

## Test Schema

```
making {NAME => 'content', FAMILIES => [{NAME => 'content', COMPRESSION => 'GZ', VERSIONS  
=> '1', LENGTH => '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false',  
BLOCKCACHE => 'false'}, {NAME => 'info', COMPRESSION => 'NONE', VERSIONS => '1', LENGTH  
=> '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false', BLOCKCACHE =>  
'false'}, {NAME => 'url', COMPRESSION => 'NONE', VERSIONS => '1', LENGTH => '2147483647',  
TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false', BLOCKCACHE => 'false'}]}
```

```
making {NAME => 'urls', FAMILIES => [{NAME => 'info', COMPRESSION => 'NONE', VERSIONS =>  
'1', LENGTH => '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false',  
BLOCKCACHE => 'false'}]}
```

## Get Version (as plain text)

```
% curl http://localhost:8080/version
```

```
HTTP/1.1 200 OK  
Cache-Control: no-cache  
Content-Type: text/plain  
Transfer-Encoding: chunked
```

```
Stargate 0.0.1 [JVM: Sun Microsystems Inc. 1.6.0_12-11.2-b01] [OS: Windows XP 5.1  
x86] [Jetty: 6.1.14] [Jersey: 1.1.0-ea]
```

## Get Web Application Description Language (WADL) metadata

```
% curl http://localhost:8080/application.wadl
```

```
HTTP/1.1 200 OK  
Content-Type: text/xml  
Transfer-Encoding: chunked
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<application xmlns="http://research.sun.com/wadl/2006/10">  
  <doc xmlns:jersey="http://jersey.dev.java.net/" jersey:generatedBy="Jers  
ey: 1.1.0-ea 04/30/2009 04:46 PM"/>  
  ...  
</application>
```

**NOTE:** Any of the following PUT or POST methods accept protobuf representation instead of XML if Content-Type is set to *application/x-protobuf*. Any of the following GET methods send protobuf representation instead of XML if Accept header is set to *application/x-protobuf*. In this document, XML examples are shown for readability. It is expected that protobuf representations will be used in practice for performance. However, most following examples skip protobuf representation.

## Get Table List (as plain text)

```
% curl http://localhost:8080/
```

```
HTTP/1.1 200 OK  
Cache-Control: no-cache  
Content-Type: text/plain  
Transfer-Encoding: chunked
```

```
content  
urls
```

## Get Table List (as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked

<TableList><table name="content"/><table name="urls"/></TableList>
```

## Get Table List (as protobuf)

```
% curl -H "Accept: application/x-protobuf" http://localhost:8080/

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Length: 15
Content-Type: application/x-protobuf

...
```

where binary protobuf encoding followed the HTTP response header:

```
0a 07 63 6f 6e 74 65 6e 74 0a 04 75 72 6c 73
```

## Get Table Schema (as plain text)

```
% curl http://localhost:8080/content/schema

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/plain
Transfer-Encoding: chunked

{NAME => 'content', FAMILIES => [{NAME => 'content', COMPRESSION => 'GZ', VERSIONS => '1', LENGTH => '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false', BLOCKCACHE => 'false'}, {NAME => 'info', COMPRESSION => 'NONE', VERSIONS => '1', LENGTH => '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false', BLOCKCACHE => 'false'}, {NAME => 'url', COMPRESSION => 'NONE', VERSIONS => '1', LENGTH => '2147483647', TTL => '-1', BLOCKSIZE => '65536', IN_MEMORY => 'false', BLOCKCACHE => 'false'}]}
```

## Get Table Schema (as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/content/schema

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked

<TableSchema name="content" IS_ROOT="false" IS_META="false"><ColumnSchema name="content" BLOOMFILTER="false" COMPRESSION="GZ" VERSIONS="1" LENGTH="2147483647" TTL="-1" BLOCKSIZE="65536" IN_MEMORY="false" BLOCKCACHE="false"><ColumnSchema name="info" BLOOMFILTER="false" COMPRESSION="NONE" VERSIONS="1" LENGTH="2147483647" TTL="-1" BLOCKSIZE="65536" IN_MEMORY="false" BLOCKCACHE="false"><ColumnSchema name="url" BLOOMFILTER="false" COMPRESSION="NONE" VERSIONS="1" LENGTH="2147483647" TTL="-1" BLOCKSIZE="65536" IN_MEMORY="false" BLOCKCACHE="false"/></ColumnSchema></ColumnSchema></TableSchema>
```

