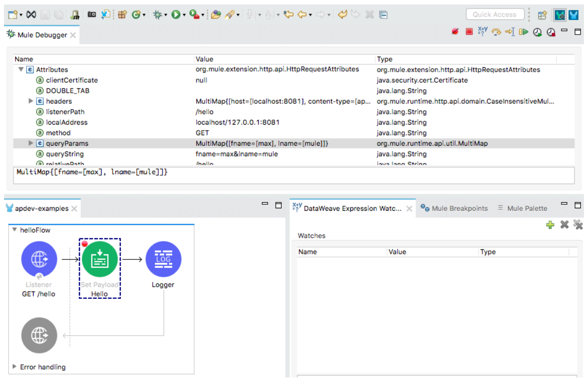
Walkthrough 6-2: Debug a Mule application

In this walkthrough, you debug and step through the code in a Mule application. You will:

- Locate the port used by the Mule Debugger.
- Add a breakpoint, debug an application, and step through the code.
- Use the Mule Debugger to view event properties.
- Pass query parameters to a request and locate them in the Mule Debugger.
- Increase the request timeout for Advanced REST Client.



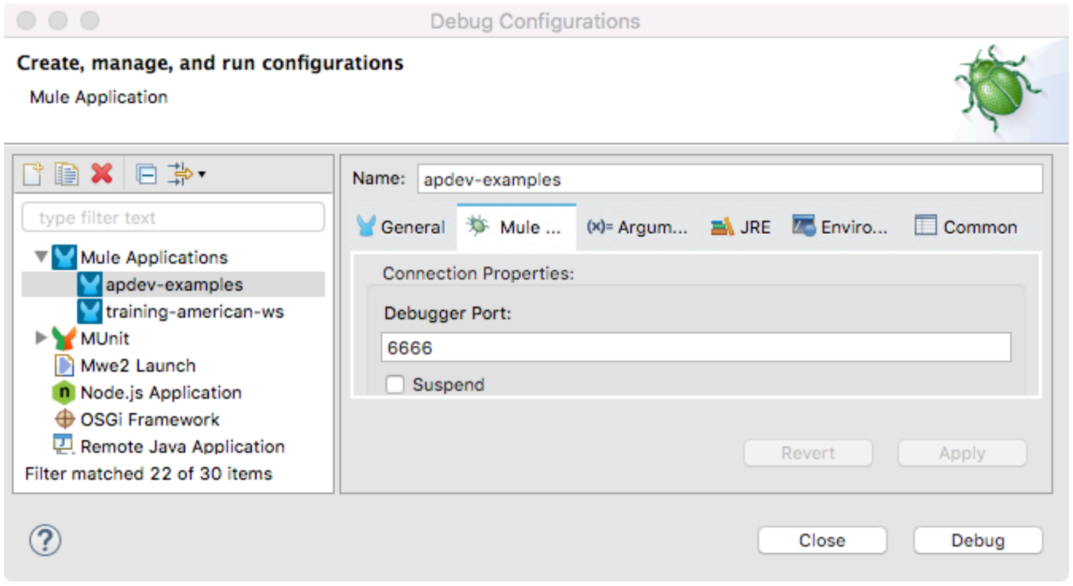
Name	Value	Type
Attributes	org.mule.extension.http.api.HttpRequestAttributes	org.mule.extension.http.api.HttpRequestAttributes
clientCertificate	null	java.security.cert.Certificate
DOUBLE_TAB		java.lang.String
headers	MultiMap{[host=[localhost:8081], content-type=[ap...	org.mule.runtime.http.api.domain.CaseInsensitiveMul...
listenerPath	/hello	java.lang.String
localAddress	localhost/127.0.0.1:8081	java.lang.String
method	GET	java.lang.String
queryParams	MultiMap{[fname=[max], lname=[mule]]}	org.mule.runtime.api.util.MultiMap
queryString	fname=max&lname=mule	java.lang.String
relativePath	/hello	java.lang.String

```
MultiMap{[fname=[max], lname=[mule]]}
```

Name	Value	Type

Locate the port used by the Mule Debugger

1. Return to Anypoint Studio.
2. In the main menu bar, select Run > Debug Configurations.
3. Select apdev-examples in the left menu bar under Mule Applications; you should see that the apdev-examples project is selected to launch.
4. Select the Mule Debug tab; you should see the debugger port is set to 6666 for the project.



