

# The HTTP Module

## Introduction

This blurb is about using QDL's HTTP module. This module allows you to do basic operations to a website using the HTTP protocol.

## Loading the module

This is a Java module and is included in the standard distribution, but is not loaded, so to use it load it by issuing

```
q := module_load('edu.uiuc.ncsa.qdl.extensions.http.QDLHTTPLoader', 'java')
module_import(q)
http
```

or use jload which does it all in one fell swoop:

```
jload(info().lib.'tools'.http)
http
```

## Supported functions

Name	Description	Comment
close()	close the connection	All requests will fail until open() is called
delete()	DELETE	Use current host
delete(parameters.)	DELETE	Use current host, add parameters
delete(uri_path, parameters.)	DELETE	Append uri_path to host, add parameters
get()	GET	Use current host
get(parameters.)	GET	Use host, add parameters. is a stem
get(uri_path, parameters.)	GET	Append path_uri to host, use parameters
headers()	list the current default headers	
headers(arg.)	set the default headers	
host()	get the current host	
host(host_name)	set the current host	
is_open()	is the connection open?	
is_json(response.)	Is the response content of type JSON?	This and is_text accept either the response or just the headers.

is_text(response.)	Is the response content of type text?	This does not include JSON since there is a separate method for that.
open()	open a new connection	
open(insecure)	open a new, insecure connection	insecure is a boolean, which if <b>true</b> will turn off security for SSL. Default is <b>false</b> .
post(arg   arg.)	POST	Payload may be a string or a stem.
post(uri_path, arg   arg.)	POST	Append uri_path to host, send payload
put(arg   arg.)	PUT	Payload may be a string or stem
put(uri_path, arg   arg.)	PUT	Append uri_path to host, send payload

Get returns a stem with entries for status, content and any returned headers.

## Typical examples

Assuming you have loaded the above, open up a connection and get

```
jload(info().lib.'tools'.http)
http
http#host('https://didact-patto.dev.umccr.org/api/visa') ;
http#open();
true
z. := http#get({'sub':'https://nagim.dev/p/wjaha-ppqrg-10000'});
z.
{
  headers: {
    Connection:keep-alive,
    etag:W/"e6-suhkGbMm3fkbNhOR6bOIwIgh8A",
    Apigw-Requestid:Gv9mdhv4SwMEMHw=,
    Content-Length:230,
    Date:Tue, 05 Oct 2021 19:37:04 GMT,
    Content-Type:application/json; charset=utf-8,
    X-Powered-By:Express
  },
  content: [
    {
s:XnKFKl4RTXtB2DD0f5f4yLtfcTaCGyqMxIV8Q42zX_XR1p9Cnxeqq2KI_4UCzcJZ2XGv_hlqVG0W5_3FE
9ZHCQ,
      v:c:8XZF4195109CIIERC35P577HAM et:1633549022 iu:https://nagim.dev/p/wjaha-ppqrg-
10000 iv:2f69e2650aed4f0e,
      k:rfc8032-7.1-test1
    }
  ],
  status: {
    code:200,
    message:OK
  }
}
```

```
is_json(z.)  
true
```

So we see the various components of the response, z.:

- `headers.` - A stem of the headers, where the key is the name of the header and the value is its value (as a string, so Content-Length is not a number).
- `content.` - The exact content. Here, it is an array with a single element and note that `headers.Content-Type` contains `application/json` and hence was in JSON format. If the content type is anything else, it will be returned as a stem of lines. The `is_json` function tell you if the content type was JSON. In this example, it was a JSON blob with 3 entries.
- `status.` - The http status, which includes the [status code](#) and the message from the server. Anything other than something in the 200 range is an error.

Note that there are other options for `content.` but it will always be an array. For instance, from other servers it may be the lines in the body of the response if the Content-Type is `form_encoding`. In that case, you will have to loop through the lines and process each of them in turn.