Messaging Binding Usage Scenarios for Policy Manager

SOA | software™

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Chapter 1 | Introduction

This document describes how to perform the following tasks in SOA Software Policy Manager.

- Create AMQP binding for services of any type (REST, Messaging, SOAP).
- Create a virtual service that provides a messaging (AMQP or JMS) interface to one or more existing services of any type (REST, Messaging, SOAP).
- Create a virtual service that provides a RESTful interface for placing messages onto, and pulling messages from a JMS or AMQP queue.

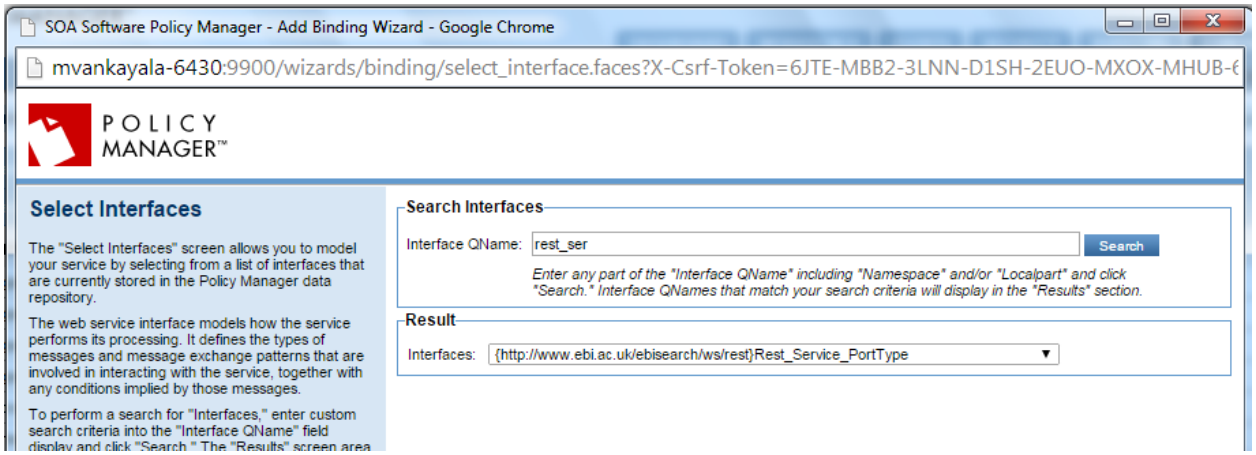
Chapter 2 | Add Messaging Binding (AMQP or JMS)

1 Launch the *Policy Manager Management Console.*

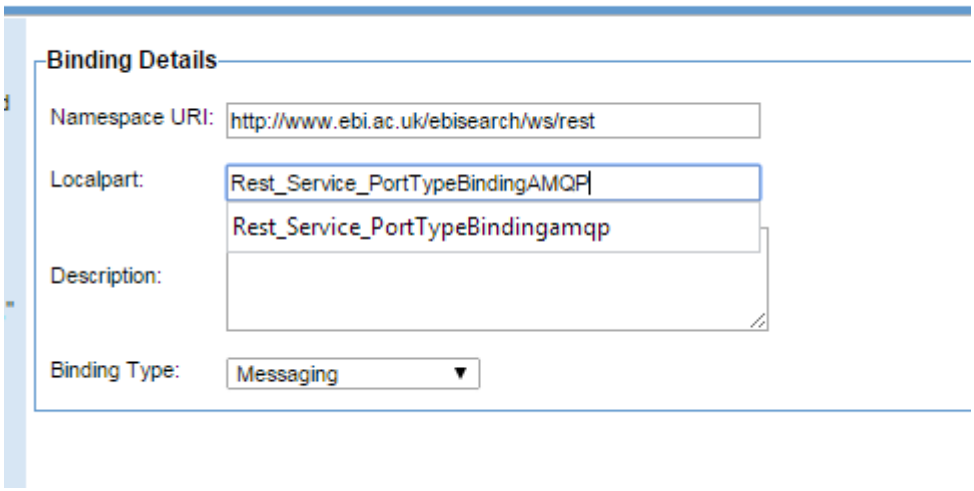
2 Select **Create Physical Service**, create a physical service with http://www.ebi.ac.uk/ebisearch/ws/rest?_wadl

3 Navigate to *Configure >Registry >Bindings* and select **Add Binding**.

4 Select the service added in Step 2.



5 On the next screen, select the Messaging Binding type.



6 In next screen, select AMQP as the Transport protocol.

7 Provide Destination and Reply To fields with desired I/O/Fault Serializations.

8 Select Part type in *Parts* section. This sections is used to assign Path parameters, Query parameters, Body parameters (e.g., http://agubba-e6420:9901/VS/{domainid}/entry/{entryids}?fields=<fields>&fieldurl=<fieldurl>&viewurl=<viewurl>&format<format>) is the URL to hit. In that case, the Binding screen configuration should be something like

Operation: GET____domainid__entry__entryids_

Destination Type:	Queue ▼
Destination Name:	dynamicQueues/dest5
Input Content Type:	application/xml
Output Content Type:	application/json
Fault Content Type:	application/json
Reply To:	dynamicQueues/dest6

Parts

Part	Name	Type	Value
fieldurl	fieldurl	Property ▼	true
entryids	entryids	Property ▼	WAP_RAT,WAP_MOUSE
viewurl	viewurl	Property ▼	true
domainid	domainid	Property ▼	uniprot
format	format	Property ▼	json
fields	fields	Property ▼	descAltName,organism_scientific_name

So that the request will hit, http://agubba-e6420:9901/VS/uniprot/entry/WAP_RAT,WAP_MOUSE?fields=descAltName,organism_scientific_name&fieldurl=true&viewurl=true&format=json

9 Provide an XPath or SQL query for Use selector option (e.g., Operation='get').

10 After adding the required fields, finish the process.

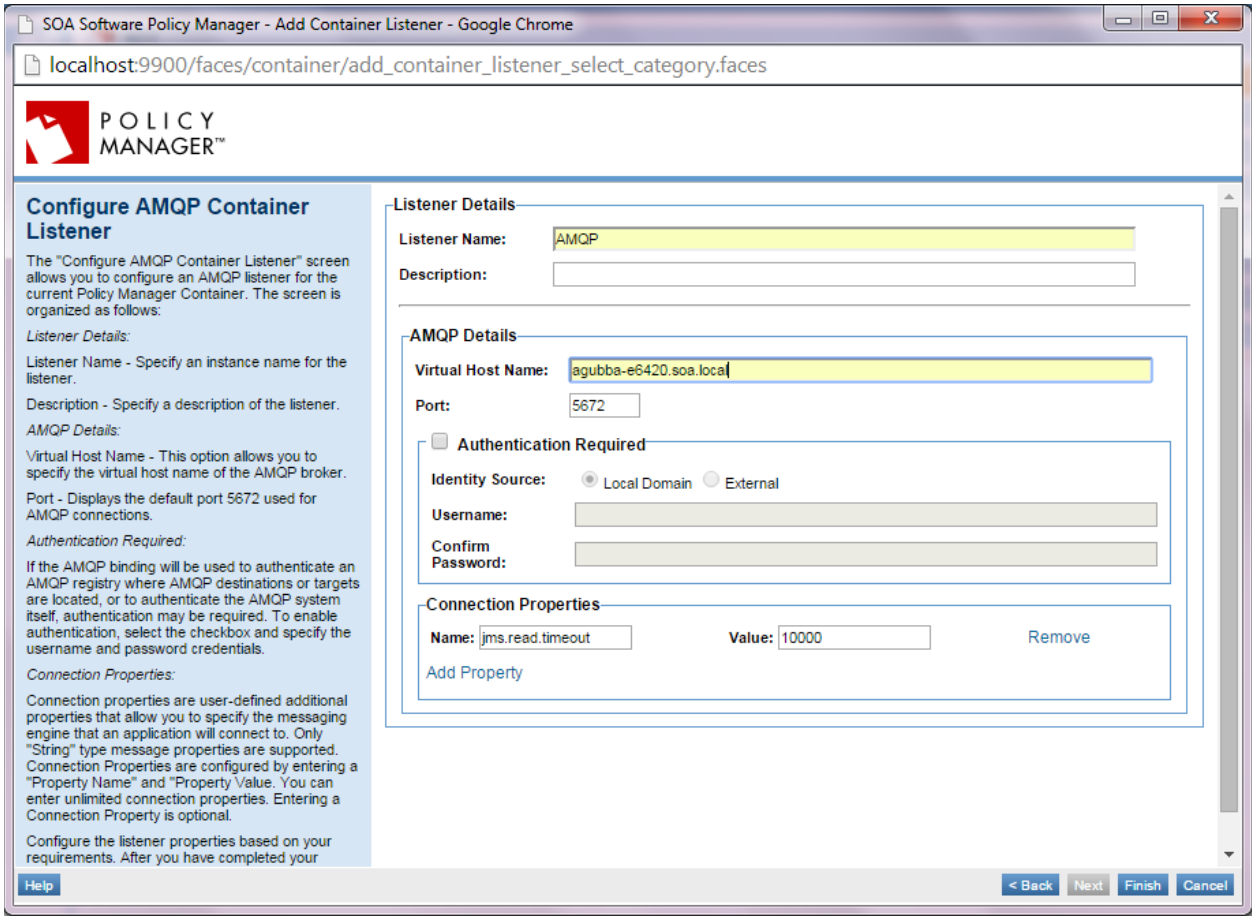
11 Similarly, select JMS in Transport field, if it is desired to have a Messaging Binding over JMS protocol