Name: apdev-examples

Connection Properties:

Debugger Port: 6666

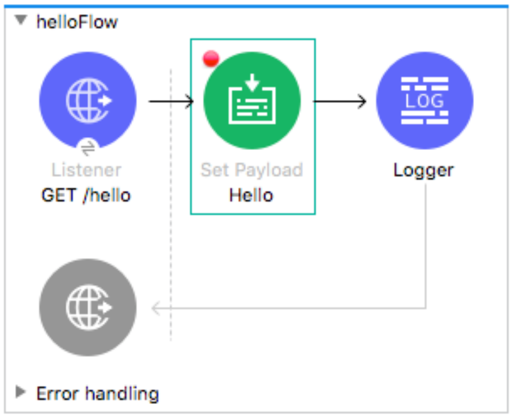
☐ Suspend

Note: If you know you have another program using port 6666 like McAfee on Windows, change this to a different value. Otherwise, you can test the Debugger first and come back and change the value here later if there is a conflict.

5. Click Close.

Add a breakpoint

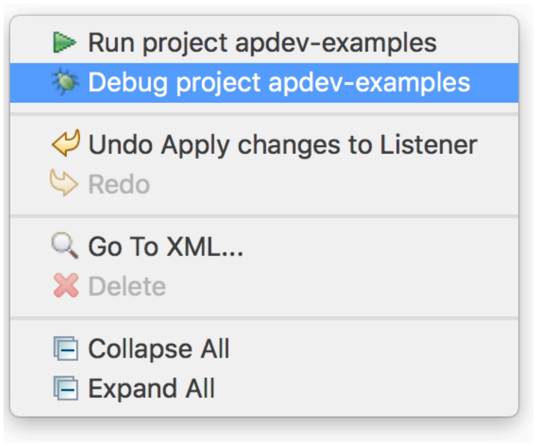
6. Right-click the Set Payload component and select Toggle breakpoint.



Debug the application

7. Right-click in the canvas and select Debug project apdev-examples.

Note: You can also select Run > Debug or click the Debug button in the main menu bar.