## Get Table Schema (as protobuf)

```
% curl -H "Accept: application/x-protobuf" http://localhost:8080/content/schema

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Length: 49
Content-Type: application/x-protobuf
```

where binary protobuf encoding followed the HTTP response header:

```
00000000 0a 07 63 6f 6e 74 65 6e 74 12 10 0a 07 49 53 5f
00000020 52 4f 4f 54 12 05 66 61 6c 73 65 12 10 0a 07 49
00000040 53 5f 4d 45 54 41 12 05 66 61 6c 73 65 20 00 28
00000060 00
```

## Get Table Regions (as plain text)

```
% curl http://localhost:8080/urls/regions

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/plain
Transfer-Encoding: chunked

urls,,1243587232996 [
  id: 1243587232996
  startKey:
  endKey: http|ad.doubleclick.net|80|adi|amzn.us.dp.apparel|shoes.womens;sz=
728x90;u=f0f710f57618495680f43a68f4c9f0a6;z=1429;tile=2
  location: test04:60020
]
urls,http|ad.doubleclick.net|80|adi|amzn.us.dp.apparel|shoes.womens;sz=728x9
0;u=f0f710f57618495680f43a68f4c9f0a6;z=1429;tile=2,1243587232996 [
  id: 1243587232996
  startKey: http|ad.doubleclick.net|80|adi|amzn.us.dp.apparel|
shoes.womens;sz=728x90;u=f0f710f57618495680f43a68f4c9f0a6;z=1429;tile=2
  endKey: http|bigblackdisk.com|80|images|bbdtopicshops1.jpg
  location: test04:60020
]
urls,http|bigblackdisk.com|80|images|bbdtopicshops1.jpg,1243587244076 [
  id: 1243587244076
  startKey: http|bigblackdisk.com|80|images|bbdtopicshops1.jpg
  endKey: http|cdn11.sphere.com|80|widgets|sphereit|js|baseurl=http|cdn11.sp
here.com|widgets|sphereit|&siteid=bwe_teaser
  location: test04:60020
]
urls,http|cdn11.sphere.com|80|widgets|sphereit|js|baseurl=http|cdn11.sphere.
com|widgets|sphereit|&siteid=bwe_teaser,1243587244076 [
  id: 1243587244076
  startKey: http|cdn11.sphere.com|80|widgets|sphereit|js|baseurl=http|cdn1
1.sphere.com|widgets|sphereit|&siteid=bwe_teaser
... (many characters elided) ...

urls,http|www.thefilmcynics.com|80|blog|wp-content|uploads|2009|05|img_0827
-300x225.jpg,1243587257825 [
  id: 1243587257825
  startKey: http|www.thefilmcynics.com|80|blog|wp-content|uploads|2009|05|i
mg_0827-300x225.jpg
  endKey:
  location: test03:60020
]
```

