

# WS-Schema Validation Policy Usage Scenarios

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# WS-Schema Validation Policy Usage Scenarios

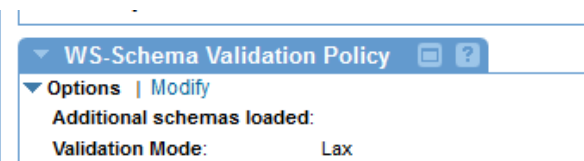
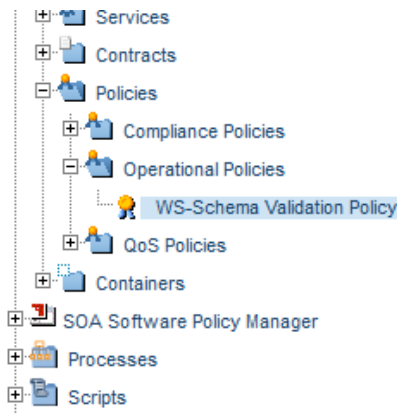
This document provides a list of common WS-Security Policy usage scenarios.

## Scenario 1: Runtime with "LAX"

- 1 Create a physical service

<http://10.7.20.21/EchoSan/Echo.asmx?wsdl>

- 2 Virtualize and host it on Network Director (Example service name: **Vs1**).
- 3 Configure a Ws-Schema Validation Policy.



- 4 Attach the **Detailed Auditing** and **Ws-Schema Validation** policies to **Vs1** service.
- 5 Create a project in client (SOAP UI) using **Vs1** WSDL URL.

### Actual Soap Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s?></tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

### Update SOAP Rrequest with Ws-Addressing Elements:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:tem="http://tempuri.org/"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action><wsa:Address></wsa:Address></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s>?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

- 6 Send request from client (SOAP UI). The request will be processed success fully.
- 7 Navigate to Vs1 service → Monitoring → Logs.

### Request Message:

The screenshot displays the SOA Software Policy Manager interface. On the left, the 'Organization Tree' shows a hierarchy of services, including 'EchoService' and 'EchoService\_vs0'. The main panel, titled 'Usage Data Details', shows a list of SOAP messages. The selected message is a 'Complete request' from '01/14/2014 09:04:57'. The 'Message Details' section shows the raw format of the request, which is an Echo request. A 'Snipping Tool' window is overlaid on the message details, indicating that the user is capturing the request message.

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
01/14/2014 09:04:57	APPLICATION	Complete request
01/14/2014 09:04:57	APPLICATION	Complete response

**Message Details** Raw Format (Includes HTTP Headers): ☒ ☐ ☐

```
POST /E1 HTTP/1.1
Host: RGRANDHI-E6420.soa.local:6900
SOAPAction: "http://tempuri.org/Echo"
Content-Length: 416
Content-Type: text/xml; charset=UTF-8
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)
Connection: keep-alive

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action><wsa:Address></wsa:Address></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s>?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

### Response Message:

SOA Software Policy Manager - Usage Data Details - Mozilla Firefox

localhost:9900/ms/per\_usagedata\_nav\_frameset.jsp?eventId=280&selectedRow=0&serviceKey=uddi:6433c88a-7cca-11e-

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
01/14/2014 09:04:57	APPLICATION	Complete request
01/14/2014 09:04:57	APPLICATION	Complete response

**Message Details** Raw Format (Includes HTTP Headers): ☒ ☒

HTTP/1.1 200 OK  
 Date: Tue, 14 Jan 2014 03:30:39 GMT  
 Server: Microsoft-IIS/6.0  
 X-Powered-By: ASP.NET  
 X-AspNet-Version: 2.0.50727  
 Cache-Control: private, max-age=0  
 Content-Type: text/xml; charset=utf-8  
 Content-Length: 329

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><EchoResponse xmlns="http://tempuri.org/"><EchoResult?></EchoResult></EchoResponse></soap:Body></soap:Envelope>
```

Snipping Tool

Drag the cursor around the area you want to capture.

Help < > Close

## Scenario 2: Runtime with "Strict" (Valid Schema is not Selected)

- 1 Create a physical service.  
http://10.7.20.21/EchoSan/Echo.asmx?wsdl
- 2 Virtualize and host it on Network Director (Example service name: **Vs1**).
- 3 Configure a Ws-Schema Validation Policy.