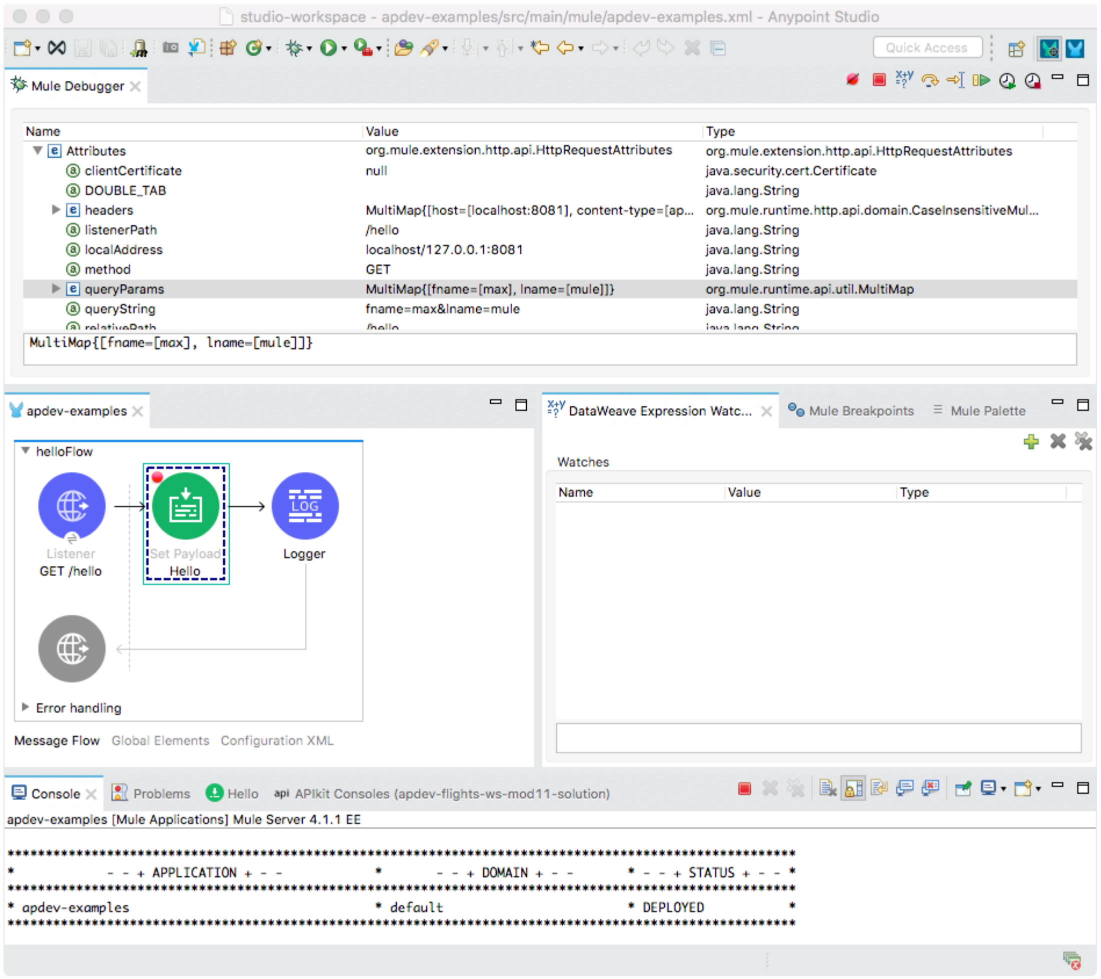

Run project apdev-examples
Debug project apdev-examples
Undo Apply changes to Listener
Redo
Go To XML...
Delete
Collapse All
Expand All

8. If you get a Confirm Perspective Switch dialog box, select Remember my decision and click Yes.
9. In the Debug perspective, close the MUnit view.
10. Look at the console and wait until the application starts.

11. In Advanced REST Client, make another request to http://localhost:8081/hello?fname=max&lname=mule.

View event data in the Mule Debugger

12. Return to Anypoint Studio and locate the Mule Debugger view.
13. Look at the value of the payload.
14. Expand Attributes and review the values.
15. Locate the queryParams object.



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listenerPath	/hello	java.lang.String
localAddress	localhost/127.0.0.1:8081	java.lang.String
method	GET	java.lang.String
queryParams	MultiMap{[fname=[max], lname=[mule]]}	org.mule.runtime.api.util.MultiMap
queryString	fname=max&lname=mule	java.lang.String
relativePath	/hello	java.lang.String

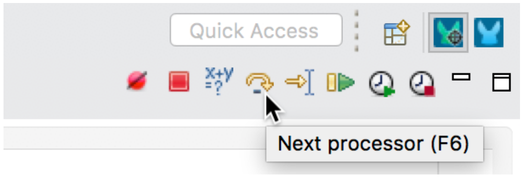
```
MultiMap{[fname=[max], lname=[mule]]}
```

