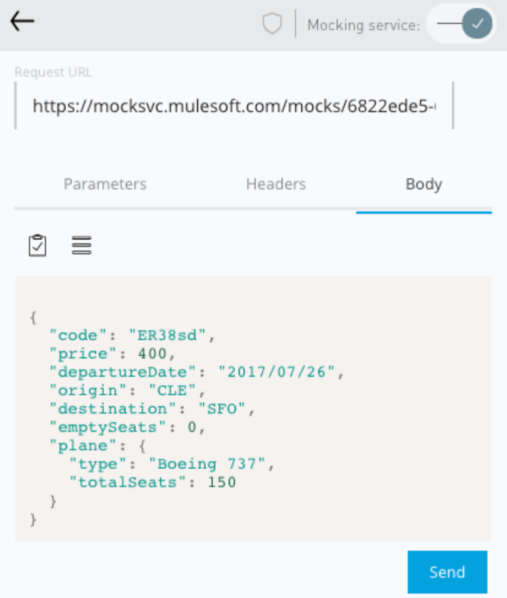
```
{
  "ID": "integer",
  "code": "string",
  "price": "number",
  "departureDate": "string",
  "origin": "string",
  "destination": "string",
  "emptySeats": "integer",
  "plane": {
    "type": "string",
    "totalSeats": "integer"
  }
}
```

Properties

ID integer

code(required) string

62. Click the Try it button and select the Body tab again; you should now see the example request body.

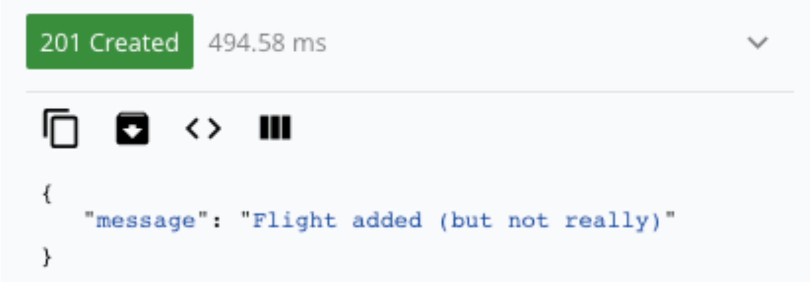


Request URL

https://mocksvc.mulesoft.com/mocks/6822ede5-

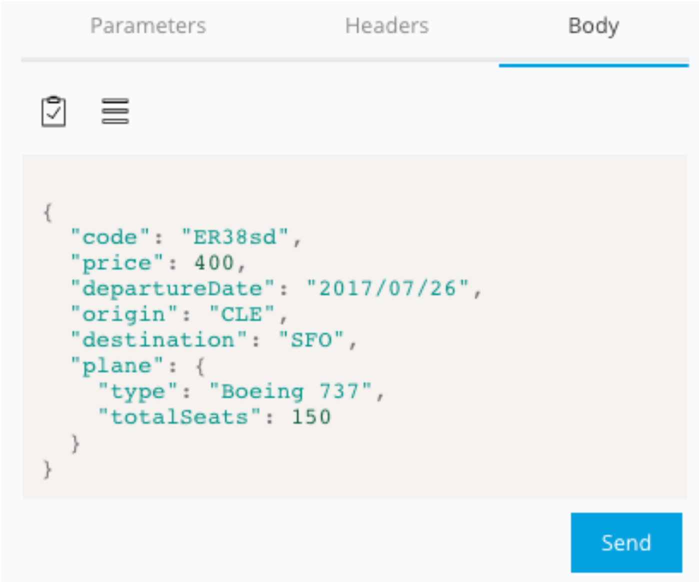
```
{
  "code": "ER38sd",
  "price": 400,
  "departureDate": "2017/07/26",
  "origin": "CLE",
  "destination": "SFO",
  "emptySeats": 0,
  "plane": {
    "type": "Boeing 737",
    "totalSeats": 150
  }
}
```

63. Click the Send button; you should now get a 201 response with the example message.



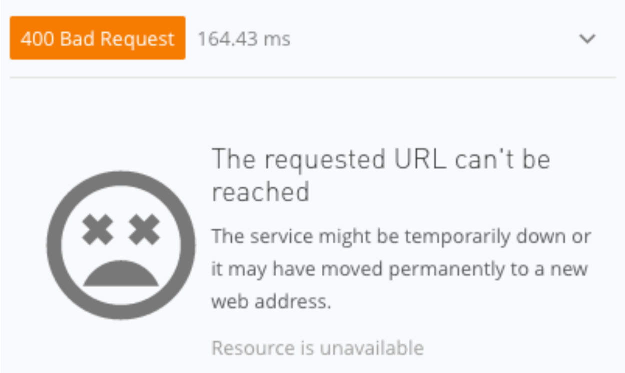
```
{
   "message": "Flight added (but not really)"
}
```

64. In the body, remove the emptySeats properties.



```
{
  "code": "ER38sd",
  "price": 400,
  "departureDate": "2017/07/26",
  "origin": "CLE",
  "destination": "SFO",
  "plane": {
    "type": "Boeing 737",
    "totalSeats": 150
  }
}
```

65. Click Send again; you should get a 400 Bad Request response.



The requested URL can't be reached

The service might be temporarily down or it may have moved permanently to a new web address.

Resource is unavailable

66. Add the emptySeats property back to the body.