



Digital Audio Access Protocol

DAAP – Content Codes Request

This request serves to return the list of content codes in use by the server. This allows the server to be updated to contain new fields and older clients can still connect without trouble. In fact, this also allowed us to decode the entirety of the protocol very easily.

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Sample Request

```
GET /content-codes HTTP/1.1
Host: daap.example.com
Client-DAAP-Version: 1.0
User-Agent: iTunes/4.0 (Macintosh; N; PPC)
Accept-Language: en-us, en;q=0.93, [many more]
Accept-Encoding: gzip
```

Sample Response

```
HTTP/1.1 200 OK
Date: Thu, 01 May 2003 18:00:29 GMT
DAAP-Server: iTunes/4.0 (Mac OS X)
Content-Type: application/x-dmap-tagged
Content-Length: 1208
Content-Encoding: gzip
```

Content Codes

The `dmap.contentcodesresponse('mccr')` is the root container for the content codes response. It contains a `dmap.status('mstt')` field and several `dmap.dictionary('mdcl')` chunks that actually contain the information we're after.

Each of the `dmap.dictionary` chunks contains the following chunks:

name	type	description
<code>dmap.contentcodesnumber</code>	<code>mcnm</code>	Four-letter chunk type*
<code>dmap.contentcodesname</code>	<code>mcna</code>	Name of the type, such as "dmap.status"
<code>dmap.contentcodestype</code>	<code>mcty</code>	Type of data contained within (see below)

*the content types actually dictate that we show the `dmap.contentcodesnumber` as a number, but I have deliberately shown it as a string to make it easier to read.

```
dmap.contentcodesresponse = {
  dmap.status = 200
  dmap.dictionary = {
    dmap.contentcodesnumber = "miid"
    dmap.contentcodesname = "dmap.itemid"
    dmap.contentcodestype = 5
  }
  dmap.dictionary = {
    dmap.contentcodesnumber = "minm"
    dmap.contentcodesname = "dmap.itemname"
    dmap.contentcodestype = 9
  }
  dmap.dictionary = {
    dmap.contentcodesnumber = "mikd"
    dmap.contentcodesname = "dmap.itemkind"
    dmap.contentcodestype = 1
  }
  dmap.dictionary = {
    dmap.contentcodesnumber = "mper"
    dmap.contentcodesname = "dmap.persistentid"
    dmap.contentcodestype = 7
  }
  dmap.dictionary = {
    dmap.contentcodesnumber = "mcon"
    dmap.contentcodesname = "dmap.container"
    dmap.contentcodestype = 12
  }
  dmap.dictionary = {
```

```

dmap.contentcodesnumber = "mcti"
dmap.contentcodesname = "dmap.containeritemid"
dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mpco"
  dmap.contentcodesname = "dmap.parentcontainerid"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mstt"
  dmap.contentcodesname = "dmap.status"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "msts"
  dmap.contentcodesname = "dmap.statusstring"
  dmap.contentcodestype = 9
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mimc"
  dmap.contentcodesname = "dmap.itemcount"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mctc"
  dmap.contentcodesname = "dmap.containercount"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mrco"
  dmap.contentcodesname = "dmap.returnedcount"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mtco"
  dmap.contentcodesname = "dmap.specifiedtotalcount"
  dmap.contentcodestype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mlcl"
  dmap.contentcodesname = "dmap.listing"
  dmap.contentcodestype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mlit"
  dmap.contentcodesname = "dmap.listingitem"
  dmap.contentcodestype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mbcl"
  dmap.contentcodesname = "dmap.bag"
  dmap.contentcodestype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mdcl"
  dmap.contentcodesname = "dmap.dictionary"
  dmap.contentcodestype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "msrv"
  dmap.contentcodesname = "dmap.serverinforesponse"
  dmap.contentcodestype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "msau"
  dmap.contentcodesname = "dmap.authenticationmethod"
  dmap.contentcodestype = 1
}
dmap.dictionary = {
  dmap.contentcodesnumber = "mslr"
  dmap.contentcodesname = "dmap.loginrequired"
  dmap.contentcodestype = 1
}
dmap.dictionary = {
  dmap.contentcodesnumber = "xxxx"

```

```

    dmap.contentcodesnumber = "mpio"
    dmap.contentcodesname = "dmap.protocolversion"
    dmap.contentcodestype = 11
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msal"
    dmap.contentcodesname = "dmap.supportsautologout"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msup"
    dmap.contentcodesname = "dmap.supportsupdate"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mspi"
    dmap.contentcodesname = "dmap.supportspersistentids"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msex"
    dmap.contentcodesname = "dmap.supportextensions"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msbr"
    dmap.contentcodesname = "dmap.supportsbrowse"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msqy"
    dmap.contentcodesname = "dmap.supportsquery"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msix"
    dmap.contentcodesname = "dmap.supportsindex"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msrs"
    dmap.contentcodesname = "dmap.supportsresolve"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mstm"
    dmap.contentcodesname = "dmap.timeoutinterval"
    dmap.contentcodestype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "msdc"
    dmap.contentcodesname = "dmap.databasescount"
    dmap.contentcodestype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mlog"
    dmap.contentcodesname = "dmap.loginresponse"

    dmap.contentcodestype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mlid"
    dmap.contentcodesname = "dmap.sessionid"
    dmap.contentcodestype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mupd"
    dmap.contentcodesname = "dmap.updateresponse"
    dmap.contentcodestype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "musr"
    dmap.contentcodesname = "dmap.serverrevision"
    dmap.contentcodestype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mutv"