Name	Value	Type

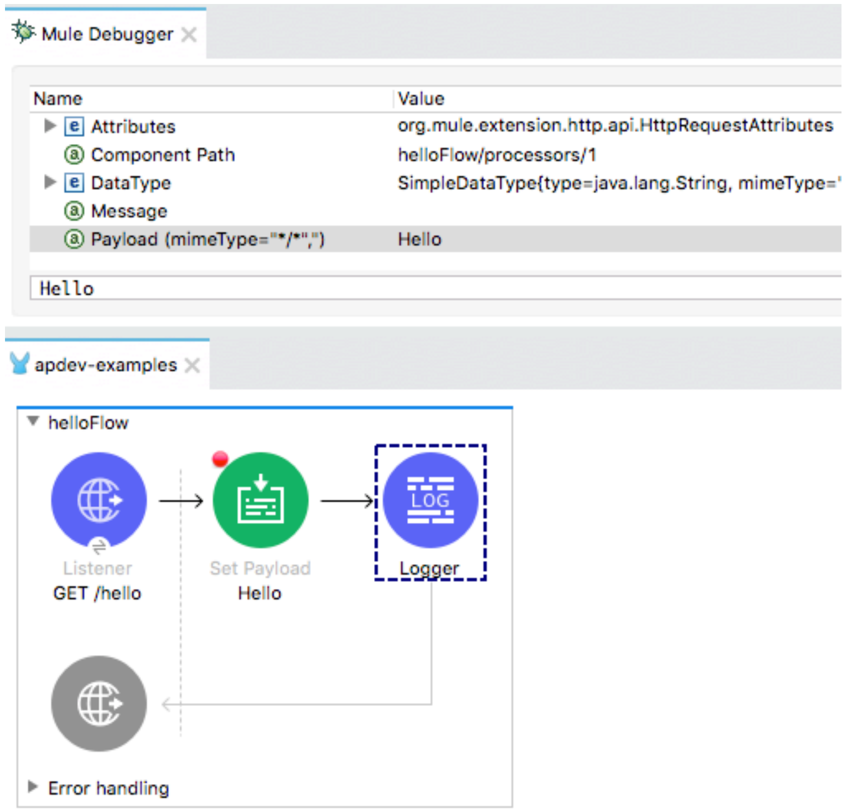
```
apdev-examples [Mule Applications] Mule Server 4.1.1 EE

**********************************************************************************************************
*            - - + APPLICATION + - -            *        - - + DOMAIN + - -        * - - + STATUS + - - *
**********************************************************************************************************
* apdev-examples                                * default                          * DEPLOYED           *
**********************************************************************************************************
```

Step through the application

16. Click the Next processor button.



17. Look at the new value of the payload; it should be Hello.



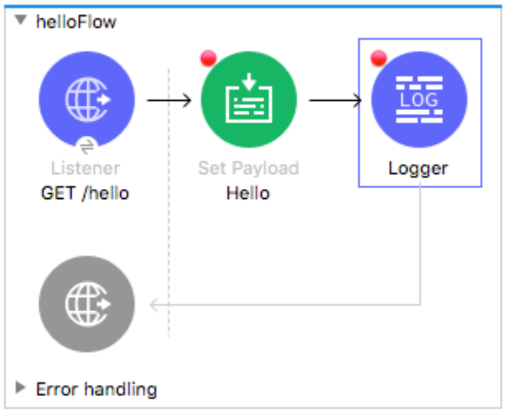
Name	Value
Attributes	org.mule.extension.http.api.HttpRequestAttributes
Component Path	helloFlow/processors/1
DataType	SimpleDataType{type=java.lang.String, mimeType='
Message	
Payload (mimeType="*/*",")	Hello

```
Hello
```

18. Expand Attributes and review the values.
19. Click the Next processor button again to finish stepping through the application.