Chapter 3 | Add AMQP listener

1 Select the *Containers* folder where you will be adding the AMQP listener, and select **Add Listener**.

2 Select the AMQP Listener type.

3 Add an AMQP listener with details as shown below.

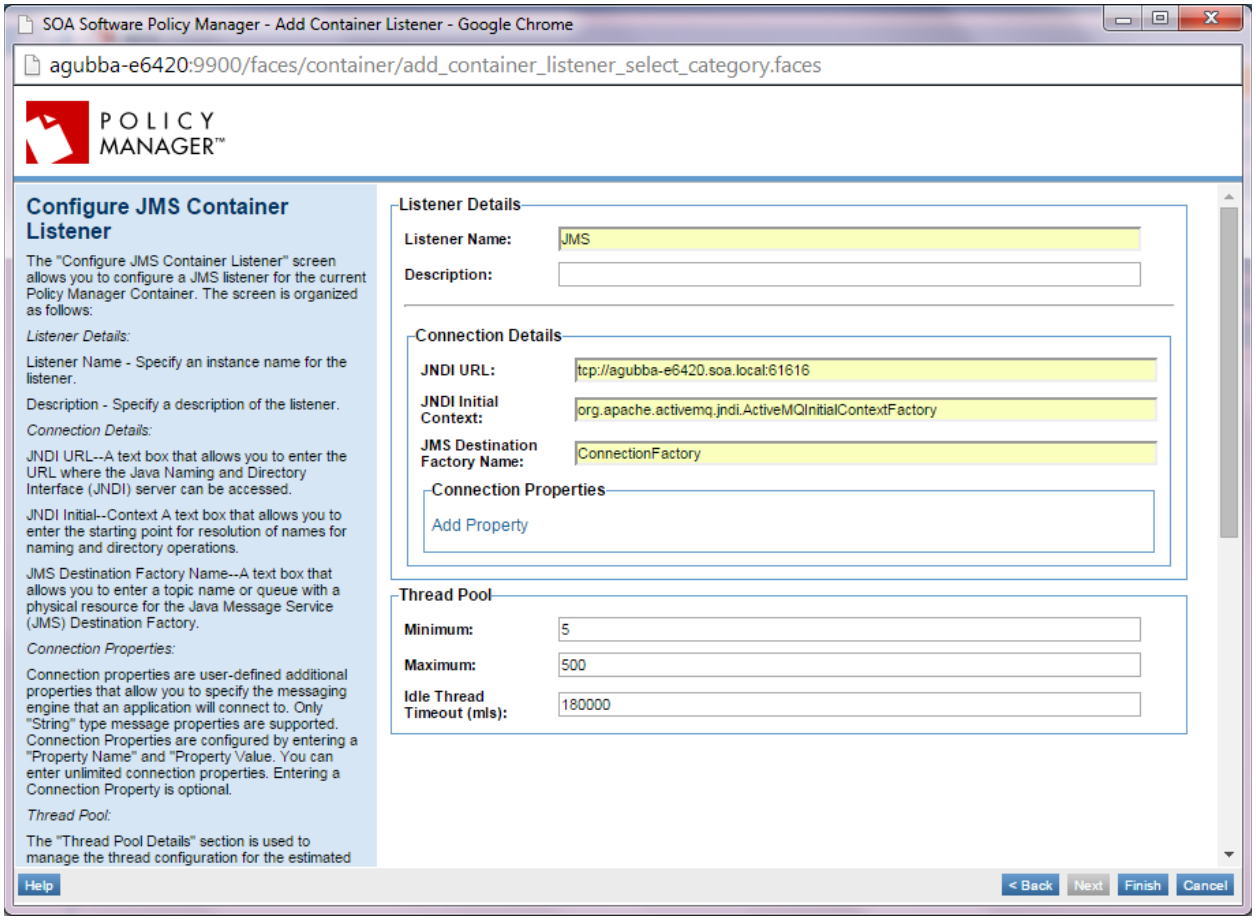


Chapter 4 | Add JMS listener

1 Select the *Containers* folder and Network Director (**ND1**) container where you will be adding the JMS listener, and select **Add Listener**.

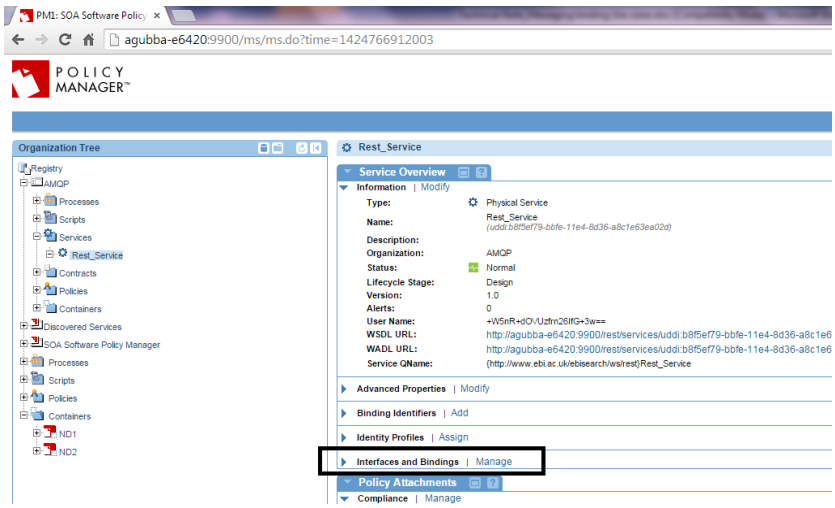
2 Select the JMS listener type.

3 Add the JMS listener with details as shown below.

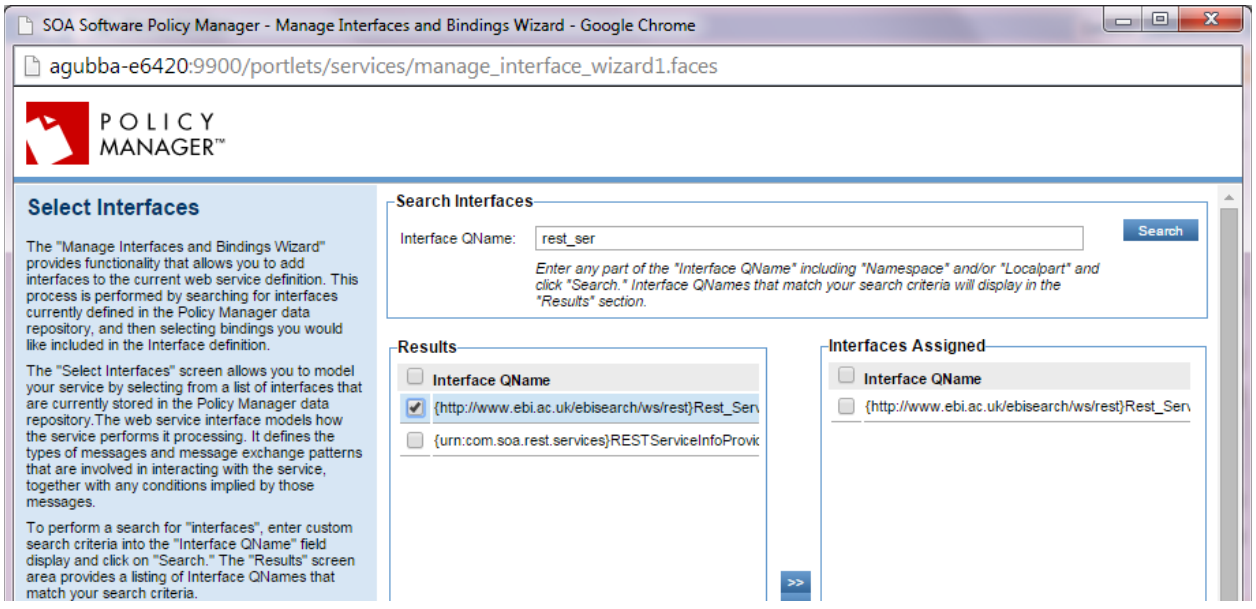


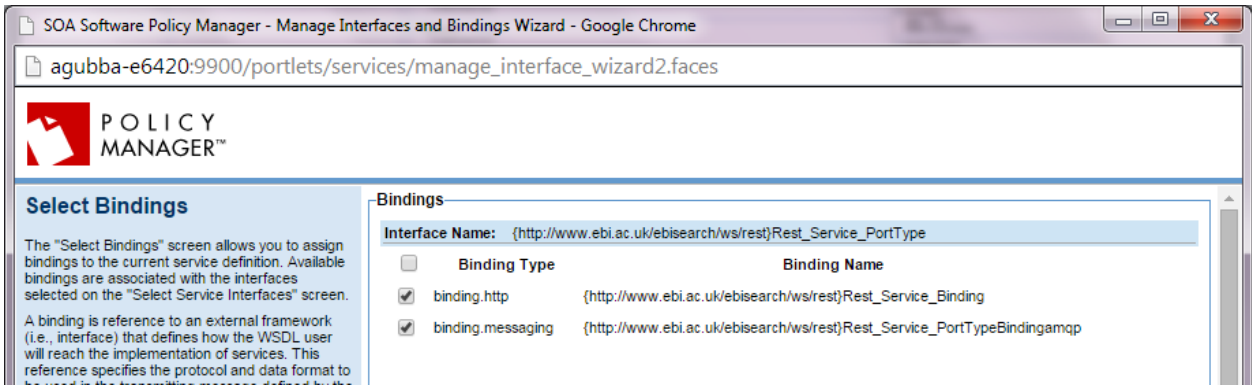
Chapter 5 | Assign Messaging Binding to Service

1 Select the Services folder for the Physical Service. In the *Service Overview* section select **Manage** in the *Interfaces and Bindings* section.

