Le protocole HTTP

Question 1)

INPUT :

```
omergs@omerpc:~$ nc www.example.com 80
HEAD / HTTP/1.0
Host: example.com
```

OUTPUT :

```
HTTP/1.0 200 OK
Content-Encoding: gzip
Accept-Ranges: bytes
Age: 518722
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:37:39 GMT
Etag: "3147526947"
Expires: Mon, 16 Sep 2024 14:37:39 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D12)
X-Cache: HIT
Content-Length: 648
Connection: close
```

Question 2)

INPUT :

```
omergs@omerpc:~$ nc www.example.com 80
GET / HTTP/1.0
Host: example.com
```

OUTPUT :

```
HTTP/1.0 200 OK
Accept-Ranges: bytes
Age: 468377
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:39:10 GMT
Etag: "3147526947"
Expires: Mon, 16 Sep 2024 14:39:10 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D30)
Vary: Accept-Encoding
X-Cache: HIT
Content-Length: 1256
```

```
Connection: close

<!doctype html>
<html>
<head>
    <title>Example Domain</title>

    <meta charset="utf-8" />
    <meta http-equiv="Content-type" content="text/html; charset=utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <style type="text/css">
    body {
        background-color: #f0f0f2;
        margin: 0;
        padding: 0;
        font-family: -apple-system, system-ui, BlinkMacSystemFont, "Segoe UI", "Open Sans", "Helvetica Neue", Helvetica, Arial, sans-serif;

    }
    div {
        width: 600px;
        margin: 5em auto;
        padding: 2em;
        background-color: #fdfdff;
        border-radius: 0.5em;
        box-shadow: 2px 3px 7px 2px rgba(0,0,0,0.02);
    }
    a:link, a:visited {
        color: #38488f;
        text-decoration: none;
    }
    @media (max-width: 700px) {
        div {
            margin: 0 auto;
            width: auto;
        }
    }
    </style>
</head>

<body>
<div>
    <h1>Example Domain</h1>
    <p>This domain is for use in illustrative examples in documents. You may use this
    domain in literature without prior coordination or asking for permission.</p>
    <p><a href="https://www.iana.org/domains/example">More information...</a></p>
</div>
</body>
</html>
```

Question 3)

INPUT :

```
omergs@omerpc:~$ nc www.example.com 80
GET / HTTP/1.0
Accept-Encoding: gzip, deflate
Host: example.com
```

OUTPUT :

```
HTTP/1.0 200 OK
Content-Encoding: gzip
Accept-Ranges: bytes
Age: 556586
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:36:35 GMT
Etag: "3147526947+gzip"
Expires: Mon, 16 Sep 2024 14:36:35 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D6B)
Vary: Accept-Encoding
X-Cache: HIT
Content-Length: 648
Connection: close

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��O��
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%�#G���!�U
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          (�|o�
```

Question 4)

INPUT :

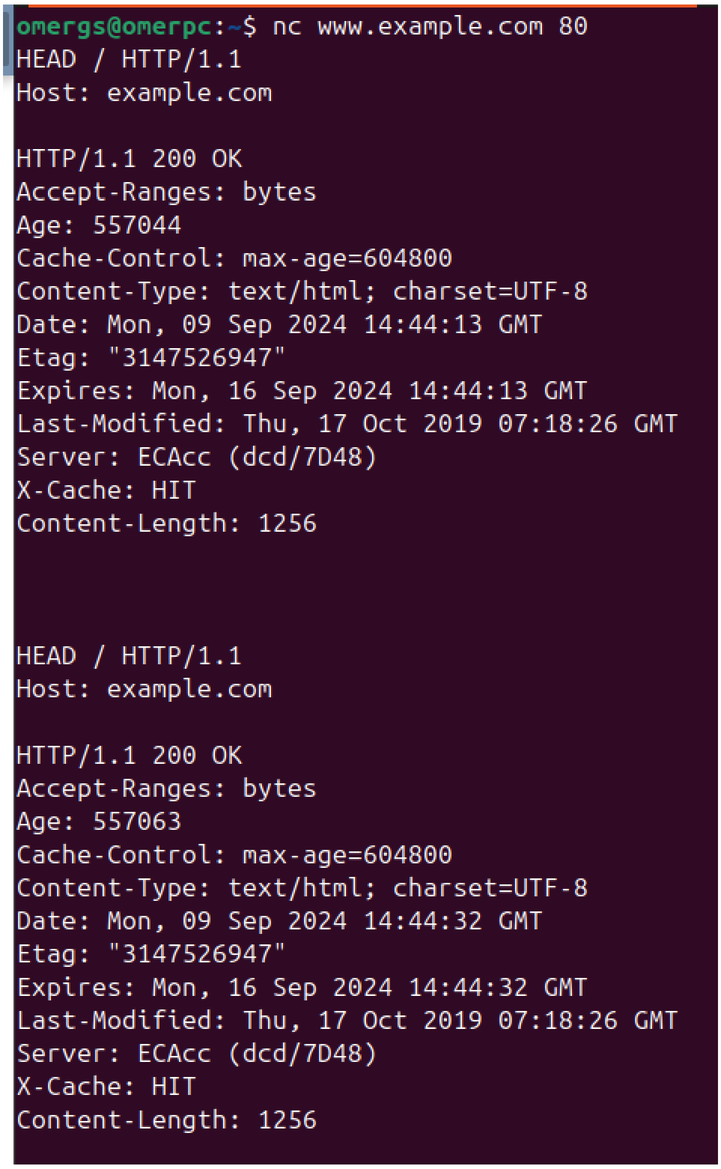
```
omergs@omerpc:~$ nc www.example.com 80
HEAD / HTTP/1.1
```