## Get Table Regions (as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/urls/regions
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<TableInfo name="urls"><Region name="urls,,1243587232996" startKey="" endKey
="http|ad.doubleclick.net|80|adi|amzn.us.dp.apparel|shoes.womens;sz=728x90;z
=1429;tile=2" id="1243587232996"><Location host="test04" port="60020"/></Reg
ion><Region name="urls,http|ad.doubleclick.net|80|adi|amzn.us.dp.apparel|sho
es.womens;sz=728x90;z=1429;tile=2,1243587232996" startKey="http|ad.doublecli
ck.net|80|adi|amzn.us.dp.apparel|shoes.womens;sz=728x90;z=1429;tile=2" endKe
y="http|bigblackdisk.com|80|images|bbdtopicshops1.jpg" id="1243587232996"><L
ocation host="test04" port="60020"/></Region><Region name="urls,http|bigblac
kdisk.com|80|images|bbdtopicshops1.jpg,1243587244076" startKey="http|bigblac
kdisk.com|80|images|bbdtopicshops1.jpg" endKey="http|cdn11.sphere.com|80|wid
gets|sphereit|js|baseurl=http|cdn11.sphere.com|widgets|sphereit|&siteid=
bwe_teaser" id="1243587244076"><Location host="test04" port="60020"/></Regio
n><Region name="urls,http|cdn11.sphere.com|80|widgets|sphereit|js|baseurl=ht
tp|cdn11.sphere.com|widgets|sphereit|&siteid=bwe_teaser,1243587244076" s
tartKey="http|cdn11.sphere.com|80|widgets|sphereit|js|baseurl=http|cdn11.sph
ere.com|widgets|sphereit|&siteid=bwe_teaser" endKey="http|ecx.images-ama
zon.com|80|images|I|3100hiKtB7L._SL160_SS75_.jpg" id="1243587244076"><Locati
on host="test04" port="60020"/></Region><Region name="urls,http|ecx.images-a
```

... (many characters elided) ...

```
<Region name="urls,http|www.thefilmcynics.com|80|blog|wp-content|uploads|200
9|05|img_0827-300x225.jpg,1243587257825" startKey="http|www.thefilmcynics.co
m|80|blog|wp-content|uploads|2009|05|img_0827-300x225.jpg" endKey="" id="124
3587257825"><Location host="test03" port="60020"/></Region></TableInfo>
```

## Get Table Regions (as protobuf)

```
% curl -H "Accept: application/x-protobuf" http://localhost:8080/urls/regions
```

```
HTTP/1.1 200 OK
Content-Length: 4963
Cache-Control: no-cache
Content-Type: application/x-protobuf
```

...

where binary protobuf encoding followed the HTTP response header:

```
000000 0a 04 75 72 6c 73 12 dc 02 0a 13 75 72 6c 73 2c
000010 2c 31 32 34 33 35 38 37 32 33 32 39 39 36 12 00
000020 1a 9f 02 68 74 74 70 7c 61 64 2e 64 6f 75 62 6c
000030 65 63 6c 69 63 6b 2e 6e 65 74 7c 38 30 7c 61 64
000040 69 7c 61 6d 7a 6e 2e 75 73 2e 64 70 2e 61 70 70
000050 61 72 65 6c 7c 73 68 6f 65 73 2e 77 6f 6d 65 6e
000060 73 3b 73 7a 3d 37 32 38 78 39 30 3b 75 3d 66 30
000070 66 37 31 30 66 35 37 36 31 38 34 39 35 36 38 30
000080 66 34 33 61 36 38 66 34 63 39 66 30 61 36 3b 6f
...
001360 f4 d4 03
```

## Retrieve Row Data (does not exist)

```
% curl -H "Accept: text/xml" http://localhost:8080/content/foobar
```

```
HTTP/1.1 404 Not Found
Content-Length: 0
```

## Retrieve Row Data (row, as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/content/002b6d832210db12cd3687341a29c425
```

```
HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="content:raw" timestamp="1243175275046" encoding="base64">PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4NCjwhRE9DVFlQRSBodG1sIFBVQkxJQyAiLS8vVzNDLy9EVEQgWEhUTUwgMS4wIFN0cm1jdC8vRU4iICJodHRwOi8vd3d3LnczLm9yZy9UUi94aHRtbDEvRFREL3hodG1sMS1zdHJpY3QuZHRkIj4NCjxodG1sIHhtbG5zPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5L3hodG1sIiB4bWw6bGFuZz0iZW4iPg0KPGhlYWQ+DQo8dG10bGU+U2hvdXRib3g8L3RpdGxlPg0KPG1ldGEgaHR0cC1lcXVpdj0iQ29udGVudC1UeXB1IiBjb250ZW50PSJ0ZXh0L2h0bWw7IGNoYXJzZXQ9dXRmLTgiIC8+DQo8bWV0YSBodHRwLWVxdW12PSJDYWN0ZS1Db250cm9sIiBjb250ZW50PSJuby1jYWNoZSIgLn4NCjxtZXRhIG5hbWU9InJvYm90cyIgY29udGVudD0ibm9pbmRleCwgbm9mb2xsb3ciIC8+DQo8bWV0YSBpZD0idmllld3BvcnQiIG5hbWU9InZpZXdw3J0IiBjb250ZW50PSJ3aWR0aD0zMjwvY210Z
```

