# **Practical Exercise: Enabling and Observing Gateway Wirelogs**

Training Objective

Learn how to enable and observe Gateway wirelogs.

Business Scenario

PizzaShack has encountered an issue with one of their APIs. In order to deduce the issue they want to observe the incoming and outgoing requests to the Gateway.

High-Level Steps

* Enable wire logs and observe the incoming and outgoing requests to the Gateway.

Detailed Instructions

Gateway wire logs can be configured to monitor the HTTP message flow through API Gateway. Wire logs allow you to track the request headers, request payloads, response headers, response payloads etc of incoming and outgoing http traffic.

### **Enabling the Gateway Wire Logs**

1. Open the <API-M\_HOME>/repository/conf/log4j2.properties file.
2. Locate the synapse-wire logger, which is already defined in the default log4j2.properties file.

logger.synapse-wire.name = org.apache.synapse.transport.http.wire logger.synapse-wire.level = DEBUG

You can use the synapse-headers logger to log the request and response headers only.

logger.synapse-headers.name = org.apache.synapse.transport.http.headers

logger.synapse-headers.level = DEBUG

1. Append the synapse-wire logger name to the loggers configuration which is a comma separated list of all the active loggers.

loggers = synapse-wire, trace-messages, org-apache-coyote,com-hazelcast

If you want to activate the Wire Logs only for message headers, you can activate synapse-headers logger.

loggers = synapse-headers, trace-messages, org-apache-coyote,com-hazelcast

1. Observe the logs for incoming and outgoing traffic in the <API-M\_HOME>/repository/logs/wso2carbon.log file.

In order to read the wire logs, you must first identify message direction.

|  |  |
| --- | --- |
| DEBUG - wire >> | Represents the message coming into the API Gateway from the wire. |
| DEBUG - wire << | Represents the message that goes to the wire from the API Gateway. |

In a single roundtrip of an API request/response, you can observe following message flows via the wire log.

* Incoming request to API gateway from API client (>>).
* Outgoing request from API gateway to actual backend (<<).
* Incoming response from actual backend to API gateway (>>).
* Outgoing response from API gateway to API client (<<).

The following table explains about the Listener and Sender Dispatchers.

|  |  |
| --- | --- |
| **Dispatcher** | **Task** |
| HTTP-Listener I/O Dispatcher-4 >> | This shows you the initial request coming from the client like curl into the Gateway. (Incoming Request) |
| HTTP-Sender I/O Dispatcher-3 << | This shows you the processed request going out from the Gateway to the External Backend. (Outgoing Request) |
| HTTP-Sender I/O Dispatcher-3 >> | This shows you the response sent by the backend to the Gateway. (Incoming Response) |
| HTTP-Listener I/O Dispatcher-4 << | This shows the response served to the client from the Gateway. (Outgoing Response) |

1. Make an API request and Observe the logs for incoming and outgoing traffic in <APIM\_HOME>/repository/logs/wso2carbon.log file.

Expected Outcome

As a result of this exercise, you will be able to enable gateway wire logs and observe the incoming and outgoing requests to Gateway.