Host: example.com

OUTPUT :

```
HTTP/1.1 200 OK
Content-Encoding: gzip
Accept-Ranges: bytes
Age: 518574
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:35:11 GMT
Etag: "3147526947"
Expires: Mon, 16 Sep 2024 14:35:11 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D12)
X-Cache: HIT
Content-Length: 648
```

Question 5)



```
omergs@omerpc:~$ nc www.example.com 80
HEAD / HTTP/1.1
Host: example.com

HTTP/1.1 200 OK
Accept-Ranges: bytes
Age: 557044
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:44:13 GMT
Etag: "3147526947"
Expires: Mon, 16 Sep 2024 14:44:13 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D48)
X-Cache: HIT
Content-Length: 1256



HEAD / HTTP/1.1
Host: example.com

HTTP/1.1 200 OK
Accept-Ranges: bytes
Age: 557063
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Mon, 09 Sep 2024 14:44:32 GMT
Etag: "3147526947"
Expires: Mon, 16 Sep 2024 14:44:32 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: ECAcc (dcd/7D48)
X-Cache: HIT
Content-Length: 1256
```

Question 6)

INPUT :

```
omergs@omerpc:~$ nc www.example.com 80
POST / HTTP/1.1
Host: example.com
Content-Type: text/plain
Content-Length: 23


username=bob
```

```
HTTP/1.1 200 OK
Accept-Ranges: bytes
Cache-Control: max-age=604800
Content-Type: text/html; charset=UTF-8
Date: Tue, 10 Sep 2024 08:05:01 GMT
Etag: "3147526947"
Expires: Tue, 17 Sep 2024 08:05:01 GMT
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
Server: EOS (vny/044F)
Content-Length: 1256

<!doctype html>
<html>
<head>
    <title>Example Domain</title>

    <meta charset="utf-8" />
    <meta http-equiv="Content-type" content="text/html; charset=utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <style type="text/css">
    body {
        background-color: #f0f0f2;
        margin: 0;
        padding: 0;
        font-family: -apple-system, system-ui, BlinkMacSystemFont, "Segoe UI", "Open Sans", "Helvetica Neue", Helvetica, Arial, sans-serif;

    }
    div {
        width: 600px;
        margin: 5em auto;
        padding: 2em;
        background-color: #fdfdff;
        border-radius: 0.5em;
        box-shadow: 2px 3px 7px 2px rgba(0,0,0,0.02);
    }
    a:link, a:visited {
        color: #38488f;
        text-decoration: none;
    }
    @media (max-width: 700px) {
        div {
            margin: 0 auto;
            width: auto;
        }
    }
    </style>
</head>

<body>
<div>
    <h1>Example Domain</h1>
    <p>This domain is for use in illustrative examples in documents. You may use this domain in literature without prior coordination or asking for permission.</p>
    <p><a href="https://www.iana.org/domains/example">More information...</a></p>
</div>
</body>
</html>
```

