

SQLHandler

[Opendap svn](#)

[Google code](#)

[Sourceforge](#)

C++ library and modules to add relational database support to the OPeNDAP Hyrax back-end server.

*Developed by Dr. **Carlo Cancellieri***

*is distributed under **LGPL** license*

SQLHandler Use cases



BES start

Loaded modules:

3.Sql (base module)

4.Odbc (SQLPlugin for unixODBC)

```
[CEST Sun Aug 15 22:55:16 2010 id: 15131] ServerApp: initialized settings:ServerApp
got port? 1
port: 10002
unix socket:
is secure? 0
pid: 15131
tcp socket: null
unix socket: null
ppt server: null
BESModuleApp::dump - (0x7fffc9924530)
loaded modules:
dap: /opt/bes/lib/bes/libdap_module.so
dapcmd: /opt/bes/lib/bes/libdap_xml_module.so
sql: /opt/bes/lib/bes/libsql_module.so
odbc: /opt/bes/lib/bes/libodbc_module.so
usage: /opt/bes/lib/bes/libusage_module.so
ascii: /opt/bes/lib/bes/libascii_module.so
www: /opt/bes/lib/bes/libwww_module.so
[CEST Sun Aug 15 22:55:16 2010 id: 15131] ServerApp: initializing memory pool ...
[CEST Sun Aug 15 22:55:16 2010 id: 15131] OK
[CEST Sun Aug 15 22:55:16 2010 id: 15131] ServerApp: listening on port (10002)
OK: Successfully started the BES
PID: 15131 UID: 0
```

SQLHandler

Select the example folder

Contents of /data

Name	Last Modified	Size	Response Links
Parent Directory/			
ff/	2010-06-24T13:33:45	-	-
mysql/	2010-08-15T19:59:42	-	-
sql/	2010-08-14T01:23:39	-	-

THREDDS Catalog [XML](#)

Hyrax development sponsored by [NSF](#) , [NASA](#) , and [NOAA](#)

OPeNDAP Hyrax (Not.A.Release)
[Documentation](#)



Contents of /data/sql

Name	Last Modified	Size	Response Links
Parent Directory/			
test_full.sql	2010-08-14T01:23:39	5560	ddx dds das info html rdf

THREDDS Catalog [XML](#)

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Contents of /data/sql

Name	Last Modified	Size	Response Links			
Parent Directory/						
test_full.sql	2010-08-14T01:23:39	5560	ddx	dds	das	info
				html	rdf	

[THREDDS Catalog XML](#)

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[OPeNDAP Hyrax \(Not.A.Release\)](#)
[Documentation](#)

Variables in this Dataset

catalogContainer: Sequence

i: Using precision: 10

r: Using precision: 7

v: Using precision: 50

i: 32 bit Integer

r: 32 bit Real

v: String

OPeNDAP Server Dataset Access Form

Action:

Get ASCII

Binary (DAP) Object

Show Help

Click on 'Get ASCII'

Data URL:

http://localhost:8088/opepdap/data/sql/test_full.sql

Global
Attributes:

i: Using precision: 10
r: Using precision: 7
v: Using precision: 50

Variables: Sequence catalogContainer

☐ **i: 32 bit Integer**

i <= ▾

☐ **r: 32 bit Real**

r < ▾

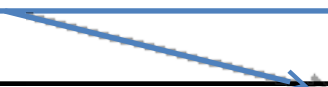
☐ **v: string**

v > ▾

*SQLHandler
The HTML view*

SQLHandler

The complete ASCII dump of the sample dataset



```
Dataset: /opt/bes/share/hyrax//data/sql/test_full.sql
catalogContainer.i, catalogContainer.r, catalogContainer.v
1, 81, "string_a"
2, 61.1, "string_b"
3, 51, "string_c"
4, 2100, "string_d"
5, 21, "string_e"
6, 4133, "string_f"
7, 31.4, "string_g"
8, 21.3, "string_h"
9, 11.6, "string_i"
10, 22.2, "string_j"
```

NOTE:

*Data is added to the DB using the **install.dir/isql.sh** script.
Used data is located into the **install.dir/sqlh.sql** file (this is NOT a dataset).
Read the **INSTALL** and **SQLHandler.ppt** file for details.*

OPeNDAP Server Dataset Access Form

Action:

[Get ASCII](#)[Binary \(DAP\) Object](#)[Show Help](#)

Data URL:

Global Attributes:

i: Using precision: 10
r: Using precision: 7
v: Using precision: 50

Variables: Sequence catalogContainer

☐ i: 32 bit Integer

i =

☐ r: 32 bit Real

r =

☐ v: string

v >

*Constraints on string:
You probably (depending on the
used DB) need to wrap with ''
the value of the constraint*

Support contact omitted in public copy



*Filtering strings:
The row containing the strings $\leq$ 'string_a' are
filtered...*



```
Dataset: /opt/bes/share/hyrax//data/sql/test_full.sql
catalogContainer.i, catalogContainer.r, catalogContainer.v
2, 61.1, "string_b"
3, 51, "string_c"
4, 2100, "string_d"
5, 21, "string_e"
6, 4133, "string_f"
7, 31.4, "string_g"
8, 21.3, "string_h"
9, 11.6, "string_i"
10, 22.2, "string_j"
```

OPeNDAP Server Dataset Access Form

Action:

Get ASCII

Binary (DAP) Object

Show Help

Data URL:

http://localhost:8088/opepdap/data/sql/test_full.sql?catalogContainer.i,catalogContainer.r,c

Global Attributes:

i: Using precision: 10
r: Using precision: 7
v: Using precision: 50

Variables: Sequence catalogContainer

☒ i: 32 bit Integer

i <= 5

☒ r: 32 bit Real

r < 70

☒ V: string

v >

*Constraints and Projection:
You probably (depending on the
used DB) need to wrap with ''
the value of the constraint*

Filtering values:



```
Dataset: /opt/bes/share/hyrax//data/sql/test_full.sql  
catalogContainer.i, catalogContainer.r, catalogContainer.v  
2, 61.1, "string_b"  
3, 51, "string_c"  
5, 21, "string_e"
```

OPeNDAP Server Dataset Access Form

Action:

Get ASCII

Binary (DAP) Object

Show Help

Data URL:

http://localhost:8088/opepdap/data/sql/test_full.sql?catalogContainer.i,catalogContainer.v

**Global
Attributes:**

i: Using precision: 10
r: Using precision: 7
v: Using precision: 50

Variables: Sequence catalogContainer

☒ i: 32 bit Integer

i <=

☐ r: 32 bit Real

r <

☒ v: string

v >

Projecting:

Projected values:
Column named 'r' is not projected



```
Dataset: /opt/bes/share/hyrax//data/sql/test_full.sql  
catalogContainer.i, catalogContainer.v  
1, "string_a"  
2, "string_b"  
3, "string_c"  
4, "string_d"  
5, "string_e"  
6, "string_f"  
7, "string_g"  
8, "string_h"  
9, "string_i"  
10, "string_j"
```

SQLHandler is developed by:

Dr. Carlo Cancellieri

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Special thanks:

Mentor names omitted in public copy

