

## CN REST - Task #7903

### Need to implement/support the default http methods - HEAD and GET on all DataONE API (both cn and mn)

2016-10-07 23:59 - Matthew Jones

<b>Status:</b> New	<b>Start date:</b> 2016-10-07
<b>Priority:</b> Normal	<b>Due date:</b>
<b>Assignee:</b> Jing Tao	<b>% Done:</b> 0%
<b>Category:</b> d1_cn_rest	<b>Estimated time:</b> 0.00 hour
<b>Target version:</b>	
<b>Story Points:</b>	
<b>Description</b>	
Developers on the Whole Tale project at NCSA reported a bug in the HTTP HEAD request for our resolve service URIs. Example output below to reproduce the error.	
Expected: a status code of 200	
xarth@shakuras ~ \$ curl --head <a href="https://cn.dataone.org/cn/v2/resolve/urn%3Auuid%3Ae9ff8bfe-f12d-4630-a6f1-f3eab740be6f">https://cn.dataone.org/cn/v2/resolve/urn%3Auuid%3Ae9ff8bfe-f12d-4630-a6f1-f3eab740be6f</a>	
HTTP/1.1 500 Internal Server Error	
Date: Fri, 07 Oct 2016 23:00:14 GMT	
Server: Apache/2.2.22 (Ubuntu)	
Content-Length: 260	
Access-Control-Allow-Origin:	
Access-Control-Allow-Credentials: true	
Access-Control-Allow-Headers: Authorization, Content-Type, Location, Content-Length, x-annotator-auth-token	
Access-Control-Expose-Headers: Content-Length, Content-Type, Location	
Access-Control-Allow-Methods: POST, GET, OPTIONS, PUT, DELETE	
Vary: Accept-Encoding	
Connection: close	
Content-Type: text/xml;charset=UTF-8	
xarth@shakuras ~ \$ curl --head <a href="https://knb.ecoinformatics.org/knb/d1/mn/v2/object/urn%3Auuid%3Ae9ff8bfe-f12d-4630-a6f1-f3eab740be6f">https://knb.ecoinformatics.org/knb/d1/mn/v2/object/urn%3Auuid%3Ae9ff8bfe-f12d-4630-a6f1-f3eab740be6f</a>	
HTTP/1.1 200 OK	
Date: Fri, 07 Oct 2016 23:00:48 GMT	
Server: Apache/2.4.7 (Ubuntu)	
Set-Cookie: JSESSIONID=7DC18368F71D5D9948371B3C33437E8B; Path=/knb/; Secure	
DataONE-Checksum: SHA-1,927a11b6e46b771c9922083814f6ee8e5b09f696	
Last-Modified: Thu, 01 Jan 1970 00:00:00 GMT	
DataONE-ObjectFormat: application/octet-stream	
DataONE-SerialVersion: 0	
Content-Length: 2809655736	
Access-Control-Allow-Origin:	
Access-Control-Allow-Credentials: true	
Content-Type: text/xml	

## History

### #1 - 2016-10-08 00:59 - Jing Tao

I think the reason that the command gets the internal error is our DataONE rest API doesn't support the "HEAD" method for the "resolve". The "resolve" only supports the "GET" http method.

I saw those error on cn-stage-2:

```
20161008-00:52:25: [DEBUG]: URI Template variables for request [/v2/resolve/0e945ef6-48e1-433c-9962-e7cebb6b9ebd] are {}
[org.springframework.web.servlet.mvc.annotation.DefaultAnnotationHandlerMapping]
20161008-00:52:25: [DEBUG]: Mapping [/v2/resolve/0e945ef6-48e1-433c-9962-e7cebb6b9ebd] to HandlerExecutionChain with handler
[org.dataone.cn.rest.proxy.controller.v2.CNReadController@107bdc6] and 1 interceptor
[org.springframework.web.servlet.mvc.annotation.DefaultAnnotationHandlerMapping]
20161008-00:52:25: [DEBUG]: Last-Modified value for [/cn/v2/resolve/0e945ef6-48e1-433c-9962-e7cebb6b9ebd] is: -1
[org.springframework.web.servlet.DispatcherServlet]
20161008-00:52:25: [DEBUG]: Resolving exception from handler [org.dataone.cn.rest.proxy.controller.v2.CNReadController@107bdc6]:
org.springframework.web.HttpRequestMethodNotSupportedException: Request method 'HEAD' not supported
```

```
[org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerExceptionHandlerResolver]
20161008-00:52:25: [DEBUG]: Could not complete request [org.springframework.web.servlet.DispatcherServlet]
org.springframework.web.HttpRequestMethodNotSupportedException: Request method 'HEAD' not supported
```

If we specify the "GET" method on the curl command, it will work:

```
valley:metacat tao$ curl --head -X GET https://cn.dataone.org/cn/v2/resolve/urn%3Auuid%3Ae9ff8bfe-f12d-4630-a6f1-f3eab740be6f
HTTP/1.1 303 See Other
Date: Sat, 08 Oct 2016 00:57:51 GMT
Server: Apache/2.2.22 (Ubuntu)
Set-Cookie: JSESSIONID=51113F8C98820CBC1FA2CEB21A201D8E; Path=/cn/; Secure; HttpOnly
Location: https://knb.ecoinformatics.org/knb/d1/mn/v2/object/urn:uuid:e9ff8bfe-f12d-4630-a6f1-f3eab740be6f
Content-Length: 491
Access-Control-Allow-Origin:
Access-Control-Allow-Credentials: true
Access-Control-Allow-Headers: Authorization, Content-Type, Location, Content-Length, x-annotator-auth-token
Access-Control-Expose-Headers: Content-Length, Content-Type, Location
Access-Control-Allow-Methods: POST, GET, OPTIONS, PUT, DELETE
Vary: Accept-Encoding
Content-Type: text/xml;charset=UTF-8
```

## #2 - 2016-10-08 01:32 - Matthew Jones

My interpretation of HTTP 1.1 is that GET and HEAD methods are required for all servers, while other methods are optional. See in particular section 4.1 of RFC 7231, which says:

<https://tools.ietf.org/html/rfc7231#page-21>

All general-purpose servers MUST support the methods GET and HEAD.  
All other methods are OPTIONAL.

...

However, the set of allowed methods can change dynamically. When a request method is received that is unrecognized or not implemented by an origin server, the origin server SHOULD respond with the 501 (Not Implemented) status code. When a request method is received that is known by an origin server but not allowed for the target resource, the origin server SHOULD respond with the 405 (Method Not Allowed) status code.

Even if you ignore the first sentence, then the status code should still be 501 (not Implemented) or 405 (Method Not Allowed), rather than internal server error.

**#3 - 2016-10-08 03:21 - Dave Vieglais**

Although this observation is particular to the resolve method, it is broadly applicable. DataONE offers services over the HTTP protocol. Hence, it is necessary to always default to the protocol specifications when actions are not defined in the DataONE API specifications.

**#4 - 2016-10-10 16:53 - Jing Tao**

- *Subject changed from HEAD request on CN resolve service returns internal service error to Need to implement/support the default http methods - HEAD and GET on all DataONE API (both cn and mn)*

Yeah, we need support them. I modified the title of the ticket as well.