... (many characters elided) ...

```
<Cell row="002b6d832210db12cd3687341a29c425" column="url:http|www4.shoutmix.com|80|iceah76" timestamp="1243175275046" encoding="base64">aHR0cDovL3d3dzQuY2hvdXRtaXguY29tOjgwLz9pY2VhaDc2</Cell></CellSet>
```

## Retrieve Row Data (row, as protobuf)

```
% curl -H "Accept: application/x-protobuf" http://localhost:8080/content/002b6d832210db12cd3687341a29c425
```

```
HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Length: 7079
Content-Type: application-x-protobuf
```

...

where binary protobuf encoding followed the HTTP response header:

```
000000 0a a5 33 0a 20 30 30 32 62 36 64 38 33 32 32 31
000010 30 64 62 31 32 63 64 33 36 38 37 33 34 31 61 32
000020 39 63 34 32 35 12 0b 63 6f 6e 74 65 6e 74 3a 72
000030 61 77 18 a6 94 95 98 97 24 22 ec 32 3c 3f 78 6d
000040 6c 20 76 65 72 73 69 6f 6e 3d 22 31 2e 30 22 20
000050 65 6e 63 6f 64 69 6e 67 3d 22 55 54 46 2d 38 22
000060 3f 3e 0d 0a 3c 21 44 4f 43 54 59 50 45 20 68 74
000070 6d 6c 20 50 55 42 4c 49 43 20 22 2d 2f 2f 57 33
000080 43 2f 2f 44 54 44 20 58 48 54 4d 4c 20 31 2e 30
...
001ba0 69 63 65 61 68 37 36
```

## Retrieve Row Data (single cell, as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/content/002b6d832210db12cd3687341a29c425/info:mimetype

HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Type: text/xml
Transfer-Encoding: chunked

<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="info:mimetype"
  timestamp="1243175275046" encoding="base64">dGV4dC9odGlsOyBjaGFyc2V0PXV0Zi0
4</Cell></CellSet>
```

## Retrieve Row Data (single cell, as protobuf)

```
% curl -H "Accept: application/x-protobuf" http://localhost:8080/content/002b6d832210db12cd3687341a29c425/info:mimetype

HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Length: 84
Content-Type: application/x-protobuf

...
```

where binary protobuf encoding followed the HTTP response header:

```
000000 0a 52 0a 20 30 30 32 62 36 64 38 33 32 32 31 30
000010 64 62 31 32 63 64 33 36 38 37 33 34 31 61 32 39
000020 63 34 32 35 12 0d 69 6e 66 6f 3a 6d 69 6d 65 74
000030 79 70 65 18 a6 94 95 98 97 24 22 18 74 65 78 74
000040 2f 68 74 6d 6c 3b 20 63 68 61 72 73 65 74 3d 75
000050 74 66 2d 38
```

## Retrieve Row Data (single cell, as binary)

```
% curl -H "Accept: application/octet-stream" http://localhost:8080/content/002b6d832210db12cd3687341a29c425/info:mimetype

HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Length: 24
Content-Type: application/octet-stream
X-Timestamp: 1243175275046

text/html; charset=UTF-8
```

## Retrieve Row Data (row glob, as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/urls/https|ad.doubleclick.net|\*

HTTP/1.1 200 OK
Cache-Control: max-age=14400
Content-Type: text/xml
Transfer-Encoding: chunked

<CellSet><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-out
side;lang=en_us;tile=1;sz=520x70;ord=123456789" column="info:crawler-1243175
060953" timestamp="1243175060968" encoding="base64">eyJpcCI6IjIxNi43My44Ni4x
NTMiLCJtaWlldHlwZSI6InVua25vd24iLCJ2aWEiOiJodHRwc2ovL3d3dy5wYXlwYWwuY29tOjgw
```

```
L2NnaSliaW4vd2Vic2NyIn0=</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=1;sz=520x70;ord=123456789" column="info:hash-d41d8cd98f00b204e9800998ecf8427e" timestamp="1243175060968" encoding="base64">ZDQxZDhjZDk4ZjAwYjIwNGU5ODAwOTk4ZWNmODQyN2U=</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=1;sz=520x70;ord=123456789" column="info:parent-https|www.paypal.com|80|cgi-bin|webscr" timestamp="1243175060968" encoding="base64">aHR0cHM6Ly93d3cucGF5cGFsLmNvbTo4MC9jZ2ktYmluL3dlYnNjcG==</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=1;sz=520x70;ord=123456789" column="info:url" timestamp="1243175060968" encoding="base64">aHR0cHM6Ly9hZC5kb3VibGVjbGljay5uZXQ6ODAvYWQvcGF5cGFsLnVzL05ld1VzZXJlbnR1dHNpZGU7bGFuZz11bl9lczt0aWxlPTE7c3o9NTIweDcwO29yZD0xMjM0NTY3ODk=</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=2;sz=560x228;ord=123456789" column="info:crawler-124315066609" timestamp="1243175066609" encoding="base64">eyJpcCI6IjIwNGU5ODAwOTk4ZWNmODQyN2U=</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=2;sz=560x228;ord=123456789" column="info:hash-d41d8cd98f00b204e9800998ecf8427e" timestamp="1243175066609" encoding="base64">ZDQxZDhjZDk4ZjAwYjIwNGU5ODAwOTk4ZWNmODQyN2U=</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=2;sz=560x228;ord=123456789" column="info:parent-https|www.paypal.com|80|cgi-bin|webscr" timestamp="1243175066609" encoding="base64">aHR0cHM6Ly93d3cucGF5cGFsLmNvbTo4MC9jZ2ktYmluL3dlYnNjcG==</Cell><Cell row="https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=2;sz=560x228;ord=123456789" column="info:url" timestamp="1243175066609" encoding="base64">aHR0cHM6Ly9hZC5kb3VibGVjbGljay5uZXQ6ODAvYWQvcGF5cGFsLnVzL05ld1VzZXJlbnR1dHNpZGU7bGFuZz11bl9lczt0aWxlPTE7c3o9NTIweDcwO29yZD0xMjM0NTY3ODk=</Cell><Cell row="https|ad.doubleclick.net|80|robots.txt" column="info:crawler-1243175051015" timestamp="1243175051015" encoding="base64">eyJpcCI6IjIwNGU5ODAwOTk4ZWNmODQyN2U=</Cell><Cell row="https|ad.doubleclick.net|80|robots.txt" column="info:hash-6c0c0b02c59a0e5b43917105fbae507" timestamp="1243175051015" encoding="base64">NmMwYzBiMDJjNTlhMGU1YjZzOTE3MTA1ZmJlYWU1MDc=</Cell><Cell row="https|ad.doubleclick.net|80|robots.txt" column="info:parent-https|ad.doubleclick.net|80|ad|paypal.us|NewUserHome-outside;lang=en_us;tile=1;sz=520x70;ord=123456789" timestamp="1243175051015" encoding="base64">aHR0cHM6Ly9hZC5kb3VibGVjbGljay5uZXQ6ODAvYWQvcGF5cGFsLnVzL05ld1VzZXJlbnR1dHNpZGU7bGFuZz11bl9lczt0aWxlPTE7c3o9NTIweDcwO29yZD0xMjM0NTY3ODk=</Cell><Cell row="https|ad.doubleclick.net|80|robots.txt" column="info:url" timestamp="1243175051015" encoding="base64">aHR0cHM6Ly9hZC5kb3VibGVjbGljay5uZXQ6ODAvcm9ib3RzLnR4dA==</Cell></Cells et>
```