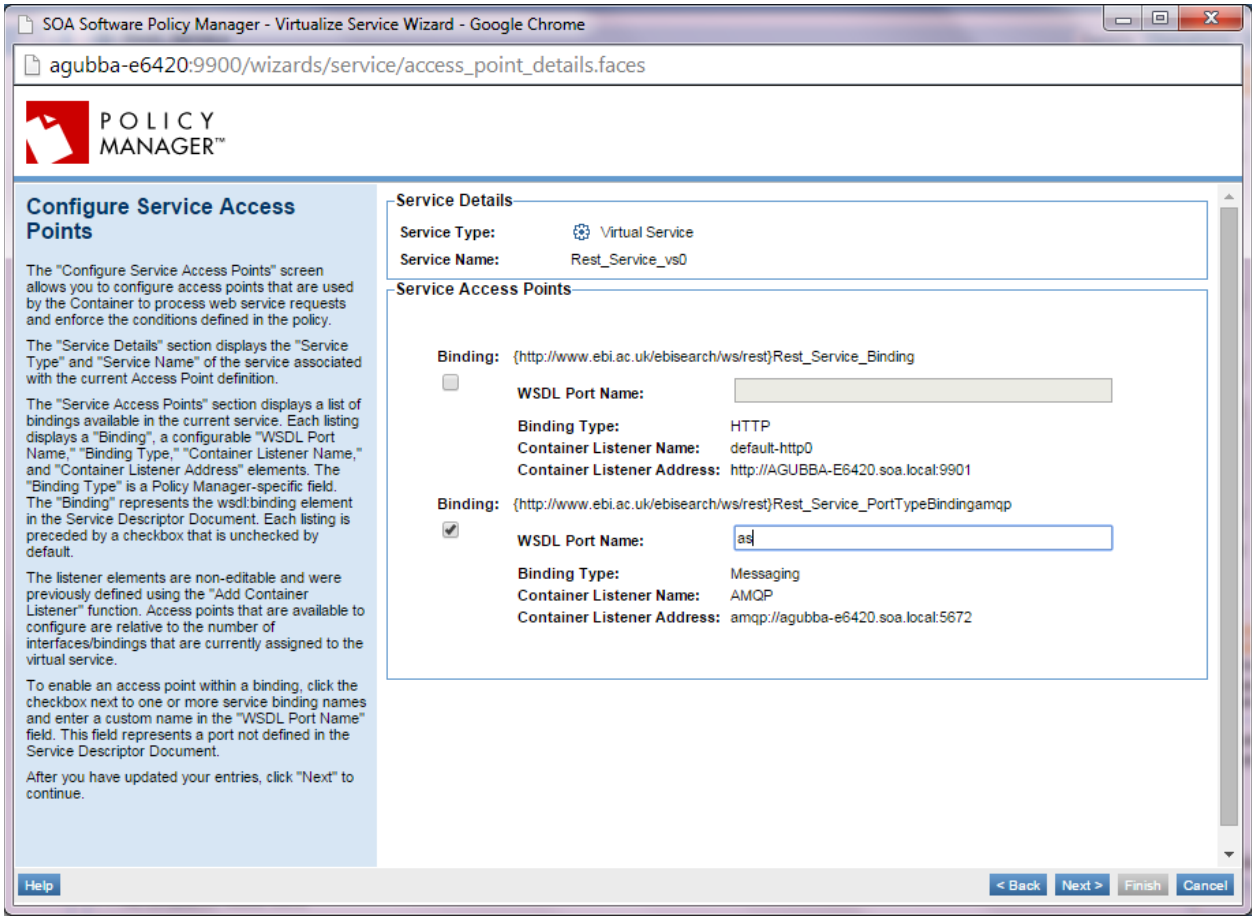


2 On the *Select Interfaces* screen, select the Messaging Binding and assign it to the service (i.e., copy to the Interfaces Assigned panel), and complete the wizard.

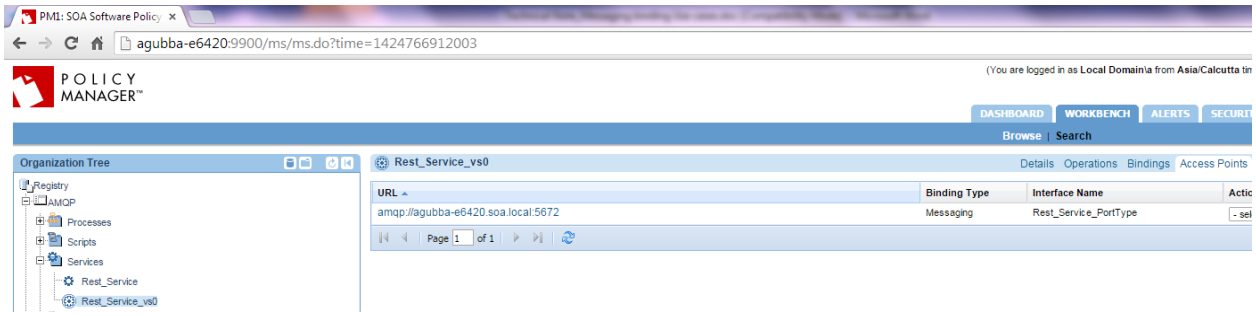




3 Select **Virtualize Service** and virtualize the physical service on the AMQP/JMS listener on Network Director (**ND1**), and assign a service name (e.g., **VS1**).



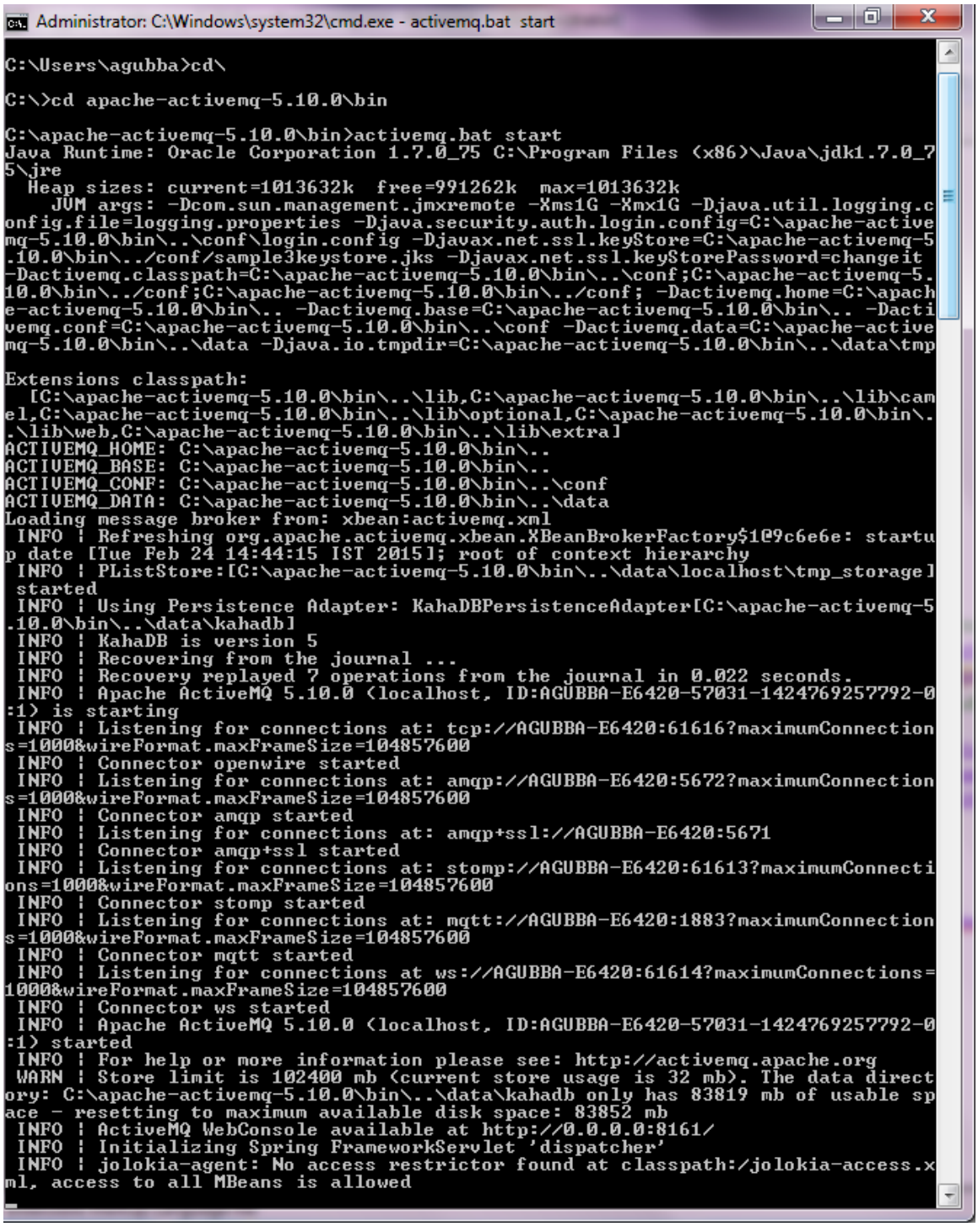
4 The virtual service should be hosted on the **ND1** where we have previously added the AMQP/JMS listeners.


