WSO2 API Manager 4.1.0 Fundamentals - Integration Profile

Debugging Mediation and Error Handling

WSO2 Training

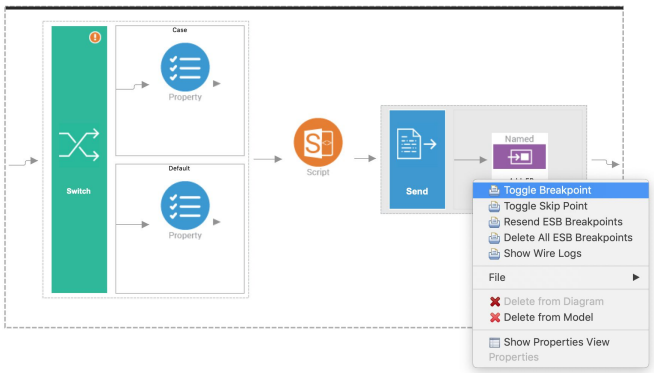
Module Objectives

At the end of this module, attendees will be able to:

- Use WSO2 Micro Integrator to mediate messages.
- Use mediators for error handling.

Mediation Debugging

The **Mediation Debugger** in WSO2 Integration Studio can debug a message mediation flow in the Micro Integrator.



The Mediation Debugger enables you to debug a message mediation flow in the Micro Integrator. With the Mediation Debugger, you can add breakpoints or skip points on the mediators where debugging is required.

Mediation debugging is useful to:

- Make sure that independent mediation units operate as expected.
- Make sure that the combination of units operate as expected.
- Inspect message properties at intermediate points.
- Inject properties to the message during the flow.

Let’s try it out!

Mediation Debugging

Mediation Error Handling

Fault Sequence	Define a mediation logic to trigger error messages. The fault sequence logs the error, sends messages and notifications etc.
Fault Mediator	Sends appropriate error messages to the client.

Examples:

- If a badly formatted message is received by the Micro Integrator, the Fault mediator creates a SOAP error message and returns to the client.
- If a message is not specified according to the WSDL, the service returns an error wrapped in a SOAP envelope.

Endpoint Error Handling

Endpoint States

- Active
- Timeout
- Suspended
- OFF

Configuring Address (leaf) Endpoints

- Timeout settings (Allows the endpoint to recover from the Suspend state)
- Mark for suspension settings
- Retry options
- Guaranteed delivery
- Failover endpoints (i.e. disaster recovery endpoint if the main endpoint fails)
- The *suspendOnFailure* settings

With leaf endpoints, if an error occurs during a message transmission process, that message will be lost. The failed message will not be retried again. These errors occur very rarely, but still message failures can occur. With some applications, these message losses are acceptable. However, if even rare message failures are not acceptable, use the failover endpoint.

When a message comes to the Failover state, it will go through its list of endpoints to pick the first one in Active or Timeout state. Then it will send the message using that particular endpoint. If an error occurs while sending the message, the failover will go through the endpoint list again from the beginning and will try to send the message using the first endpoint.

Some errors put the endpoint into Timeout state and some keep the endpoint in Active state. In these cases, the retry can happen using the same endpoint. If the failure occurs with the first endpoint within the failover group and this error does not put the endpoint into Suspended state, the retry will happen using the same endpoint.

Failover gives priority to the first endpoint that is not in the Suspended state. So it will send the message through the first endpoint in the failover group, as long as it is not Suspended. When the first endpoint is Suspended, it will send the requests using the second endpoint. When the first endpoint becomes ready to send again, it will try again on the first endpoint even though the second endpoint is still active. If there is only one service endpoint and the message failure is not tolerable, failovers are possible with a single endpoint.

Wire Logs

You can view the the actual HTTP messages at the entry point of the Micro Integrator via wire logs.

You can view wire logs for the following:

- Specific mediator
- While debugging a specific mediator
- While debugging in general
- Proxy service after debugging

https://apim.docs.wso2.com/en/4.1.0/integrate/develop/using-wire-logs/