NOTE: The request URL was sent as [http://localhost:8080/urls/https%7cad.doubleclick.net%7c\\*](http://localhost:8080/urls/https%7cad.doubleclick.net%7c*)

## Create and Iterate Scanner (XML)

```
% curl -H "Content-Type: text/xml" -d '<Scanner startRow="" batch="1" />'
http://localhost:8080/content/scanner
```

```
HTTP/1.1 201 Created
Location: http://localhost:8080/content/scanner/12432967148281123787
Content-Length: 0
```

```
% curl -H "Content-Type: text/xml"
http://localhost:8080/content/scanner/12432967148281123787
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="content:raw" timestamp="1243175275046" encoding="base64">PD94bWwgdmVyc2lvcj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4NCjwhRE9DVFlQRSBodGlsIFBVQkxJQyAiLS8vVzNDLy9EVEQgWEhUTUwgMS4wIFN0cmlljdc8vRU4iICJodHRwOi8vd3d3LnczLm9yZy9UUi94aHRtbDEvRFREL3hodGlsMSlzdHJpY3QuZHRkIj4NCjxodGlsIHhtbG5zPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5L3hodGlsIiB4bWw6bGFuZz0iZW4iPg0KPGhlYWQ+DQo8dG10bGU+U2hvdXRib3g8L3RpdGxlPg0KPG1ldGEgaHR0cC1lcXVpdj0iQ29udGVudC1UeXB1IiBjb250ZW50PSJ0ZXh0L2h0bWw7IGNoYXJzZXQ9dXRmLTgiIC8+DQo8bWV0YSBodHRwLWVxdWl2PSJDYWN0ZS1Db250cm9sIiBjb250ZW50PSJuby1jYWNoZSIgLy4NCjxtZXRhIG5hbWU9InJvYm90cyIgY29udGVudD0ibm9pbmRleCwgbm9mb2xsb3ciIC8+DQo8bWV0YSBpZD0idmll3BvcnQiIG5hbWU9InZpZXdw3J0IiBjb250ZW50PSJ3aWR0aD0zMp0KPC9o... (many lines elided) ...dGlsPg==</Cell></CellSet>
```

```
% curl -H "Content-Type: text/xml"
http://localhost:8080/content/scanner/12432967148281123787
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="info:crawler-http|www4.shoutmix.com|80|iceah76-1243175275046" timestamp="1243175275046" encoding="base64">eyJpcCI6Ijc1LjEyNi44My4yNTIiLCJtaWlldHlwZSI6InRleHQvaHRtbDsgY2hhcnNldD1ldGYtOCIsInZpYSI6Imh0dHA6Ly93b3ctbGVncy5ibG9nc3BvdC5jb206ODAvMjAwOS8wNS9ib3N0b24tcnVuLXRvLXJlbWVtYmVyLmh0bWwifQ==</Cell></CellSet>
```

```
% curl -H "Content-Type: text/xml"
http://localhost:8080/content/scanner/12432967148281123787
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="info:length" timestamp="1243175275046" encoding="base64">NjUwOA==</Cell></CellSet>
```

```
% curl -H "Content-Type: text/xml"
http://localhost:8080/content/scanner/12432967148281123787
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked
```

```
<CellSet><Cell row="002b6d832210db12cd3687341a29c425" column="info:mimetype" timestamp="1243175275046" encoding="base64">dGV4dC9odGlsOyBjaGFyc2V0PXV0Zi04</Cell></CellSet>
```