The screenshot shows the Network Director console with a tree view on the left and a configuration pane on the right. The tree view shows the hierarchy: Processes > Scripts > Services > EchoService > EchoService\_vs0 > Policies > WS-Schema Validation Policy. The configuration pane on the right shows the details for the 'WS-Schema Validation Policy'.

**Policy Name:** WS-Schema Validation Policy  
(urn:uuid:0b2a8f4d-7c3b-11e3-9c58-9b48c15f59)

**Description:**

**WS-Schema Validation Policy** [icon] [?]

**Options | Modify**

**Additional schemas loaded:**

**Validation Mode:** Strict

- 4 Attach the **Detailed Auditing** and **WS-Schema Validation** policies to **Vs1** service
- 5 Create a project in client (SOAP UI) using **Vs1** WSDL URL.

### Actual Soap Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

### Update SOAP Request with WS-Addressing Elements

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action></wsa:Action>
  </soapenv:Header>
```

```

<soapenv:Body>
  <tem:Echo>
    <!--Optional:-->
    <tem:s>?</tem:s>
  </tem:Echo>
</soapenv:Body>
</soapenv:Envelope>

```

- 6 Send request from client (SOAP UI). Request will fail.
- 7 Navigate to **Vs1 Service** → **Monitoring** → **Logs**

### Request Message:

### Error Message:

XML is not valid [cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'wsa:Action'.]

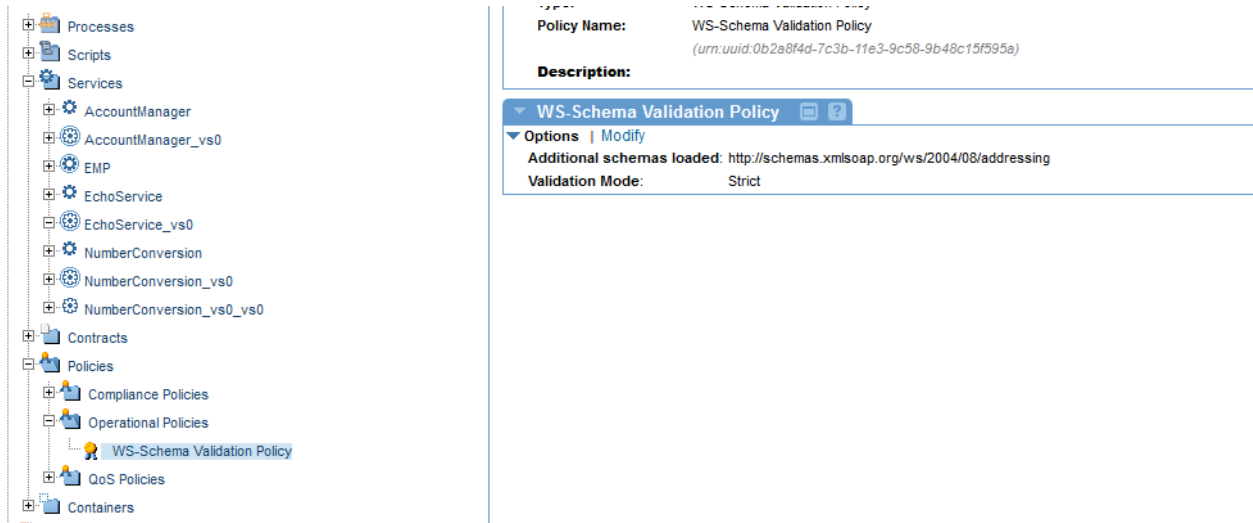
Note: Valid schema is not selected.

## Scenario 3: Runtime with "Strict" (Valid Schema is Enabled)

Schema Name: <http://schemas.xmlsoap.org/ws/2004/08/addressing>

- 1 Create a physical service.  
<http://10.7.20.21/EchoSan/Echo.asmx?wsdl>
- 2 Virtualize and host it on Network Director (Example service name: **Vs1**).
- 3 Configure a Ws-Schema Validation Policy.





- 4 Attach the **Detailed Auditing** and **Ws-Schema Validation** policies to **Vs1** service.
- 5 Create a project in client (SOAP UI) using **Vs1** WSDL URL.

#### Actual SOAP Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s>?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Update SOAP Request with WS-Addressing Elements

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s>?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

- 6 Send request from client (SOAP UI). Request will be processed successfully).
- 7 Navigate to **Vs1** Services → Monitoring → Logs.

#### SOAP Request:

SOA Software Policy Manager - Usage Data Details - Mozilla Firefox

localhost:9900/ms/per\_usagedata\_nav\_frameset.jsp?eventId=3038&selectedRow=0&serviceKey=uddi:6433c88a-7cca-11e1-8080-000000000000

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
01/14/2014 09:43:51	APPLICATION	Complete request
01/14/2014 09:43:51	APPLICATION	Complete response

**Message Details** Raw Format (Includes HTTP Headers): ☒ ☒