Use Resume to step to the next breakpoint and then the end of the application

20. Add a breakpoint to the Logger.

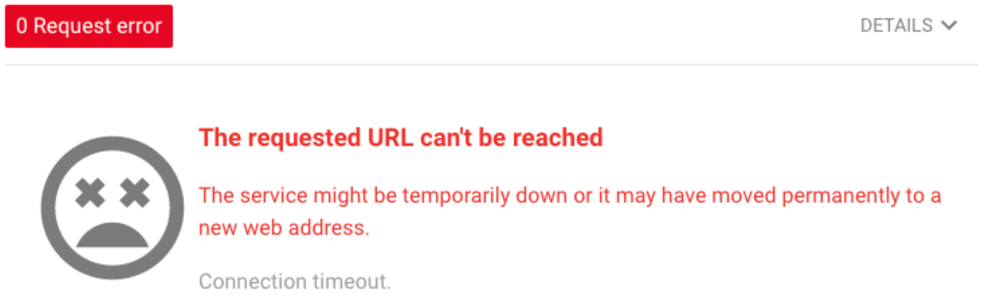


21. In Advanced REST Client, make another request to http://localhost:8081/hello?fname=max&lname=mule.

22. In the Mule Debugger, click the Resume button; you should step to the Logger.
23. Click the Resume button again; you should step through the rest of the application.

Cause the HTTP request to timeout

24. In Advanced REST Client, make another request to http://localhost:8081/hello?fname=max&lname=mule.
25. Do not step through the application and wait (45 seconds) for the request to timeout.



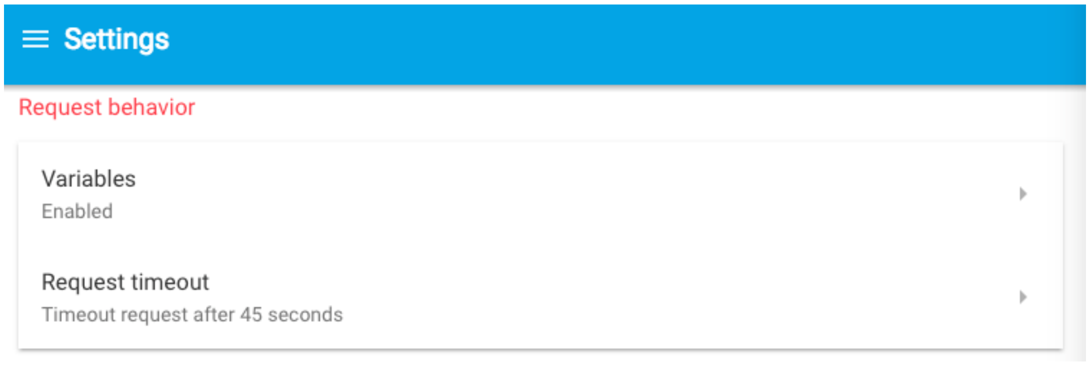
The requested URL can't be reached

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

Connection timeout.

Increase the request timeout for Advanced REST Client

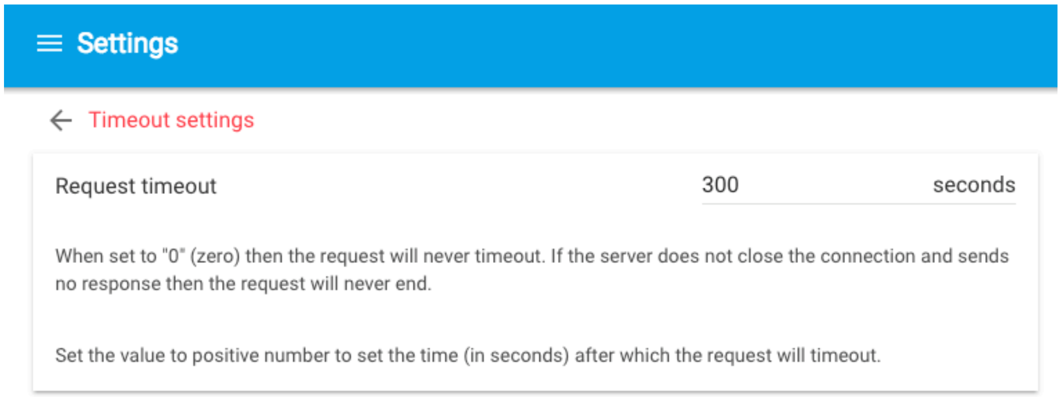
26. In the Advanced REST Client main menu, select Preferences.
27. In the Settings, locate the Request timeout setting and click the arrow next to it.



