

pS Results Codes

The proposal of result codes is based on the standardized solution of status codes in HTTP protocol.

HTTP Status Codes

- 1xx Informational
- 2xx Successful
 - o 200 OK
 - o 201 Created
 - o 202 Accepted
 - o 203 Non-Authoritative Information
 - o 204 No Content
 - o 205 Reset Content
 - o 206 Partial Content
- 3xx Redirection
 - o 300 Multiple Choices
 - o 301 Moved Permanently
 - o 302 Found
 - o 303 See Other
 - o 304 Not Modified
 - o 305 Use Proxy
 - o 307 Temporary Redirect
- 4xx Client Error
 - o 400 Bad Request
 - o 401 Unauthorized
 - o 402 Payment Required
 - o 403 Forbidden
 - o 404 Not Found
 - o 405 Method Not Allowed
 - o 406 Not Acceptable
 - o 407 Proxy Authentication Required
 - o 408 Request Timeout
 - o 409 Conflict
 - o 410 Gone
 - o 411 Length Required
 - o 412 Precondition Failed
 - o 413 Request Entity Too Large
 - o 414 Request-URI Too Long
 - o 415 Unsupported Media Type
 - o 416 Requested Range Not Satisfiable
 - o 417 Expectation Failed
- 5xx Server Error
 - o 500 Internal Server Error

- o 501 Not Implemented
- o 502 Bad Gateway
- o 503 Service Unavailable
- o 504 Gateway Timeout
- o 505 HTTP Version Not Supported

More information about HTTP Status Codes:

<http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>

PerfSONAR structure of Result Codes

- <http://perfsonar.net/status/>
 - o informational/
 - o successful/
 - echo/
 - registration/
 - o redirection/
 - o clienterror/
 - badrequest/
 - unauthorized/
 - methodnotallowed/
 - notacceptable/
 - messagenotallowed/
 - eventtypenotallowed/
 - expectedresponsetoolarge/
 - o servererror/
 - internalservererror/
 - serviceunavailable/
 - protversionnotsupported/
 - datafetcherror/

Alternative approach (with result code numbers):

- <http://perfsonar.net/status/>
 - o 230/
 - o 231/
 - o 400/
 - o 401/
 - o 405/
 - o 406/
 - o 430/
 - o 431/
 - o 432/
 - o 500/
 - o 503/
 - o 530/
 - o 531/

Specific result codes proposed for perfSONAR events have numbers ≥ 30 in all categories ($\geq x30$).

Examples:

pS Result Code Number	pS Result Code Name
230	echo
231	registration
...	...
430	messagingnotallowed
431	eventtypenotallowed
432	expectedresponsetoolarge
...	...
530	protversionnotsupported
531	datafetcherror
...	...

Response examples

Echo message response

```
<nmwg:message id="resp1"
  type="EchoResponse"
  xmlns:nmwg=http://ggf.org/ns/nmwg/base/2.0/
  xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">

  <nmwg:metadata id="result-code">
    <nmwg:eventType>
      http://perfsonar.net/status/successful/echo/
    </nmwg:eventType>
  </nmwg:metadata>

  <nmwg:data id="result-code-desc" metadataIdRef="result-code">
    <nmwgr:datum xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">
      This is the success echo response from the service.
    </nmwgr:datum>
  </nmwg:data>

</nmwg:message>
```

Alternative:

```
<nmwg:message id="resp1"
  type="EchoResponse"
  xmlns:nmwg=http://ggf.org/ns/nmwg/base/2.0/
  xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">
```

```

<nmwg:metadata id="result-code">
  <nmwg:eventType>
    http://perfonar.net/status/230/
  </nmwg:eventType>
</nmwg:metadata>

<nmwg:data id="result-code-desc" metadataIdRef="result-code">
  <nmwgr:datum xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">
    This is the success echo response from the service.
  </nmwgr:datum>
</nmwg:data>

</nmwg:message>

```

MetadataKeyResponse

```

<nmwg:message id="resp1"
  type="MetadataKeyResponse"
  xmlns:nmwg=http://ggf.org/ns/nmwg/base/2.0/
  xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">

  <nmwg:metadata id="result-code">
    <nmwg:eventType>
      http://perfonar.net/status/servererror/datafetcherror/
    </nmwg:eventType>
  </nmwg:metadata>

  <nmwg:data id="result-code-desc" metadataIdRef="result-code">
    <nmwgr:datum>
      Requested metadata items are not available.
    </nmwgr:datum>
  </nmwg:data>

</nmwg:message>

```

Alternative:

```

<nmwg:message id="resp1"
  type="MetadataKeyResponse"
  xmlns:nmwg=http://ggf.org/ns/nmwg/base/2.0/
  xmlns:nmwgr="http://ggf.org/ns/nmwg/result/2.0/">

  <nmwg:metadata id="result-code">
    <nmwg:eventType>
      http://perfonar.net/status/531/
    </nmwg:eventType>
  </nmwg:metadata>

  <nmwg:data id="result-code-desc" metadataIdRef="result-code">
    <nmwgr:datum>
      Requested metadata items are not available.
    </nmwgr:datum>
  </nmwg:data>

</nmwg:message>

```

Adding new result codes

All new result codes requested by pS service maintainers and developers should be discussed and agreed within OGF NMC-WG group.