```

POST /E1 HTTP/1.1
Host: RGRANDHI-E6420.soa.local:6900
SOAPAction: "http://tempuri.org/Echo"
Content-Length: 389
Content-Type: text/xml; charset=UTF-8
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)
Connection: keep-alive

<?xml version='1.0' encoding='utf-8'>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s>?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>

```

Help < > Close

**SOAP Response:**

SOA Software Policy Manager - Usage Data Details - Mozilla Firefox

localhost:9900/ms/per\_usagedata\_nav\_frameset.jsp?eventId=303&selectedRow=0&serviceKey=uddi:6433c88a-7cca-11e1...

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
01/14/2014 09:43:51	APPLICATION	Complete request
01/14/2014 09:43:51	APPLICATION	Complete response

**Message Details** Raw Format (Includes HTTP Headers): ☒

HTTP/1.1 200 OK  
 Date: Tue, 14 Jan 2014 04:09:33 GMT  
 Server: Microsoft-IIS/6.0  
 X-Powered-By: ASP.NET  
 X-AspNet-Version: 2.0.50727  
 Cache-Control: private, max-age=0  
 Content-Type: text/xml; charset=utf-8  
 Content-Length: 329

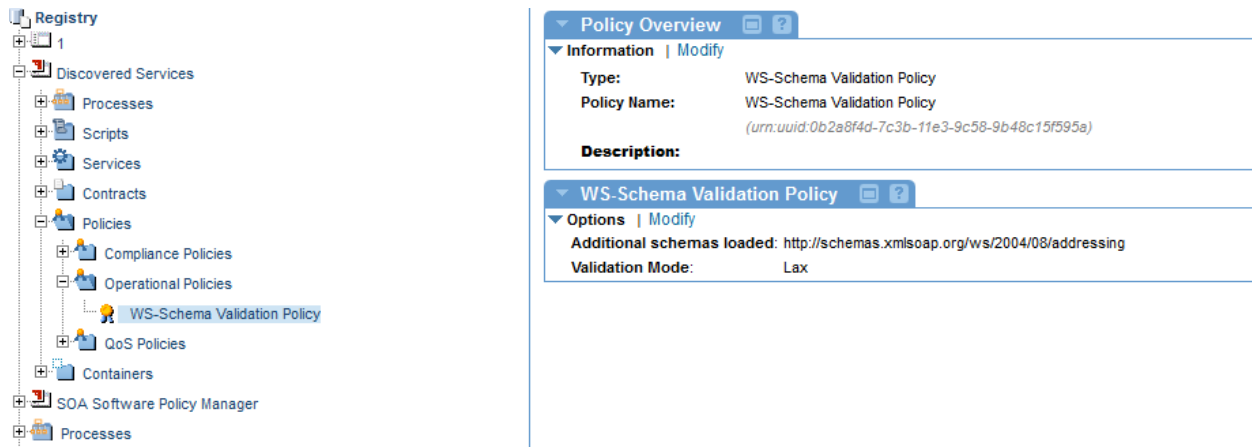
```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><EchoResponse xmlns="http://tempuri.org/"><EchoResult>
```

Help < > Close

## Scenario 4: Runtime with "Strict" (Child Elements included in SOAP Request)

Schema Name: <http://schemas.xmlsoap.org/ws/2004/08/addressing>

- 1 Create a physical service.  
<http://10.7.20.21/EchoSan/Echo.asmx?wsdl>
- 2 Virtualize and host it on Network Director (Example Service Name: **Vs1**).
- 3 Configure a Ws-Schema Validation Policy.



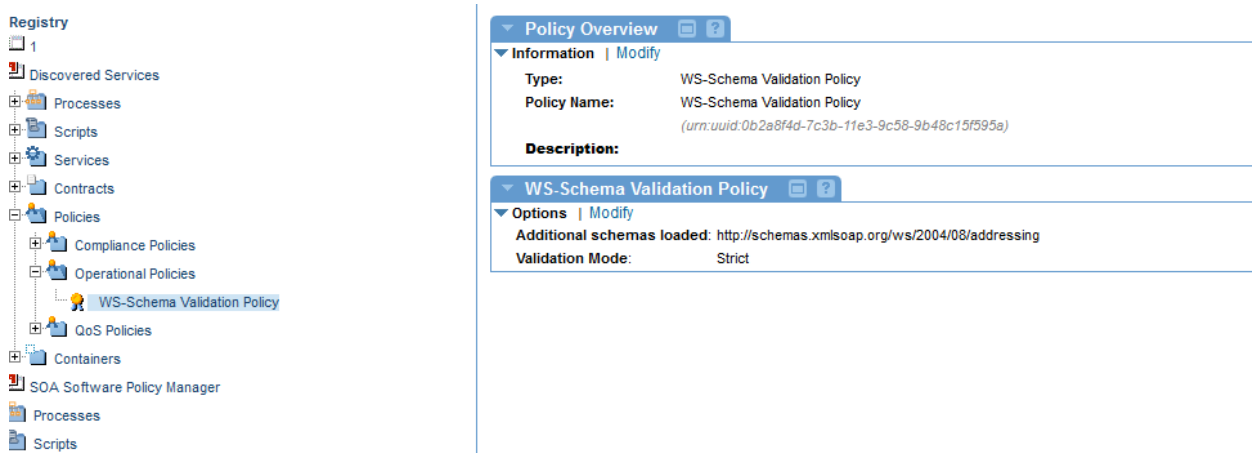
The Registry tree on the left shows the following structure:

- Registry
  - 1
  - Discovered Services
  - Processes
  - Scripts
  - Services
  - Contracts
  - Policies
    - Compliance Policies
    - Operational Policies
    - WS-Schema Validation Policy**
    - QoS Policies
  - Containers
  - SOA Software Policy Manager
  - Processes

The Policy Overview for the WS-Schema Validation Policy shows the following details:

- Policy Overview**
  - Information** | Modify
    - Type: WS-Schema Validation Policy
    - Policy Name: WS-Schema Validation Policy (urn:uuid:0b2a8f4d-7c3b-11e3-9c58-9b48c15f595a)
    - Description:
  - WS-Schema Validation Policy**
    - Options** | Modify
      - Additional schemas loaded: http://schemas.xmlsoap.org/ws/2004/08/addressing
      - Validation Mode: Lax

4 Attach the **Detailed Auditing** and **Ws-Schema Validation** policies to **Vs1** service.



The Registry tree on the left shows the following structure:

- Registry
  - 1
  - Discovered Services
  - Processes
  - Scripts
  - Services
  - Contracts
  - Policies
    - Compliance Policies
    - Operational Policies
    - WS-Schema Validation Policy**
    - QoS Policies
  - Containers
  - SOA Software Policy Manager
  - Processes
  - Scripts

The Policy Overview for the WS-Schema Validation Policy shows the following details:

- Policy Overview**
  - Information** | Modify
    - Type: WS-Schema Validation Policy
    - Policy Name: WS-Schema Validation Policy (urn:uuid:0b2a8f4d-7c3b-11e3-9c58-9b48c15f595a)
    - Description:
  - WS-Schema Validation Policy**
    - Options** | Modify
      - Additional schemas loaded: http://schemas.xmlsoap.org/ws/2004/08/addressing
      - Validation Mode: Strict

5 Create a project in client (SOAP UI) using **Vs1** WSDL URL.

#### Actual SOAP Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Update SOAP Request with WS-Addressing Elements.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action><wsa:Address></wsa:Address></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
```

```

<!--Optional:-->
<tem:s>?</tem:s>
</tem:Echo>
</soapenv:Body>
</soapenv:Envelope>

```

- 6 Send request from client (SOAP UI). Request will fail.
- 7 Navigate to **Vs1 Service** → **Monitoring** → **Logs**.

#### SOAP Request:

SOA Software Policy Manager - Usage Data Details - Mozilla Firefox

localhost:9900/ms/per\_usagedata\_nav\_frameset.jsp?eventId=304&selectedRow=0&serviceKey=uddi:6433c88a-7cca-11e3-...