Variables
Enabled

Request timeout
Timeout request after 45 seconds

28. Change the request timeout to 300 seconds.

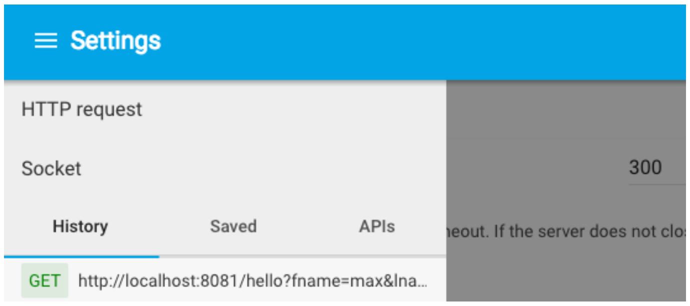


Request timeout 300 seconds

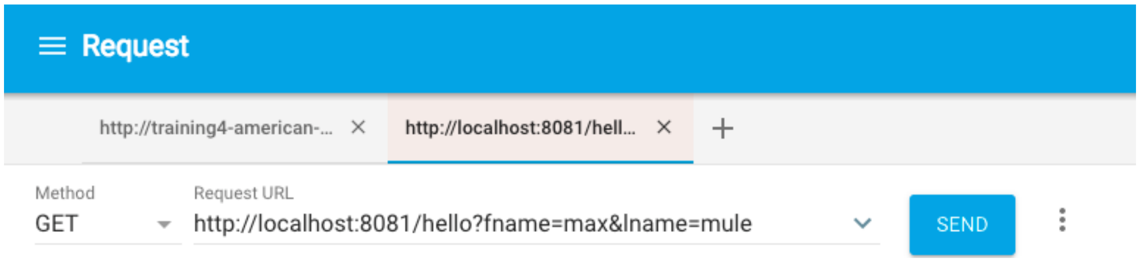
When set to "0" (zero) then the request will never timeout. If the server does not close the connection and sends no response then the request will never end.

Set the value to positive number to set the time (in seconds) after which the request will timeout.

29. Click the Toggle Drawer button in the upper-left corner next to Settings and click HTTP Request.

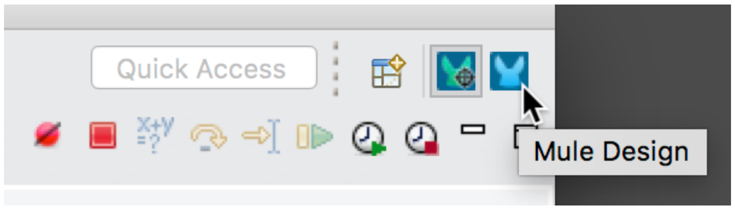

Settings
HTTP request
Socket
300
History
Saved
APIs
eout. If the server does not clo
GET
http://localhost:8081/hello?fname=max&lna...

30. Click the Toggle Drawer button again to hide the drawer; you should now see the Request screen again.


Request
http://training4-american-...
http://localhost:8081/hell...
Method
GET
Request URL
http://localhost:8081/hello?fname=max&lname=mule
SEND

Switch perspectives

31. Return to Anypoint Studio.
32. Click the Resume button.
33. Click the Mule Design button in the upper-right corner of Anypoint Studio to switch perspectives.



Note: In Eclipse, a perspective is a specific arrangement of views in specific locations. You can rearrange the perspective by dragging and dropping tabs and views to different locations. Use the Window menu in the main menu bar to save and reset perspectives.

34. Leave the project running.