PM1: SOA Software Policy
agubba-e6420:9900/ms/ms.do?time=1424766912003
POLICY MANAGER
DASHBOARD
WORKBENCH
ALERTS
Browse | Search
Organization Tree
Registry
AMQP
Processes
Scripts
Services
Rest_Service
Rest_Service_vs0
Rest_Service_vs0
Details
Operations
Bindings
Access Points
URL
Binding Type
Interface Name
amqp://agubba-e6420.soa.local:5672
Messaging
Rest_Service_PortType
Page 1 of 1

Chapter 6 | Send Requests to API Using ActiveMQ

1 Network Directory (**ND1**) must be connected to an AMQP broker such as apache-activemq-5.10.0.

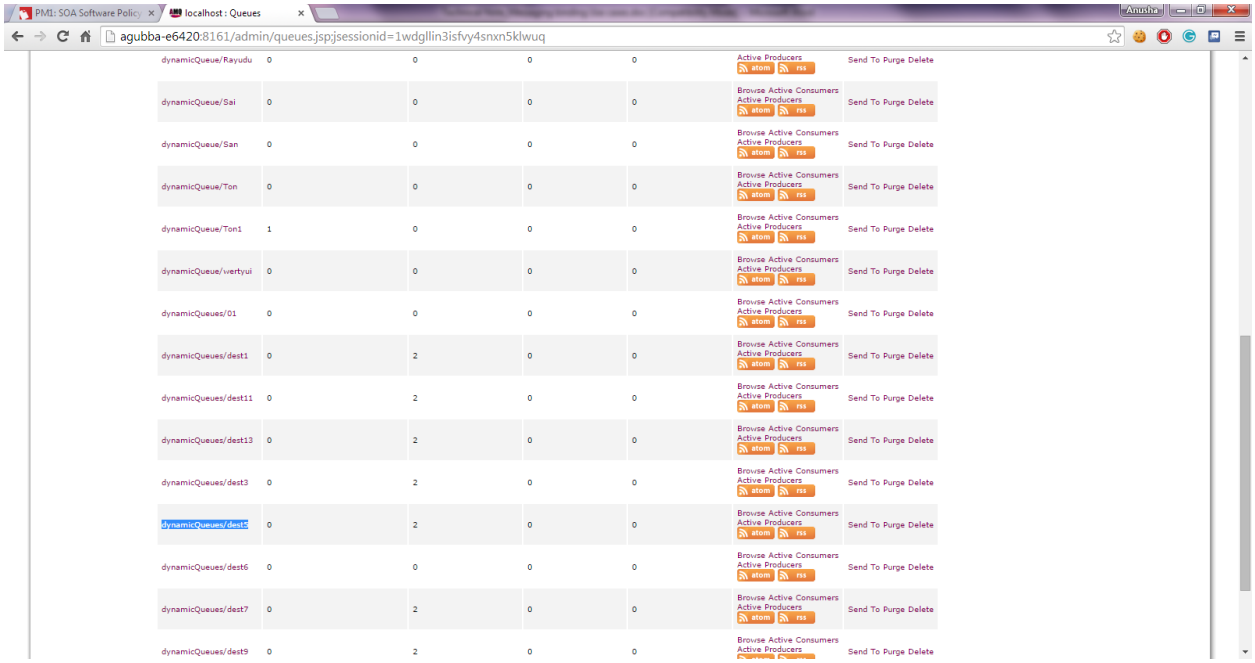
2 Run ActiveMQ.



3 Access activeMQ client at 'http://agubba-e6420:8161/admin/'.

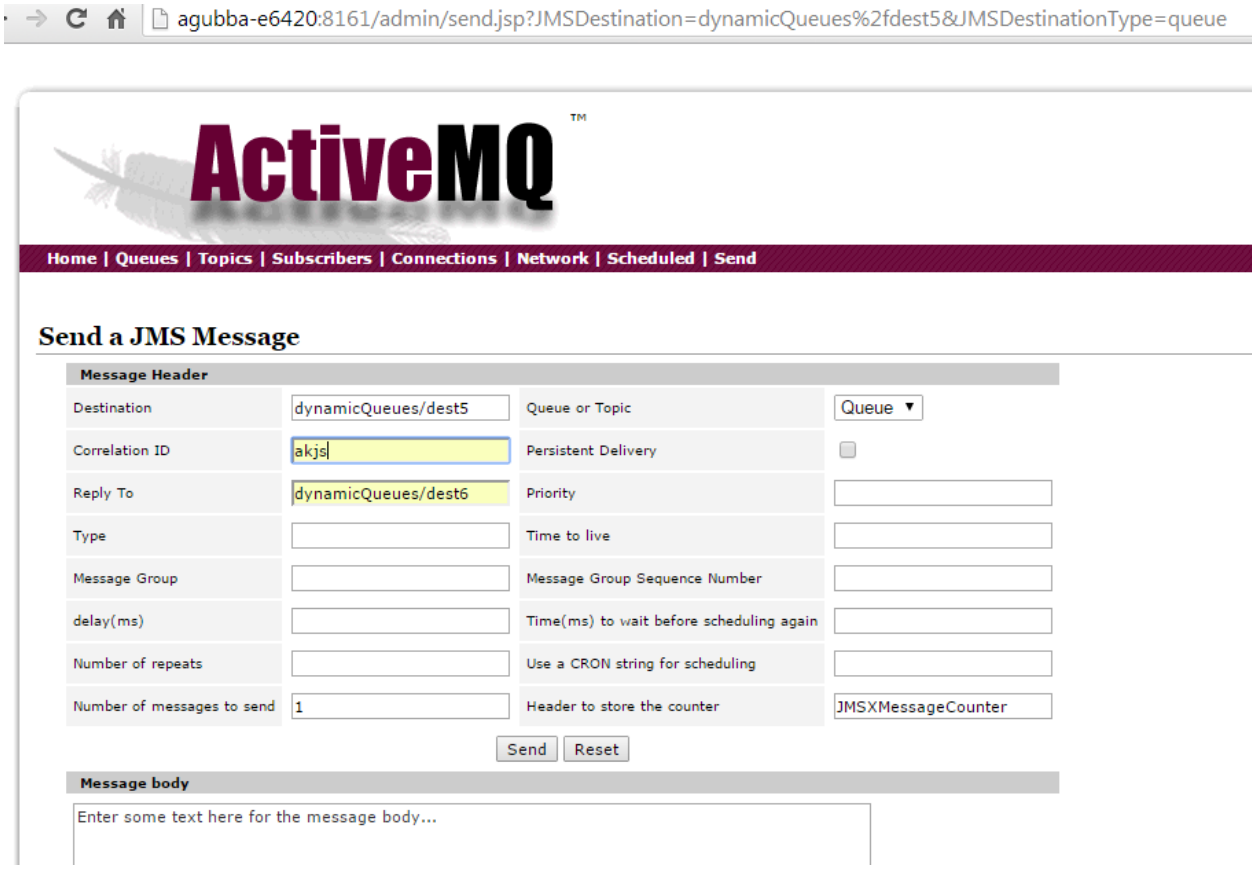
4 Navigate to the *Queues* tab or *Topics* tab depending on the destination type used during Messaging Binding creation.

