Module 8: Consuming Web Services

Goal
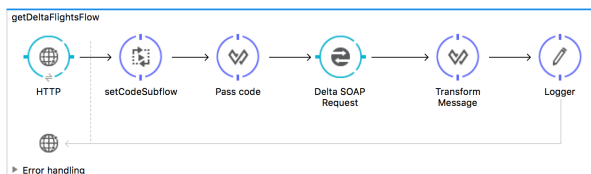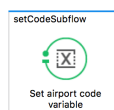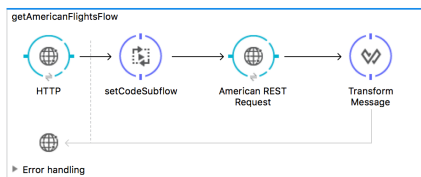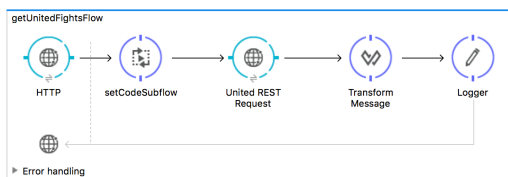
At the end of this module, you should be able to

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- Consume RESTful web services with and without parameters
- Consume RESTful web services that have RAML definitions
- Consume SOAP web services
- Use DataWeave to pass parameters to SOAP web services

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Consuming RESTful web services

Consuming RESTful web services

MuleSoft

- First check and see if there is an existing Anypoint Connector to connect to the service provider

- If there is not, use the HTTP Request connector
  – For the connector
    • Specify host, port, and optionally, a base path
  – For the endpoint
    • Specify path and method
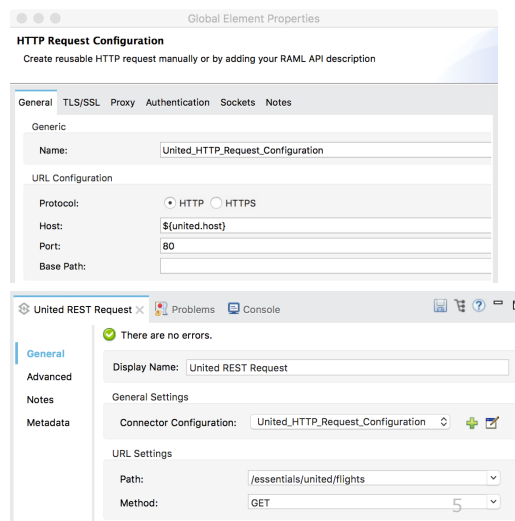
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Walkthrough 8-1: Consume a RESTful web service

MuleSoft

- Create a new flow to call a RESTful web service
- Use an HTTP Request endpoint to consume a RESTful web service
- Use DataWeave to transform the JSON response into JSON specified by an API

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Passing arguments to RESTful web services

Passing data to a RESTful web service
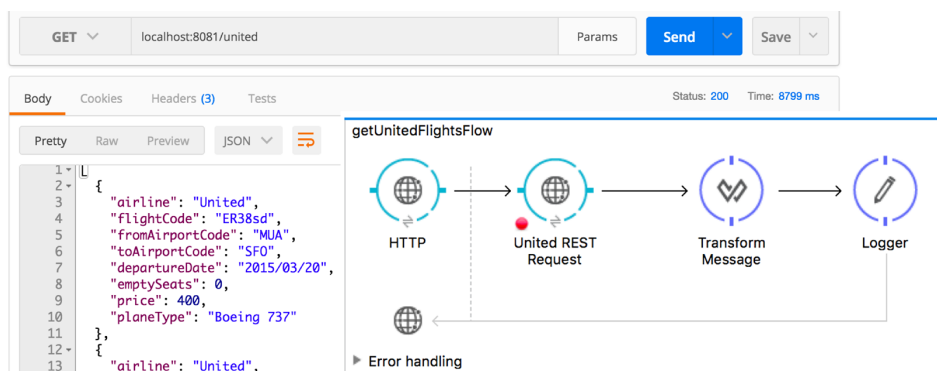
MuleSoft

- For an HTTP Request endpoint, you can add parameters
  - URI parameters
  - Query parameters
  - Headers