## Iterate Scanner (as binary)

```
% curl -H "Content-Type: application/octet-stream"
http://localhost:8080/content/scanner/12432967148281123787
```

```
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Length: 35
Content-Type: application/octet-stream
X-Row: 002b6d832210db12cd3687341a29c425
X-Column: url:http|www4.shoutmix.com|80|iceah76
X-Timestamp: 1243175275046
```

```
http://www4.shoutmix.com:80/iceah76
```



## Delete Scanner

```
% telnet localhost 8080
DELETE http://localhost:8080/content/scanner/12432967148281123787 HTTP/1.0

HTTP/1.1 200 OK
Content-Length: 0
```

## Create Table (XML)

```
% curl -H "Content-Type: text/xml" --data '<TableSchema name="test"> <ColumnSchema
name="test:"/> </TableSchema>' http://localhost:8080/test/schema

HTTP/1.1 201 Created
Location: http://localhost:8080/test/schema
Content-Length: 0
```

NOTE: If the table exists, the supplied table schema replaces the old one and the table is redeployed.

```
HTTP/1.1 200 OK
Content-Length: 0
```

## Insert Row Data (XML)

```
% curl -H "Content-Type: text/xml" --data '<CellSet><Cell encoding="plain">Some test
value!</Cell></CellSet>' http://localhost:8080/test/testrow/test:testcolumn

HTTP/1.1 200 OK
Content-Length: 0
```

NOTE: For XML representation, cell value encoding can be either "plain", for plain text; or "base64" for base-64 encoding of binary data.

NOTE: Row, column, and timestamp values in supplied Cells override the specifications of the same on the path, allowing for posting of multiple values to a table in batch. Use some row key known not to exist in the table, or reserve one by convention, e.g. "submit":

```
% curl -H "Content-Type: text/xml" --data '<CellSet><Cell row="testrow"
column="test:testcolumn" encoding="plain">Some test value!</Cell></CellSet>'
http://localhost:8080/test/submit

HTTP/1.1 200 OK
Content-Length: 0
```

## Delete Row Data

Delete a column (or qualified column):

```
% telnet localhost 8080
DELETE http://localhost:8080/test/testrow/test:testcolumn HTTP/1.0

HTTP/1.1 200 OK
Content-Length: 0
```

Delete all values in a row:

```
% telnet localhost 8080
```

```
DELETE http://localhost:8080/test/testrow HTTP/1.0

HTTP/1.1 200 OK
Content-Length: 0
```

## Delete Table

```
% telnet localhost 8080
DELETE http://localhost:8080/test/schema HTTP/1.0

HTTP/1.1 200 OK
Content-Length: 0
```

## Query Gateway Status (as plain text)

```
% curl http://localhost:8080/status/gateway

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/plain
Transfer-Encoding: chunked

172.20.3.232:8000
  requests=1.4275
```

## Query Gateway Status (as XML)

```
% curl -H "Accept: text/xml" http://localhost:8080/status/gateway

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/xml
Transfer-Encoding: chunked

<GatewayStatus><Gateway name="172.20.3.232:8000" requests="1.4275"/></Gatew
ayStatus>
```