Usage Detail Recorded Messages Transaction Events

Container: ND1 (ND1)

Container transaction Unique ID: 7b54ec60-7cfd-11e3-bc8e-b6591a874312

Client Host: 10.7.20.52

Request Date/Time: 01/14/2014 14:53:08.898

Response Time: 1329 ms

Bound Request Message Size: 416 bytes

Bound Response Message Size:

WSDL Request Message Size:

WSDL Response Message Size:

Next Hop URL:

Time Taken for Next Hop: 0 ms

Is Soap Fault by Next Hop: false

Is Soap Fault by Container: true

Listener URL: http://RGRANDHI-E6420.soa.local:6900/E1

End-User Identity:

Consumer Identity:

Service Key: uddi:6433c88a-7cca-11e3-bc7c-8a10774d0e74

Operation Name: EchoService\_vs0.Echo

Contract Name:

Contract Key:

Custom Field 1:

Error Category: 0

Error Message: XML is not valid [cvc-complex-type.2.2: Element 'wsa:Action' must have no element [children], and the value must be valid.]

Error Details:

Help < > Close

Snipping Tool

Drag the cursor around the area you want to capture.

#### Error Message:

XML is not valid [cvc-complex-type.2.2: Element 'wsa:Action' must have no element [children], and the value must be valid.]

## Scenario 5: Runtime with "LAX" (Child Elements included in SOAP Request)

Schema Name: <http://schemas.xmlsoap.org/ws/2004/08/addressing>

- 1 Create a physical service.  
<http://10.7.20.21/EchoSan/Echo.asmx?wsdl>
- 2 Virtualize and host it on Network Directory (Example service name: **Vs1**).
- 3 Configure a Ws-Schema Validation Policy.
- 4 Attach the **Detailed Auditing** and **Ws-Schema Validation** policies to **Vs1** service.
- 5 Create a project in client (SOAP UI) using Vs1 WSDL URL.

### Actual SOAP Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

### Update SOAP Request with WS-Addressing Elements

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:tem="http://tempuri.org/" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
  <soapenv:Header>
    <wsa:Action><wsa:Address></wsa:Address></wsa:Action>
  </soapenv:Header>
  <soapenv:Body>
    <tem:Echo>
      <!--Optional:-->
      <tem:s?</tem:s>
    </tem:Echo>
  </soapenv:Body>
</soapenv:Envelope>
```

- 6 Send request from client (SOAP UI). Request will fail.
- 7 Navigate to **Vs1** Service → Monitoring → Logs

### SOAP Request:

SOA Software Policy Manager - Usage Data Details - Mozilla Firefox

localhost:9900/ms/per\_usagedata\_nav\_frameset.jsp?eventId=304&selectedRow=0&serviceKey=uddi:6433c88a-7cca-11e3-...

Usage Detail | Recorded Messages | Transaction Events

Container: ND1 (ND1)

Container transaction Unique ID: 7b54ec60-7cfd-11e3-bc8e-b6591a874312

Client Host: 10.7.20.52

Request Date/Time: 01/14/2014 14:53:08.898

Response Time: 1329 ms

Bound Request Message Size: 416 bytes

Bound Response Message Size:

WSDL Request Message Size:

WSDL Response Message Size:

Next Hop URL:

Time Taken for Next Hop: 0 ms

Is Soap Fault by Next Hop: false

Is Soap Fault by Container: true

Listener URL: http://RGRANDHI-E6420.soa.local:6900/E1

End-User Identity:

Consumer Identity:

Service Key: uddi:6433c88a-7cca-11e3-bc7c-8a10774d0e74

Operation Name: EchoService\_vs0.Echo

Contract Name:

Contract Key:

Custom Field 1:

Error Category: 0

Error Message: XML is not valid [cvc-complex-type.2.2: Element 'wsa:Action' must have no element [children], and the value must be valid.]

Error Details:

Help < > Close

Snipping Tool

Drag the cursor around the area you want to capture.

**Error Message:**

XML is not valid [cvc-complex-type.2.2: Element 'wsa:Action' must have no element [children], and the value must be valid.]

**Notes**

- Lax
  - If corresponding schema is not added to policy, the tags will be ignored by parser.
  - If corresponding schema is added to policy, the tags will be validated by parser.
- Strict

- If corresponding schema is not added to policy, an error will occur saying schema should be added to the policy.
- If corresponding schema is added to policy, the tags will be validated by parser.