

WSO2 API Manager 4.1.0 Fundamentals - Integration Profile

Mediation Best Practices





Module Outline

At the end of this module, attendees will be able to understand the best practices for the following:

- Designing the solution.
- Using templates.
- Using mediators.
- Using endpoints.
- Mediation best practices.
- Using a test environment.



Designing the Solution

• Use the proper naming convention from the start:

<ProjectName>_<FileName>_<FileType>.<Extension>
Ex: Student_Student_Sequence.xml, Stocks_StockQuote_FileInbound.xml

- To create and manage artifacts, use WSO2 Integration Studio.
- Create specific ESB modules for specific use cases.
- If an ESB module contains many artifacts related to multiple use cases, name the artifacts by prefixing or post fixing the use case name.
- Highly cohesive (strength of relationship among features in a module).
- Loosely coupled (interdependencies among modules).



Use of Templates

Improves readability and reusability

Endpoint templates

```
<endpoint template="name" ...>
<parameter name="name"
value="value"/>
.....
</endpoint>
```

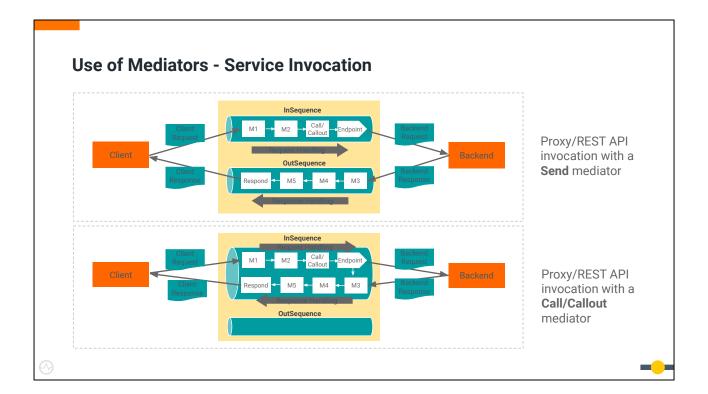
Sequence templates

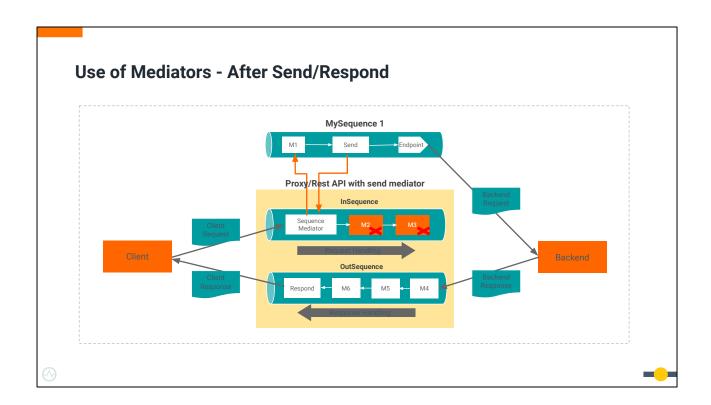
```
<call-template target="template" > 
<parameter name="name" 
value="value"/> 
..... 
</call-template>
```



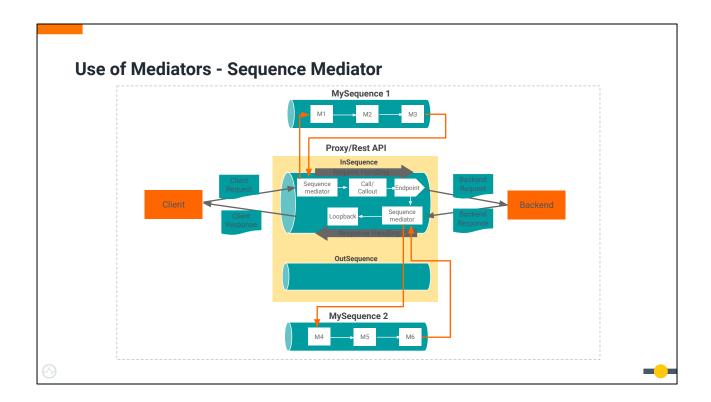
Use of Mediators - Log Mediator

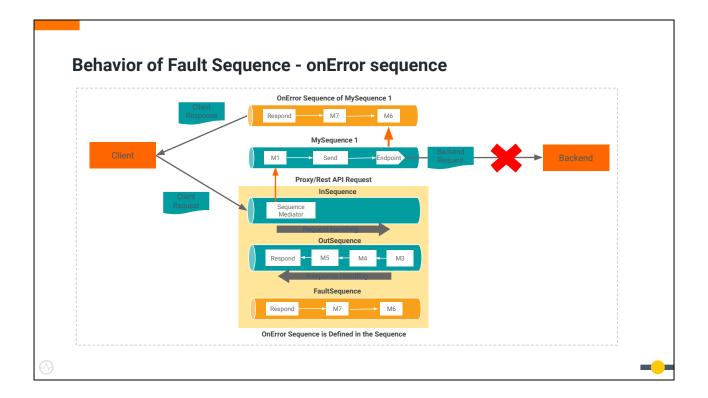
- When server runs smoothly -> shouldn't print any logs
- When an error occurs -> sufficient logs to help fix the issue
- Use log mediators in fault sequences:





Usage of Loopback Mediator Usage of Loopback Mediator InSequence Client Cli





Behavior of Fault Sequence - Default Proxy/Rest API Request InSequence OutSequence Respond M5 M4 M3 Fault Sequence is "not" Defined in the Proxy/Rest API Request Fault Sequence is "not" Defined in the Proxy/Rest API Request

Endpoints - Best Practices

- Do not use anonymous endpoints. Always use named endpoints.
- Configure timeout settings appropriately. Timeout configurations are required before you go into production with the system.
- Use the HTTP endpoint for RESTful service invocations.
- Do not include endpoint environment/version details when referencing.
- Reference endpoint key values are constant across all environments. (e.g. \$SYSTEM:WeatherServiceEP).
- Ensure endpoint definitions are accurate in all environments.

https://ei.docs.wso2.com/en/7.1.0/micro-integrator/references/best-Practices/#working-with-endpoints

Mediation Best Practices

- Use the Call mediator instead of the Send mediator.
- Use the ForEach mediator only for message transformations. If you need to make back-end calls from each iteration, use the Iterate mediator.
- Do not use the DB mediators (DBReport and DBLookup) with complex SQL queries or in scenarios where you need to simultaneously retrieve multiple rows.
- Use the Respond mediator as the last mediator if you want the message to be sent back to the client.

https://ei.docs.wso2.com/en/7.1.0/micro-integrator/references/best-Practices/#usin g-mediators

Test Environment

- Identical to production
- Load/performance tests (replicate production use-cases)
- Endurance tests (long running tests)
- UAT (User Acceptance Tests)