## Query Cluster Status (as plain text)

```
% curl http://localhost:8080/status/cluster

HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: text/plain
Transfer-Encoding: chunked

3 live servers, 0 dead servers, 69.3333 average load

3 live servers
  test02:60020 1243623739430
    requests=3437, regions=67, usedHeap=373, maxHeap=998

    content,6038a15ca3fb9cfa4b1bc02791eba224,1243519043603
      stores=3, storefiles=4, memcacheSize=7, storefileIndexSize=0
    urls,http|www.aolcdn.com|80|ch_movies|content_page_bg,1243587239007
      stores=1, storefiles=1, memcacheSize=0, storefileIndexSize=0
    -ROOT-,0
      stores=1, storefiles=2, memcacheSize=11, storefileIndexSize=0
    content,2f2af2bb647eb73a15b565cleccd363c,1243578082327
      stores=3, storefiles=5, memcacheSize=29, storefileIndexSize=0
    ...

    content,791b18ab833a550200ab31f1156792ea,1243511683279
```

```
stores=3, storefiles=3, memcacheSize=0, storefileIndexSize=0

test04:60020 1243623739689
requests=4035, regions=70, usedHeap=592, maxHeap=998

content,9dc3600c03949cdf3aa1038aef5039e3,1243582814265
stores=3, storefiles=3, memcacheSize=19, storefileIndexSize=0
content,6741c6e777d6ae0cfe637da82c638608,1243591216060
stores=3, storefiles=2, memcacheSize=18, storefileIndexSize=0
urls,,1243587232996
stores=1, storefiles=1, memcacheSize=0, storefileIndexSize=0
urls,http|mall.fc2.com|80|item|saramart|15, 1243587239845
stores=1, storefiles=1, memcacheSize=31, storefileIndexSize=0

...

content,a44cf30f81e3532830c6126942a827b9,1243570770502
stores=3, storefiles=5, memcacheSize=36, storefileIndexSize=0

test03:60020 1243623741689
requests=3655, regions=71, usedHeap=206, maxHeap=998

content,d644dc5bae8010808dcbcdab33553466,1243522630977
stores=3, storefiles=1, memcacheSize=0, storefileIndexSize=0
content,333f9a3a28d4f6faf9d1619a3c0e680e,1243515414762
stores=3, storefiles=5, memcacheSize=0, storefileIndexSize=0
content,cd861b53463763c864e96a31ac523a43,1243521840891
stores=3, storefiles=2, memcacheSize=0, storefileIndexSize=0
.META.,,1
stores=2, storefiles=3, memcacheSize=0, storefileIndexSize=0

...

urls,http|www.thefilmcynics.com|80|blog|wp-content|uploads|2009|05|
img_0827-300x225.jpg,1243587257825
stores=1, storefiles=1, memcacheSize=0, storefileIndexSize=0
```

## Appendix A – Protobuf schema

```
message TableList {
  repeated string name = 1;
}

message TableInfo {
  required string name = 1;
  message Region {
    required bytes name = 1;
    optional bytes startKey = 2;
    optional bytes endKey = 3;
    optional int64 id = 4;
    message Location {
      required string host = 1;
      required int32 port = 2;
    }
    optional Location location = 5;
  }
  repeated Region regions = 2;
}

message ColumnSchema {
  optional string name = 1;
  message Attribute {
    required string name = 1;
    required string value = 2;
  }
  repeated Attribute attrs = 2;
  // optional helpful encodings of commonly used attributes
  optional int32 ttl = 3;
  optional int32 maxVersions = 4;
  optional string compression = 5;
}

message TableSchema {
  optional string name = 1;
  message Attribute {
    required string name = 1;
    required string value = 2;
  }
  repeated Attribute attrs = 2;
  repeated ColumnSchema columns = 3;
  // optional helpful encodings of commonly used attributes
  optional bool inMemory = 4;
  optional bool readOnly = 5;
}

message Cell {
  optional bytes row = 1;
  optional bytes column = 2;
  optional int64 timestamp = 3;
  optional bytes data = 4;
}

message CellSet {
  repeated Cell values = 1;
}
```

```

message Scanner {
    optional bytes startRow = 1;
    optional bytes endRow = 2;
    repeated bytes columns = 3;
    optional int32 batch = 4;
    optional int64 startTime = 5;
    optional int64 endTime = 6;
}

message GatewayStatus {
    message Gateway {
        required string name = 1;
        optional double connections = 2; // EWMA, not yet used
        optional double requests = 3; // EWMA
    }
    repeated Gateway nodes = 1;
}

message StorageClusterStatus {
    message Node {
        required string name = 1; // name:port
        optional int32 requests = 2;
        repeated bytes regions = 3;
    }
    // node status
    repeated Node liveNodes = 1;
    repeated string deadNodes = 2;
    // summary statistics
    optional int32 regions = 3;
    optional int32 requests = 4;
    optional double averageLoad = 5;
}

```