Parameters

uri-param   Name: customer_id   Value: 2

Add Parameter

- Send form parameters with a request by setting them in the payload

Set Payload

- Include attachments by adding an Attachment transformer to your flow
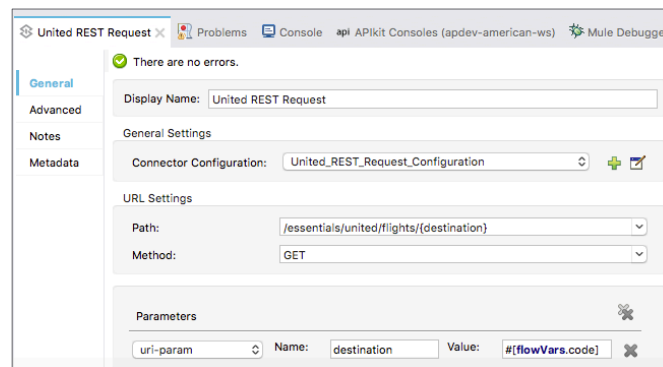
Attachment

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Walkthrough 8-2: Pass arguments to a RESTful web service

- Modify the HTTP Request endpoint to use a URI parameter
- Set the destination to a static value
- Create a flow variable to store the value of a query parameter
- Set the URI parameter to the dynamic value of this flow variable

Consuming RESTful web services that have RAML definitions

Consuming RESTful web services that have RAML definitions

MuleSoft

- A RAML location (local file or external URI) can be specified for an HTTP Request connector
- After you specify a RAML location
  - All fields will be automatically populated based on what's specified in the RAML
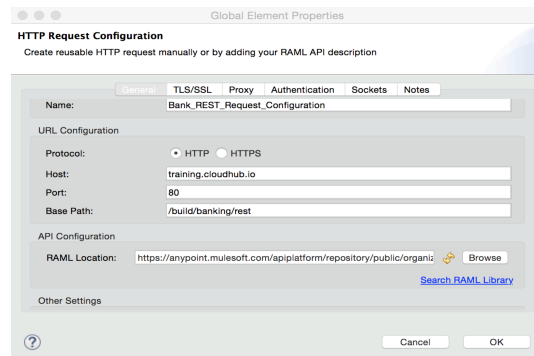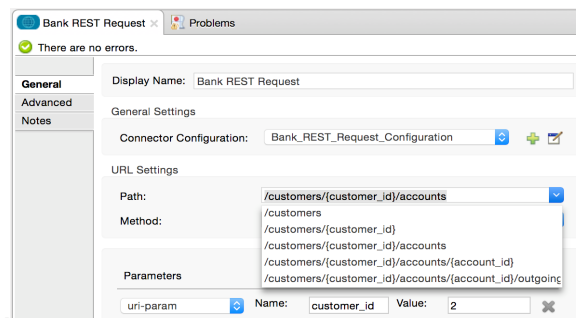

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RAML metadata

MuleSoft

- Will be obtained every time you open the project in Anypoint Studio
- Is kept in cache until you close the project
- Can be refreshed /reloaded if the RAML changes
- Is used by Anypoint Studio to offer intelligent suggestions

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Walkthrough 8-3: Consume a RESTful web service that has a RAML definition

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- Create a new flow to call a RESTful web service that has a RAML definition
- Select the web service resource from the list provided by Anypoint Studio from the RAML file
- Use DataWeave to transform the JSON response into JSON specified by an API

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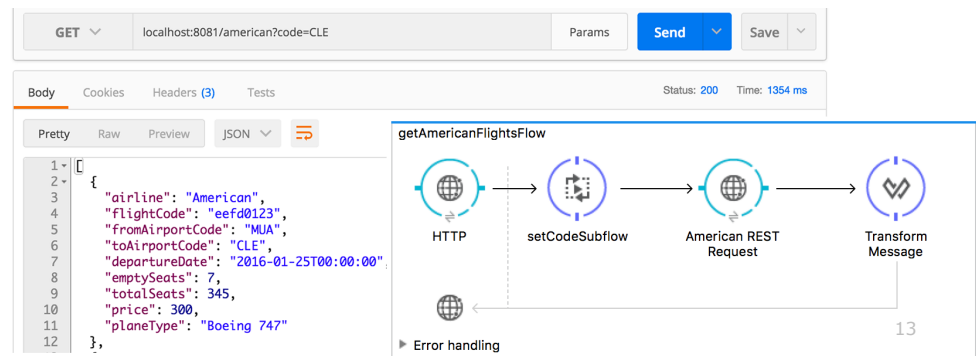
Consuming SOAP web services