5 Select the Queue viz., dynamicQueues/dest5 in this scenario.



6 Click on **SendTo** against the destination name.

7 Provide the appropriate Correlation ID, ReplyTo and Message Body and send the request.

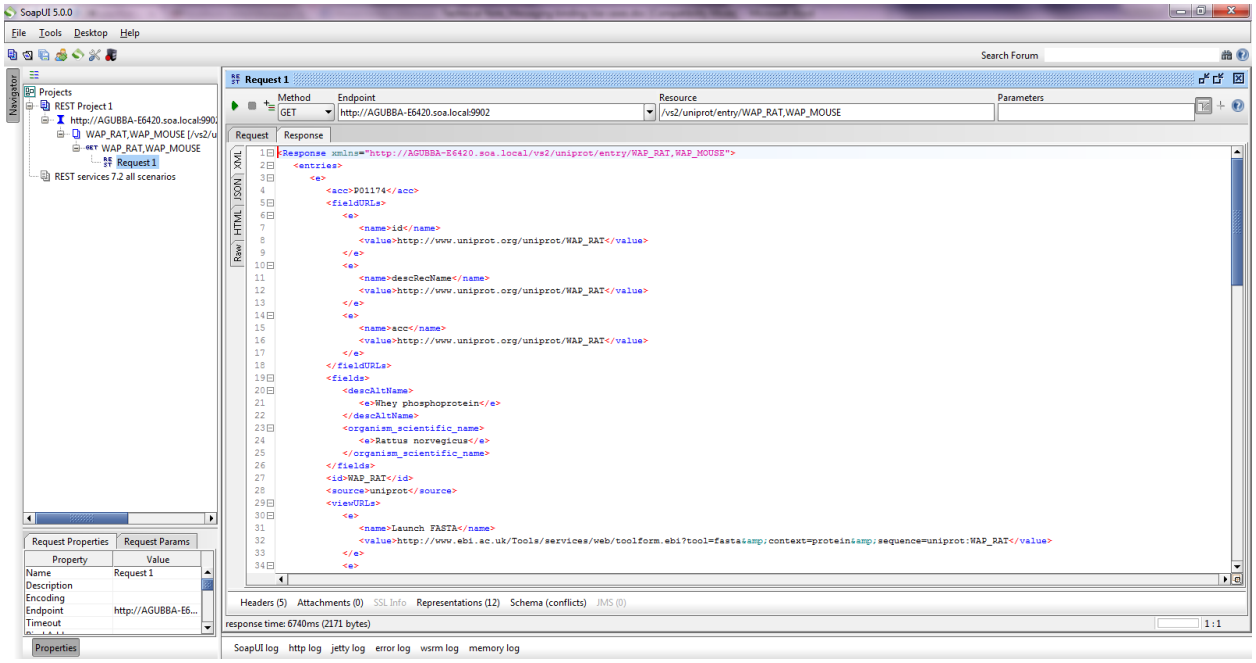

agubba-e6420:8161/admin/send.jsp?JMSDestination=dynamicQueues%2fdest5&JMSDestinationType=queue
ActiveMQ
Home | Queues | Topics | Subscribers | Connections | Network | Scheduled | Send
Send a JMS Message
Message Header
Destination
dynamicQueues/dest5
Queue or Topic
Queue
Correlation ID
akjs
Persistent Delivery
Reply To
dynamicQueues/dest6
Priority
Type
Time to live
Message Group
Message Group Sequence Number
delay(ms)
Time(ms) to wait before scheduling again
Number of repeats
Use a CRON string for scheduling
Number of messages to send
1
Header to store the counter
JMSXMessageCounter
Send
Reset
Message body
Enter some text here for the message body...

Chapter 7 | Create Virtual Service to Provide RESTful Interface for Placing Messages

1 Virtualize the above service on Network Director (ND2) with HTTP binding, and assign a name (e.g., **VS2**).

2 Send requests to **VS2**.

3 The requests will hit the **VS1** > physical service

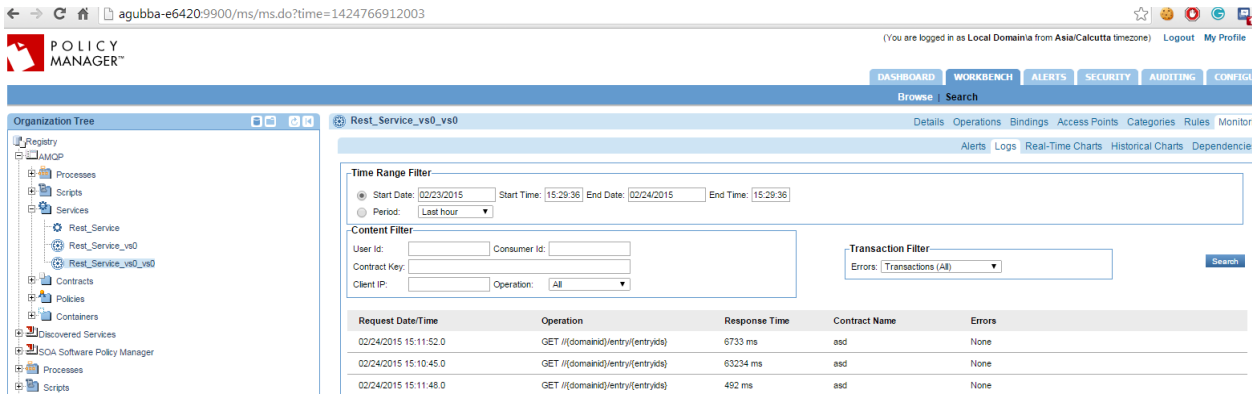


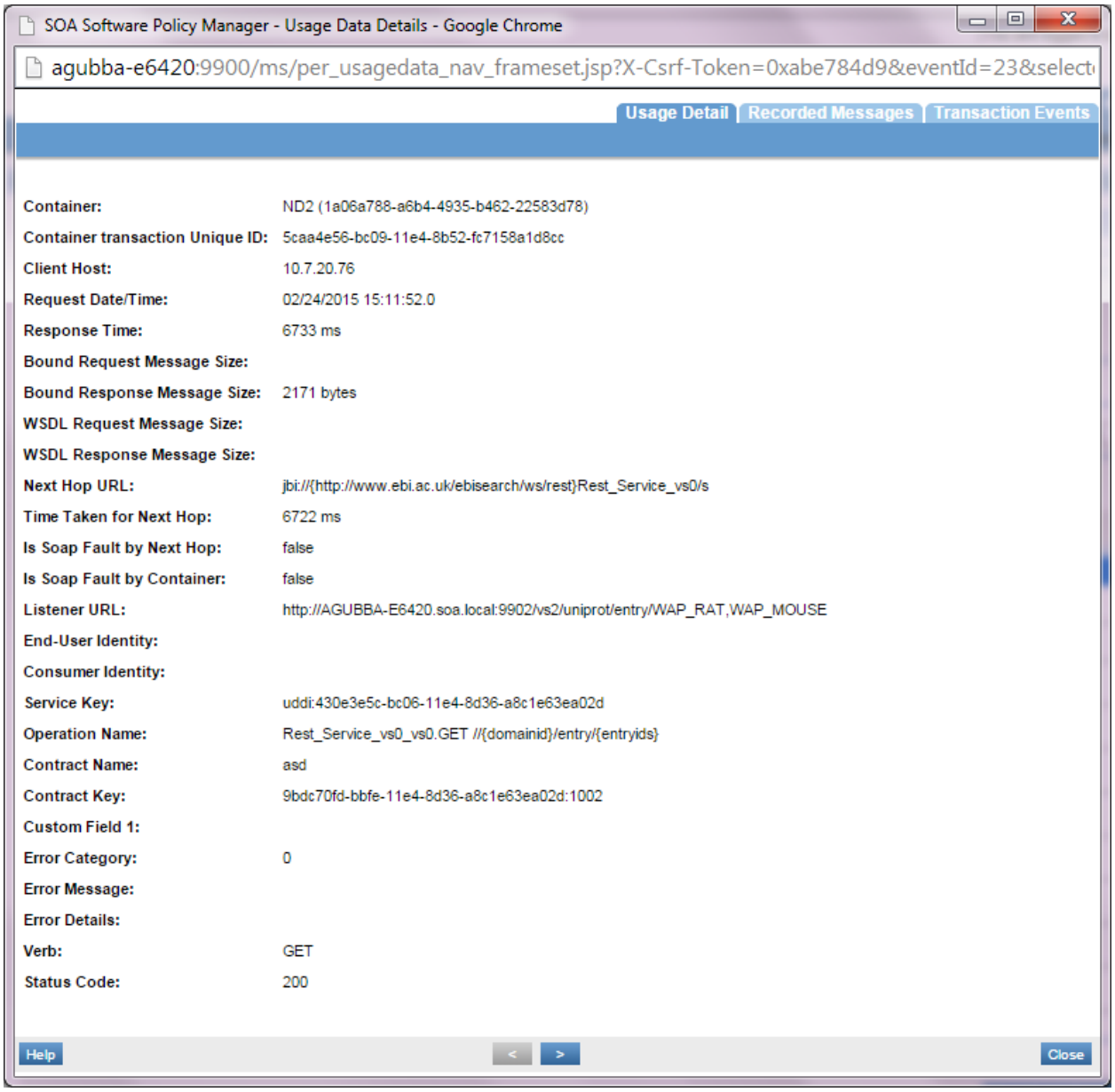
And the response is seen.

