Fault Rules and Error Responses

Google Cloud

Terminology

1) Raise Fault policy

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2) Apigee Edge raises an error during policy execution

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2) Apigee Edge raises an error during policy execution

3) Fault Rule = Fault Handler (error flow)

Fault Handling

<FaultRules> located in

- **Proxy Endpoint**
- **Target Endpoint**

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```
<Step>
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<Step>
    <Name>SetConfigurationVariables</Name>
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<Step>
    <Name>VerifyApiKey</Name>
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<Step>
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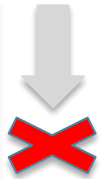

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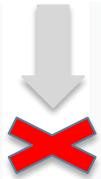

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6  </DefaultFaultRule>
7  <FaultRules>
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9          <Step>
10             <Name>Add-WWW-Authenticate-Header</Name>
11         </Step>
12     <Condition>(fault.name =="invalid_consumer_key")</Condition>
13     </FaultRule>
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Fault Handling

- <FaultRules>
  - Support for multiple fault rules, executed conditionally.

Fault Handling

- <FaultRules>
  - Support for multiple fault rules, executed conditionally.
- <DefaultFaultRule>
  - catch all
  - executes when no FaultRule matches
  - <AlwaysEnforce>

Rewriting Backend Error Responses

Edge has a pre-defined fault response format:

```
{
   "fault":{
      "faultstring":"%errorMessage#",
      "detail":{
         "errorcode":"%errocode#"
      }
   }
}
```

Rewriting Backend Error Responses

Edge has a pre-defined fault response format:

```
{
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      "faultstring":"%errorMessage#",
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         "errorcode":"%errocode#"
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```

You can either:

1. Rewrite backend error responses to match Apigee Edge's format.
2. Rewrite Edge fault responses to match the backend error response format.

Raise Fault policy

Code: raise_fault_invalid_post

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<RaiseFault async="false" continueOnError="false" enabled="true" name="raise_fault_invalid_post">
    <DisplayName>raise_fault_invalid_post</DisplayName>
    <FaultRules/>
    <Properties/>
    <FaultResponse>
        <Set>
            <Headers/>
            <Payload contentType="application/json">\{"error":"Invalid Post Data"}</Payload>
            <StatusCode>400</StatusCode>
            <ReasonPhrase>Bad Request</ReasonPhrase>
        </Set>
    </FaultResponse>
    <IgnoreUnresolvedVariables>true</IgnoreUnresolvedVariables>
</RaiseFault>
```

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Raise Fault policy

```
<PreFlow name="PreFlow">
       <Request>
           <Step>
               <Name>RaiseFaultMissingNameParam</Name>
               <Condition>request.queryparam.name == null</Condition>
           </Step>
       </Request>
       <Response/>
   </PreFlow>
```

Thank You

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Fault Handling

<FaultRule>

- Support for multiple fault rules, executed conditionally.
- Raised manually or automatically upon policy failure.
- If multiple conditional FaultRules defined, their conditions are evaluated in reverse order (bottom up).

<DefaultFaultRule>

- A catch-all / post processing fault rule is available using the flow
- If no FaultRule is matched, this flow will execute.
- Use <AlwaysEnforce>true</AlwaysEnforce> to use this flow for post processing in error flows. This will ensure the flow executes after a matched fault rule has completed its processing.

3 scenarios where processing will switch to fault processing:

- Using RaiseFault policy.
- Any policy failure when contineOnError=false (default setting).
- Non-success response received from service callout or

Raise Faults work with conditions

Select Post Ratings Resource from navigation pane

Add a condition to the Step (policy)

Code: post_ratings

```
1
2         <Flow name="post_ratings">
3             <Description/>
4             <Request>
5                 <Step>
6                     <FaultRules/>
7                     <Name>extract_post_data_ratings</Name>
8                 </Step>
9                 <Step>
10                    <FaultRules/>
11                    <Name>raise_fault_invalid_post</Name>
12                    <Condition>((truck = NULL) or (comment = NULL) or (commenter = NULL) or (score = NULL))</Condition>
13                </Step>
14            </Request>
15            <Response/>
16            <Condition>(proxy.pathsuf  latchesPath &quo  tings&quot;) an  quest.verb = &q  OST&quot;)</Condition>
17        </Flow>
```

Raise Fault policy

Add a Raise Fault Policy

Name and Select the Proxy Endpoint (Ratings (Post)) from the flows,

Modify the content to return an appropriate fault message

Code: raise_fault_invalid_post

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<RaiseFault async="false" continueOnError="false" enabled="true" name="raise_fault_invalid_post">
    <DisplayName>raise_fault_invalid_post</DisplayName>
    <FaultRules/>
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    <FaultResponse>
        <Set>
            <Headers/>
            <Payload contentType="application/json">\{"error":"Invalid Post Data"}</Payload>
            <StatusCode>400</StatusCode>
            <ReasonPhrase>Bad Request</ReasonPhrase>
        </Set>
    </FaultResponse>
    <IgnoreUnresolvedVariables>true</IgnoreUnresolvedVariables>
</RaiseFault>
```

Raise Fault Policy Details

Fault Response Tag Format

- Set – Allows you to build an inline response to fault
  - StatusCode – HTTP Status Code
  - ReasonPhrase – HTTP Reason Phrase
  - Payload – Message Contents for your fault (follows same spec as assign message)
- Copy – Allows you to copy the request or the response into the fault response
  - Attr:source – request or response object

Raise Faults work with conditions

Code: post_ratings

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4           <Request>
5               <Step>
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8               </Step>
9               <Step>
10                  <FaultRules/>
11                  <Name>raise_fault_invalid_post</Name>
12                  <Condition>((truck = NULL) or (comment = NULL) or (commenter = NULL) or (score = NULL))</Condition>
13              </Step>
14          </Request>
15          <Response/>
16          <Condition>(proxy.pathsuffix MatchesPath &quot;/ratings&quot;) and (request.verb = &quot;POST&quot;)</Condition>
17      </Flow>
```