Mule's SOAP support is based on Apache CXF

MuleSoft

- CXF is a web services framework in Java for SOAP messaging
- Handles all serialization and deserialization
- Handles all SOAP envelope and namespace processing
- Developer sees only POJOs, etc. - not SOAP XML

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Consuming SOAP web services

MuleSoft

- First check and see if there is an existing Anypoint Connector to connect to the service provider

- If there is not, use the Web Service Consumer connector
  - Provide the location of the WSDL
  - The rest will be configured for you: host, port, address, available operations

Web Service Consumer

- If you need more features, use the CXF component
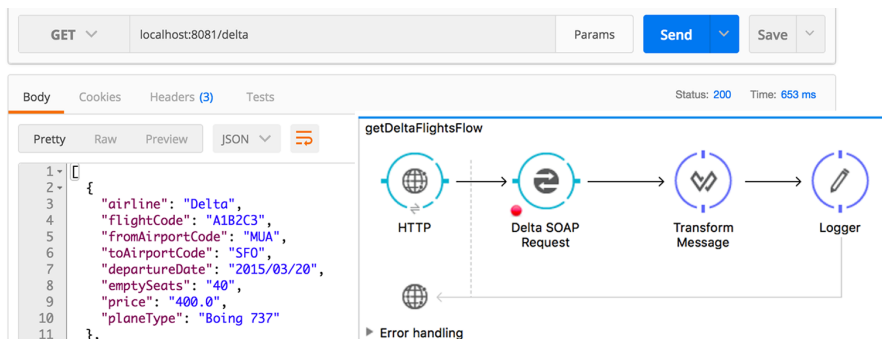 - Also used to expose an endpoint as a SOAP service

CXF

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Walkthrough 8-4: Consume a SOAP web service

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- Create a new flow to call a SOAP web service
- Use a Web Service Consumer endpoint to consume a SOAP web service for Delta flight data.
- Use DataWeave to transform the XML response into JSON specified by the MUA Flights API
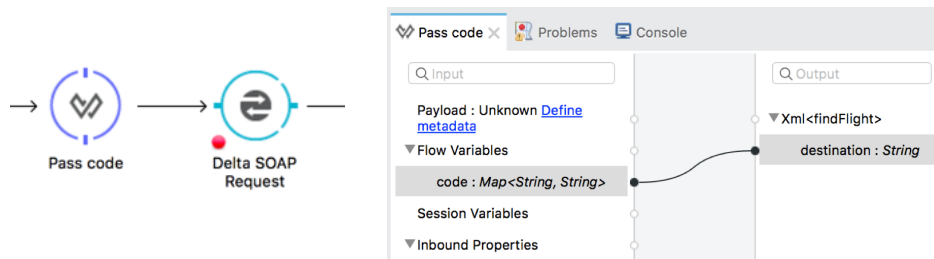

Passing arguments to SOAP web services with DataWeave

Passing data to a SOAP web service
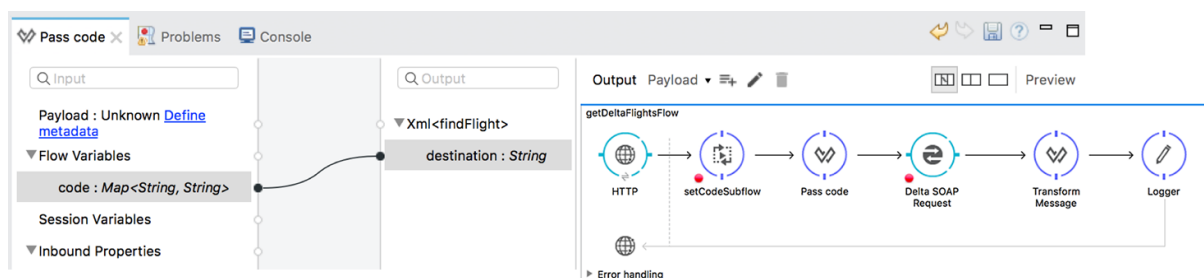
• Use DataWeave to add and map an input argument

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Walkthrough 8-5: Pass arguments to a SOAP web service

• Change the web service operation invoked to one that requires a destination as an input argument
• Set a flow variable to the desired destination
• Use DataWeave to pass the flow variable to the web service operation

Summary

Summary

MuleSoft

- Use the **HTTP Request** connector to consume REST web services
  – With or without URI parameters and query parameters
  – With or without a RAML definition
- Use the **Web Service Consumer** connector to consume SOAP web services
- Use the DataWeave Transform Message component to pass arguments to SOAP web services

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