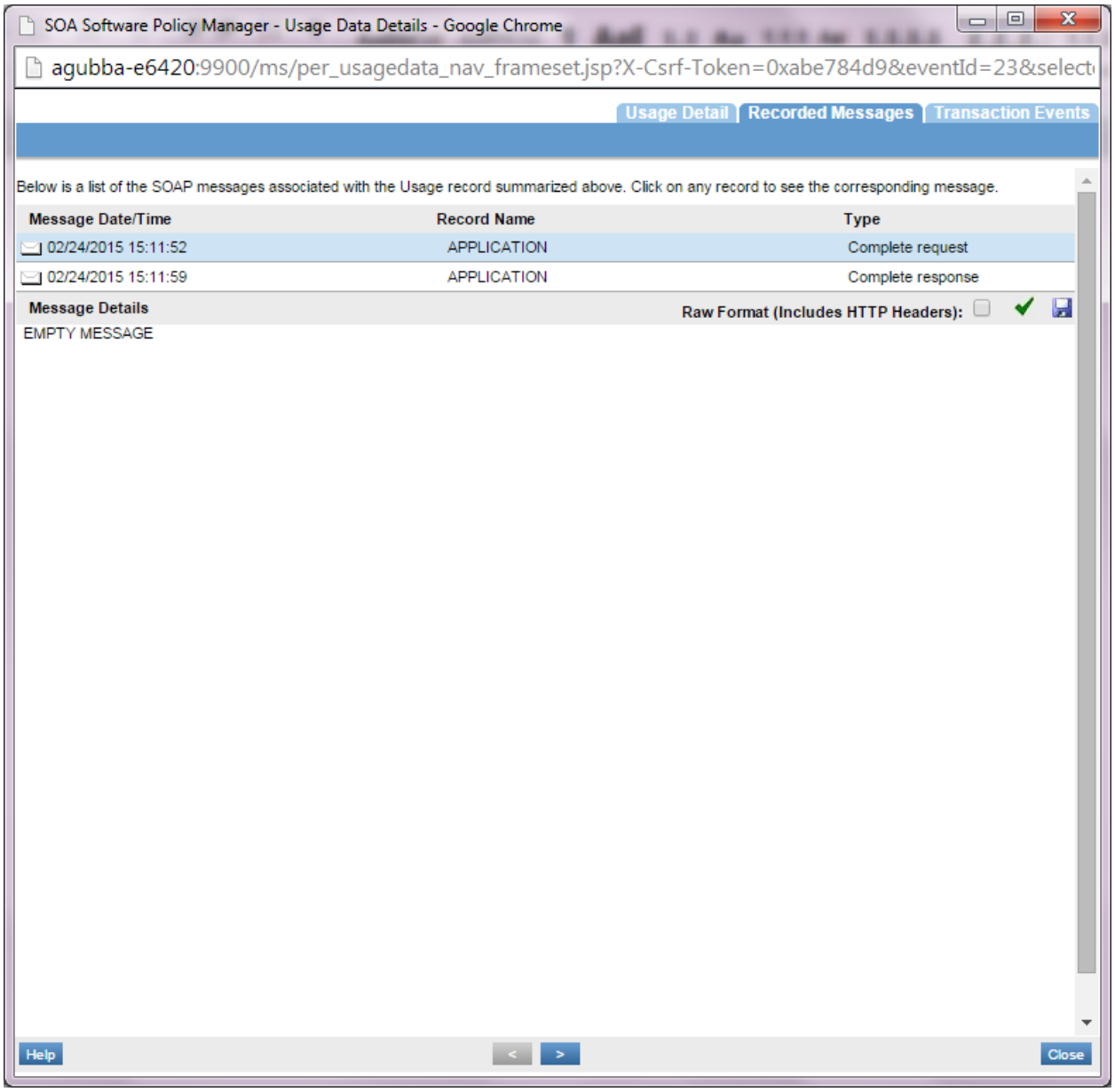
Chapter 8 | Logging

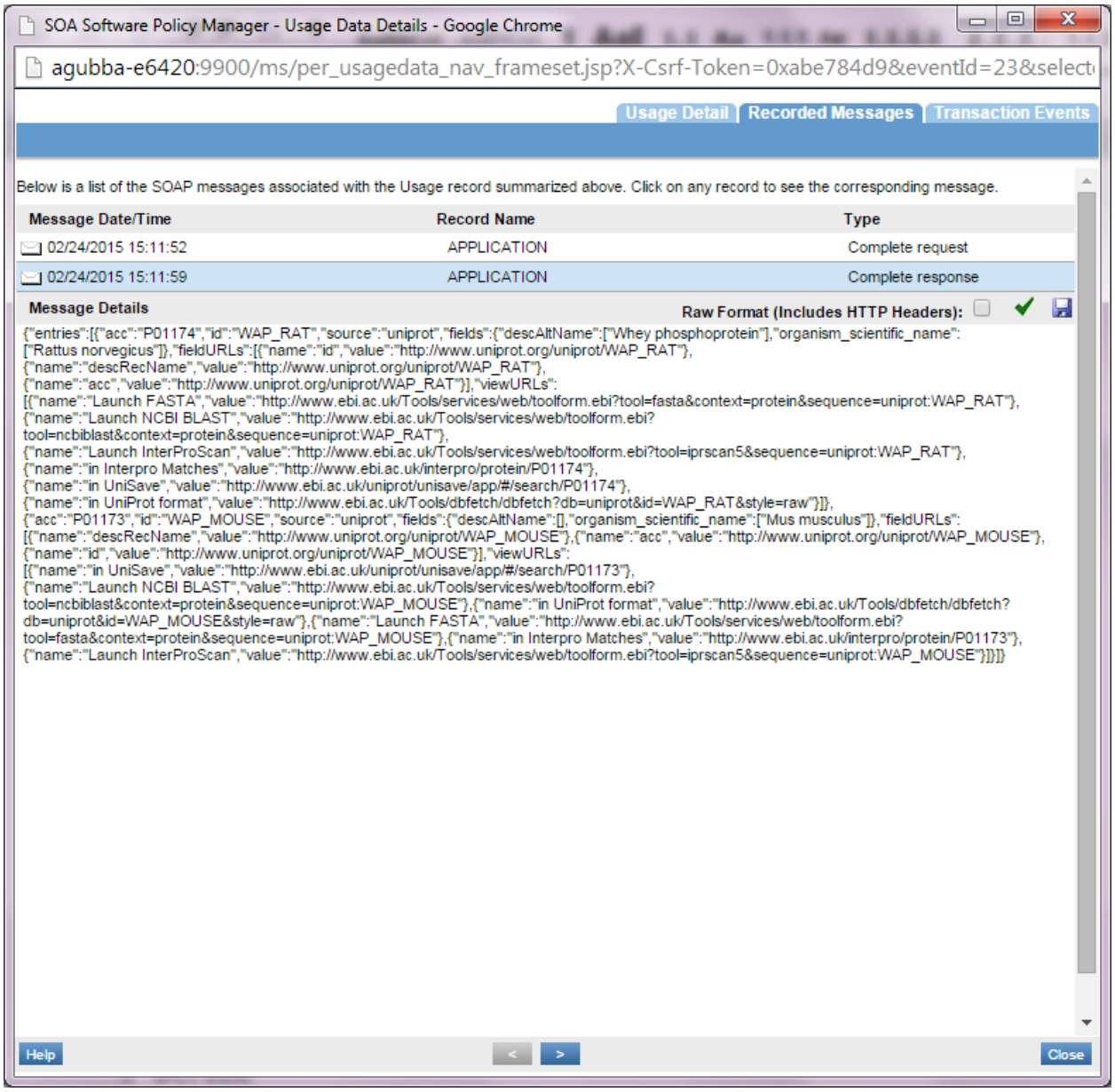
1 If the *Detailed Auditing* policy is attached to **VS1** and **VS2**, usage logs will be generated.

2 **VS2** logs:

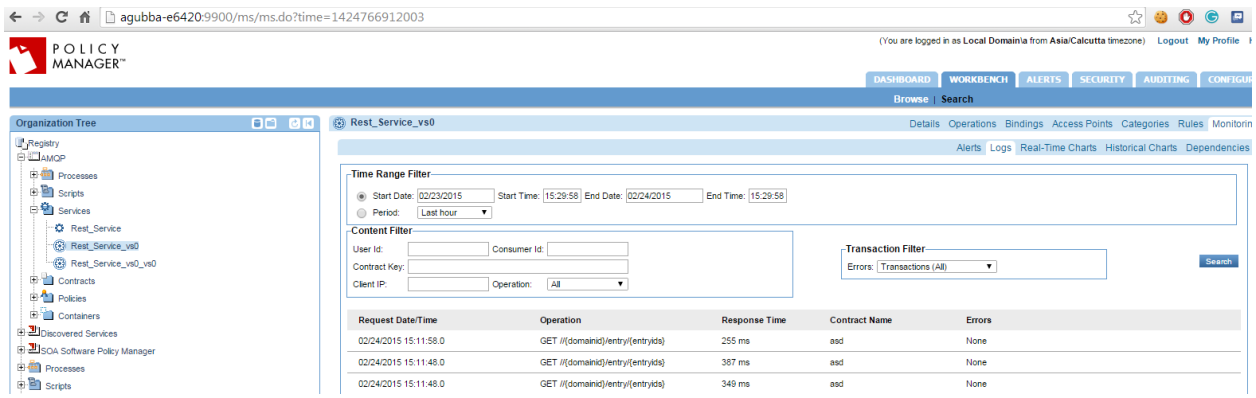


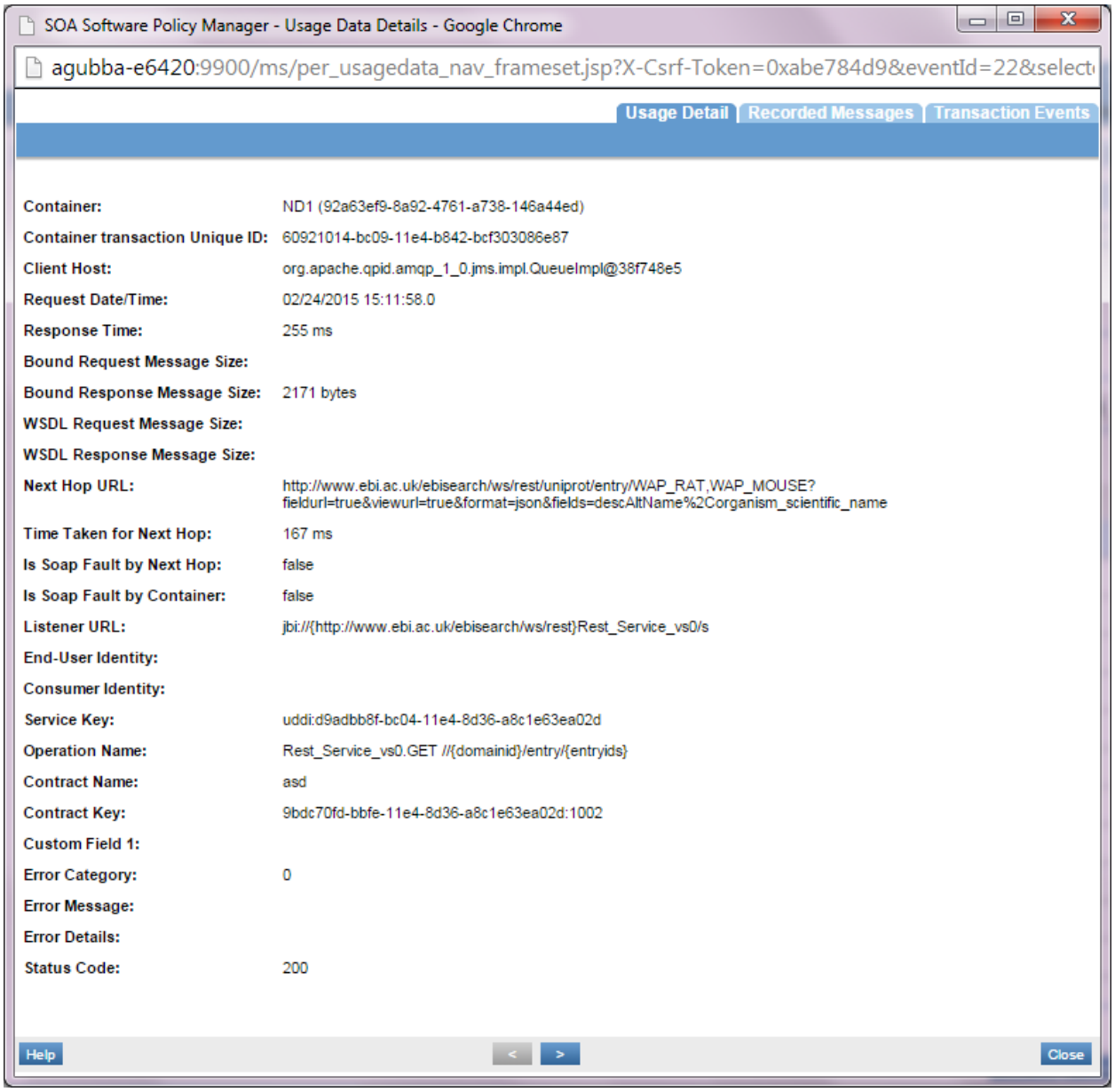

SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=23&select
Usage Detail
Recorded Messages
Transaction Events
Container: ND2 (1a06a788-a6b4-4935-b462-22583d78)
Container transaction Unique ID: 5caa4e56-bc09-11e4-8b52-fc7158a1d8cc
Client Host: 10.7.20.76
Request Date/Time: 02/24/2015 15:11:52.0
Response Time: 6733 ms
Bound Request Message Size:
Bound Response Message Size: 2171 bytes
WSDL Request Message Size:
WSDL Response Message Size:
Next Hop URL: jbi://{http://www.ebi.ac.uk/ebisearch/ws/rest}Rest_Service_vs0/s
Time Taken for Next Hop: 6722 ms
Is Soap Fault by Next Hop: false
Is Soap Fault by Container: false
Listener URL: http://AGUBBA-E6420.soa.local:9902/vs2/uniprot/entry/WAP_RAT,WAP_MOUSE
End-User Identity:
Consumer Identity:
Service Key: uddi:430e3e5c-bc06-11e4-8d36-a8c1e63ea02d
Operation Name: Rest_Service_vs0_vs0.GET //{domainid}/entry/{entryids}
Contract Name: asd
Contract Key: 9bdc70fd-bbfe-11e4-8d36-a8c1e63ea02d:1002
Custom Field 1:
Error Category: 0
Error Message:
Error Details:
Verb: GET
Status Code: 200
Help
<
>
Close

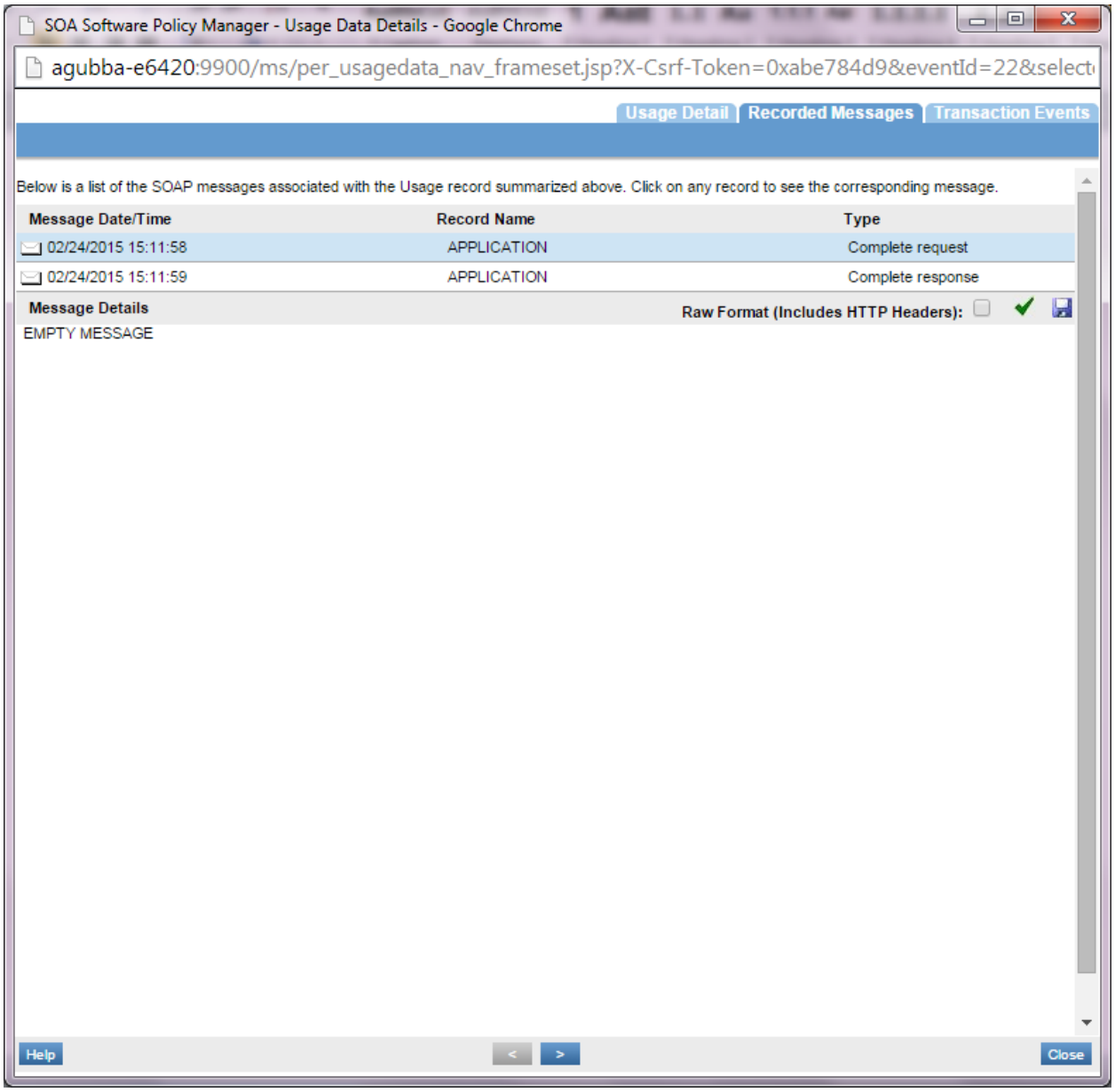

SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=23&select
Usage Detail
Recorded Messages
Transaction Events
Below is a list of the SOAP messages associated with the Usage record summarized above. Click on any record to see the corresponding message.
Message Date/Time
Record Name
Type
02/24/2015 15:11:52
APPLICATION
Complete request
02/24/2015 15:11:59
APPLICATION
Complete response
Message Details
Raw Format (Includes HTTP Headers):
EMPTY MESSAGE
Help
<
>
Close