```

```

    dmap.contentcodesnumber = "mudl"
    dmap.contentcodesname = "dmap.updatetype"
    dmap.contentcodetype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mudl"
    dmap.contentcodesname = "dmap.deletedidlisting"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mccr"
    dmap.contentcodesname = "dmap.contentcodesresponse"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mcnm"
    dmap.contentcodesname = "dmap.contentcodesnumber"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mcna"
    dmap.contentcodesname = "dmap.contentcodesname"
    dmap.contentcodetype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "mcty"
    dmap.contentcodesname = "dmap.contentcodetype"
    dmap.contentcodetype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "apro"
    dmap.contentcodesname = "daap.protocolversion"
    dmap.contentcodetype = 11
}
dmap.dictionary = {
    dmap.contentcodesnumber = "avdb"
    dmap.contentcodesname = "daap.serverdatabases"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abro"
    dmap.contentcodesname = "daap.databasebrowse"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abal"
    dmap.contentcodesname = "daap.browsealbumlisting"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abar"

    dmap.contentcodesname = "daap.browseartistlisting"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abcp"
    dmap.contentcodesname = "daap.browsecomposerlisting"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abgn"
    dmap.contentcodesname = "daap.browsegenrelisting"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "adbs"
    dmap.contentcodesname = "daap.databasesongs"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asal"
    dmap.contentcodesname = "daap.songalbum"
    dmap.contentcodetype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asar"

```

```

    -
    dmap.contentcodesname = "daap.songartist"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asbt"
    dmap.contentcodesname = "daap.songbeatsperminute"
    dmap.contentcodestype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asbr"
    dmap.contentcodesname = "daap.songbitrate"
    dmap.contentcodestype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "ascm"
    dmap.contentcodesname = "daap.songcomment"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asco"
    dmap.contentcodesname = "daap.songcompilation"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "ascp"
    dmap.contentcodesname = "daap.songcomposer"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asda"
    dmap.contentcodesname = "daap.songdateadded"
    dmap.contentcodestype = 10
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdm"
    dmap.contentcodesname = "daap.songdatemodified"
    dmap.contentcodestype = 10
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdc"
    dmap.contentcodesname = "daap.songdisccount"
    dmap.contentcodestype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdn"
    dmap.contentcodesname = "daap.songdiscnumber"
    dmap.contentcodestype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdb"
    dmap.contentcodesname = "daap.songdisabled"
    dmap.contentcodestype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "aseq"
    dmap.contentcodesname = "daap.songeqpreset"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asfm"
    dmap.contentcodesname = "daap.songformat"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asgn"
    dmap.contentcodesname = "daap.songgenre"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdt"
    dmap.contentcodesname = "daap.songdescription"
    dmap.contentcodestype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asrv"

```

```

    dmap.contentcodesname = "daap.songrelativevolume"
    dmap.contentcodetype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "assr"
    dmap.contentcodesname = "daap.songsamplerate"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "assz"
    dmap.contentcodesname = "daap.songsize"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asst"
    dmap.contentcodesname = "daap.songstarttime"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "assp"
    dmap.contentcodesname = "daap.songstoptime"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "astm"
    dmap.contentcodesname = "daap.songtime"
    dmap.contentcodetype = 5
}
dmap.dictionary = {
    dmap.contentcodesnumber = "astc"
    dmap.contentcodesname = "daap.songtrackcount"
    dmap.contentcodetype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "astn"
    dmap.contentcodesname = "daap.songtracknumber"
    dmap.contentcodetype = 3
}
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asur"
    dmap.contentcodesname = "daap.songuserrating"
    dmap.contentcodetype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asyr"
    dmap.contentcodesname = "daap.songyear"
    dmap.contentcodetype = 3
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asdk"
    dmap.contentcodesname = "daap.songdatakind"
    dmap.contentcodetype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "asul"
    dmap.contentcodesname = "daap.songdataurl"
    dmap.contentcodetype = 9
}
dmap.dictionary = {
    dmap.contentcodesnumber = "aply"
    dmap.contentcodesname = "daap.databaseplaylists"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "abpl"
    dmap.contentcodesname = "daap.baseplaylist"
    dmap.contentcodetype = 1
}
dmap.dictionary = {
    dmap.contentcodesnumber = "apso"
    dmap.contentcodesname = "daap.playlistsongs"
    dmap.contentcodetype = 12
}
dmap.dictionary = {
    dmap.contentcodesnumber = "arsv"

```

```
dmap.contentcodesname = "daap.resolve"
dmap.contentcodetype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "arif"
  dmap.contentcodesname = "daap.resolveinfo"
  dmap.contentcodetype = 12
}
dmap.dictionary = {
  dmap.contentcodesnumber = "aeNV"
  dmap.contentcodesname = "com.apple.itunes.norm-volume"
  dmap.contentcodetype = 5
}
dmap.dictionary = {
  dmap.contentcodesnumber = "aeSP"
  dmap.contentcodesname = "com.apple.itunes.smart-playlist"
  dmap.contentcodetype = 1
}
}
```

Content Types

The following table describes the type numbers as provided in the above:

type	name	description
1	char	1-byte value, can be used as a boolean (true if the value is present, false if not)
3	short	2-byte integer
5	long	4-byte integer
7	long long	8-byte integer, tends to be represented in hex rather than numerical form
9	string	string of characters (UTF-8)
10	date	4-byte integer with seconds since 1970 (standard UNIX time format)
11	version	2-bytes major version, next byte minor version, last byte patchlevel
12	container	contains a series of other chunks, one after the other