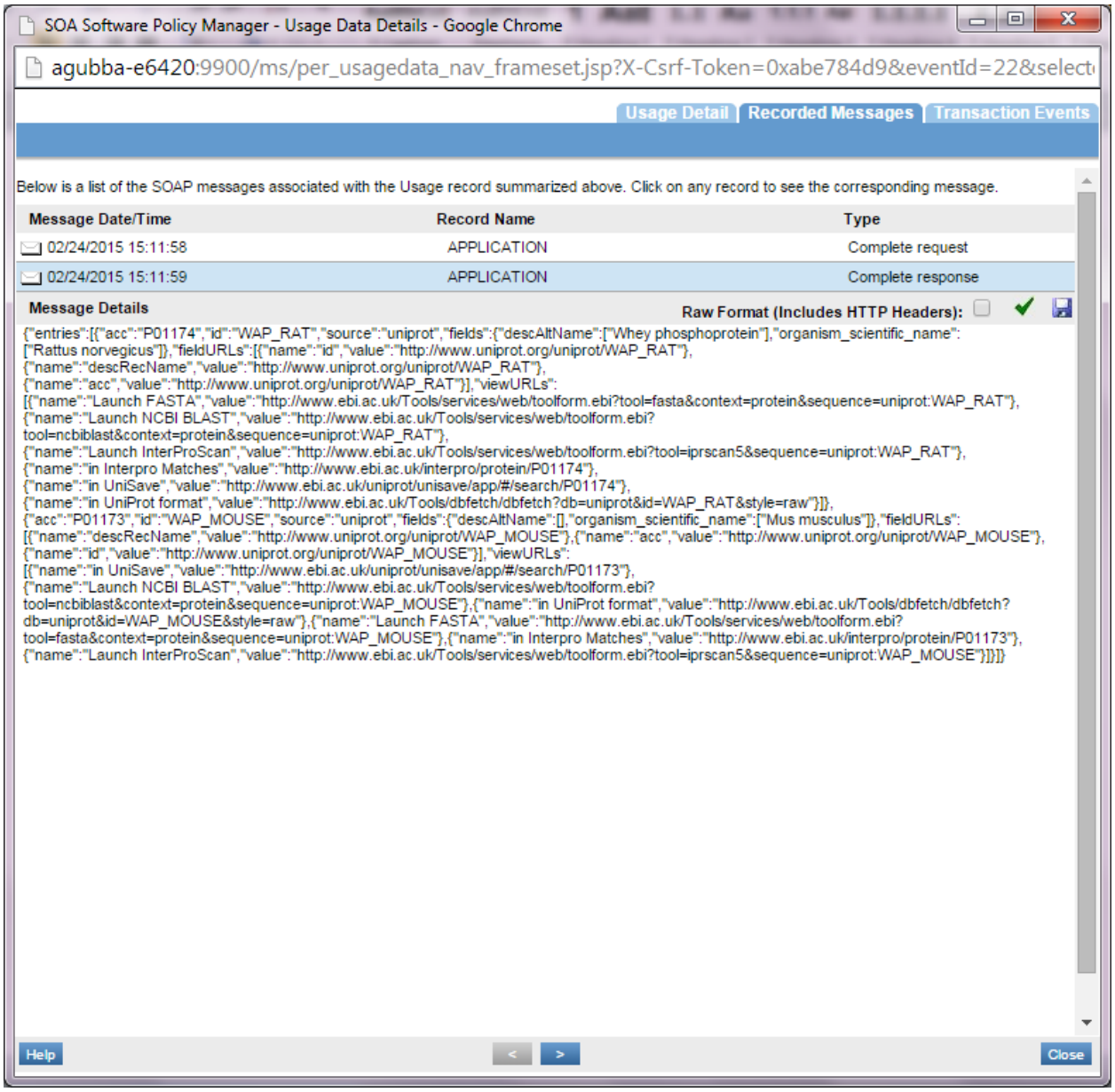

SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=23&select
Usage Detail
Recorded Messages
Transaction Events
Below is a list of the SOAP messages associated with the Usage record summarized above. Click on any record to see the corresponding message.
Message Date/Time
Record Name
Type
02/24/2015 15:11:52
APPLICATION
Complete request
02/24/2015 15:11:59
APPLICATION
Complete response
Message Details
Raw Format (Includes HTTP Headers):
{"entries":[{"acc":"P01174","id":"WAP_RAT","source":"uniprot","fields":{"descAltName":["Whey phosphoprotein"],"organism_scientific_name":
["Rattus norvegicus"]},"fieldURLs":[{"name":"id","value":"http://www.uniprot.org/uniprot/WAP_RAT"},
{"name":"descRecName","value":"http://www.uniprot.org/uniprot/WAP_RAT"},
{"name":"acc","value":"http://www.uniprot.org/uniprot/WAP_RAT"}],"viewURLs":
[{"name":"Launch FASTA","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?tool=fasta&context=protein&sequence=uniprot:WAP_RAT"},
{"name":"Launch NCBI BLAST","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?
tool=ncbiblast&context=protein&sequence=uniprot:WAP_RAT"},
{"name":"Launch InterProScan","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?tool=iprscan5&sequence=uniprot:WAP_RAT"},
{"name":"in Interpro Matches","value":"http://www.ebi.ac.uk/interpro/protein/P01174"},
{"name":"in UniSave","value":"http://www.ebi.ac.uk/uniprot/unisave/app/#/search/P01174"},
{"name":"in UniProt format","value":"http://www.ebi.ac.uk/Tools/dbfetch/dbfetch?db=uniprot&id=WAP_RAT&style=raw"}]},
{"acc":"P01173","id":"WAP_MOUSE","source":"uniprot","fields":{"descAltName":[],"organism_scientific_name":["Mus musculus"]},"fieldURLs":
[{"name":"descRecName","value":"http://www.uniprot.org/uniprot/WAP_MOUSE"},{"name":"acc","value":"http://www.uniprot.org/uniprot/WAP_MOUSE"},
{"name":"id","value":"http://www.uniprot.org/uniprot/WAP_MOUSE"}],"viewURLs":
[{"name":"in UniSave","value":"http://www.ebi.ac.uk/uniprot/unisave/app/#/search/P01173"},
{"name":"Launch NCBI BLAST","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?
tool=ncbiblast&context=protein&sequence=uniprot:WAP_MOUSE"},{"name":"in UniProt format","value":"http://www.ebi.ac.uk/Tools/dbfetch/dbfetch?
db=uniprot&id=WAP_MOUSE&style=raw"},{"name":"Launch FASTA","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?
tool=fasta&context=protein&sequence=uniprot:WAP_MOUSE"},{"name":"in Interpro Matches","value":"http://www.ebi.ac.uk/interpro/protein/P01173"},
{"name":"Launch InterProScan","value":"http://www.ebi.ac.uk/Tools/services/web/toolform.ebi?tool=iprscan5&sequence=uniprot:WAP_MOUSE"}]}]}
Help
Close

3 **VS1** logs:


agubba-e6420:9900/ms/ms.do?time=1424766912003
POLICY MANAGER
DASHBOARD
WORKBENCH
ALERTS
SECURITY
AUDITING
Browse | Search
Organization Tree
Rest_Service_vs0
Details
Operations
Bindings
Access Points
Categories
Rules
Alerts
Logs
Real-Time Charts
Historical Charts
Dependencies
Time Range Filter
Content Filter
Transaction Filter
Search
Request Date/Time
Operation
Response Time
Contract Name
Errors


SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=22&select
Usage Detail
Recorded Messages
Transaction Events
Container: ND1 (92a63ef9-8a92-4761-a738-146a44ed)
Container transaction Unique ID: 60921014-bc09-11e4-b842-bcf303086e87
Client Host: org.apache.qpid.amqp_1_0.jms.impl.QueueImpl@38f748e5
Request Date/Time: 02/24/2015 15:11:58.0
Response Time: 255 ms
Bound Request Message Size:
Bound Response Message Size: 2171 bytes
WSDL Request Message Size:
WSDL Response Message Size:
Next Hop URL: http://www.ebi.ac.uk/ebisearch/ws/rest/uniprot/entry/WAP_RAT,WAP_MOUSE?fieldurl=true&viewurl=true&format=json&fields=descAltName%2Corganism_scientific_name
Time Taken for Next Hop: 167 ms
Is Soap Fault by Next Hop: false
Is Soap Fault by Container: false
Listener URL: jbi://{http://www.ebi.ac.uk/ebisearch/ws/rest}Rest_Service_vs0/s
End-User Identity:
Consumer Identity:
Service Key: uddi:d9adbb8f-bc04-11e4-8d36-a8c1e63ea02d
Operation Name: Rest_Service_vs0.GET //{domainid}/entry/{entryids}
Contract Name: asd
Contract Key: 9bdc70fd-bbfe-11e4-8d36-a8c1e63ea02d:1002
Custom Field 1:
Error Category: 0
Error Message:
Error Details:
Status Code: 200
Help
<
>
Close


SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=22&select
Usage Detail
Recorded Messages
Transaction Events
Below is a list of the SOAP messages associated with the Usage record summarized above. Click on any record to see the corresponding message.
Message Date/Time
Record Name
Type
02/24/2015 15:11:58
APPLICATION
Complete request
02/24/2015 15:11:59
APPLICATION
Complete response
Message Details
Raw Format (Includes HTTP Headers):
EMPTY MESSAGE
Help
Close


SOA Software Policy Manager - Usage Data Details - Google Chrome
agubba-e6420:9900/ms/per_usagedata_nav_frameset.jsp?X-Csrf-Token=0xabe784d9&eventId=22&select
Usage Detail
Recorded Messages
Transaction Events
Below is a list of the SOAP messages associated with the Usage record summarized above. Click on any record to see the corresponding message.
Message Date/Time
Record Name
Type
02/24/2015 15:11:58
APPLICATION
Complete request
02/24/2015 15:11:59
APPLICATION
Complete response
Message Details
Raw Format (Includes HTTP Headers):
{"entries":[{"acc":"P01174","id":"WAP_RAT","source":"uniprot","fields":{"descAltName":["Whey phosphoprotein"],"organism_scientific_name":
["Rattus norvegicus"]},"fieldURLs":[{"name":"id","value":"http://www.uniprot.org/uniprot/WAP_RAT"},
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{"name":"acc","value":"http://www.uniprot.org/uniprot/WAP_RAT"}],"viewURLs":
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Help
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