Question 7)

```
INPUT :

omergs@omerpc:~$ nc localhost 8080
POST / HTTP/1.1
Host: localhost
Content-Type: text/plain
Content-Length: 23


username=bob
```

```
HTTP/1.1 404 Not Found
Host: localhost
Date: Tue, 10 Sep 2024 08:07:04 GMT
Connection: close
Content-Type: text/html; charset=UTF-8
Content-Length: 533

<!doctype html><html><head><title>404 Not Found</title><style>
body { background-color: #fcfcfc; color: #333333; margin: 0; padding:0; }
h1 { font-size: 1.5em; font-weight: normal; background-color: #9999cc; min-height:2em; line-height:2em; border-bottom: 1px inset black; margin: 0; }
h1, p { padding-left: 10px; }
code.url { background-color: #eeeeee; font-family:monospace; padding:0 2px;}
</style>
</head><body><h1>Not Found</h1><p>The requested resource <code class="url">/</code> was not found on this server.</p></body></html>
```

Question 8)

INPUT :

OUTPUT :

Question 9)

INPUT :

```
omergs@omerpc:~$ curl www.example.com 80
```

OUTPUT :

```
<!doctype html>
<html>
<head>
    <title>Example Domain</title>

    <meta charset="utf-8" />
    <meta http-equiv="Content-type" content="text/html; charset=utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <style type="text/css">
    body {
        background-color: #f0f0f2;
        margin: 0;
        padding: 0;
        font-family: -apple-system, system-ui, BlinkMacSystemFont, "Segoe UI", "Open Sans", "Helvetica Neue", Helvetica, Arial, sans-serif;

    }
    div {
        width: 600px;
        margin: 5em auto;
        padding: 2em;
        background-color: #fdfdff;
        border-radius: 0.5em;
        box-shadow: 2px 3px 7px 2px rgba(0,0,0,0.02);
    }
    a:link, a:visited {
        color: #38488f;
        text-decoration: none;
    }
    @media (max-width: 700px) {
        div {
            margin: 0 auto;
            width: auto;
        }
    }
    </style>
</head>

<body>
<div>
    <h1>Example Domain</h1>
    <p>This domain is for use in illustrative examples in documents. You may use this
    domain in literature without prior coordination or asking for permission.</p>
    <p><a href="https://www.iana.org/domains/example">More information...</a></p>
</div>
</body>
</html>
```

Question 10)

INPUT :

```
curl -d "username=bob" -X POST -H "Content-Type: text/plain" -H "Content-Length: 20"
localhost:8080
```

OUTPUT :

```
[Sun Sep 15 11:38:04 2024] PHP 8.3.6 Development Server (http://localhost:8080) started
[Sun Sep 15 11:38:08 2024] 127.0.0.1:54644 Accepted
```

Question 11)

INPUT :

```
curl --http2 -v http://www.nghttp2.org:80
```

OUTPUT :

```
* Host www.nghttp2.org:80 was resolved.
* IPv6: 2400:8902::f03c:91ff:fe69:a454
* IPv4: 139.162.123.134
*   Trying [2400:8902::f03c:91ff:fe69:a454]:80...
*   Trying 139.162.123.134:80...
* Connected to www.nghttp2.org (2400:8902::f03c:91ff:fe69:a454) port 80
> GET / HTTP/1.1
> Host: www.nghttp2.org
> User-Agent: curl/8.5.0
> Accept: */*
> Connection: Upgrade, HTTP2-Settings
> Upgrade: h2c
> HTTP2-Settings: AAMAAABkAAQAoAAAAAIAAAAA
>
< HTTP/1.1 101 Switching Protocols
< Connection: Upgrade
< Upgrade: h2c
* Received 101, Switching to HTTP/2
* Copied HTTP/2 data in stream buffer to connection buffer after upgrade: len=6621
< HTTP/2 200
< date: Sun, 15 Sep 2024 09:39:39 GMT
< content-type: text/html
< last-modified: Tue, 27 Aug 2024 09:49:44 GMT
< etag: "66cda138-18b4"
< accept-ranges: bytes
< content-length: 6324
< x-backend-header-rtt: 0.001268
< server: nghttpx
< alt-svc: h3=":443"; ma=3600, h3-29=":443"; ma=3600
< via: 2 nghttpx
< x-frame-options: SAMEORIGIN
< x-xss-protection: 1; mode=block
< x-content-type-options: nosniff
<

<!DOCTYPE html>
<!--[if IEMobile 7 ]><html class="no-js iem7"><![endif]-->
<!--[if lt IE 9]><html class="no-js lte-ie8"><![endif]-->
<!--[if (gt IE 8)|(gt IEMobile 7)|!(IEMobile)|!(IE)]><!--><html class="no-js" lang="en"><!--<![endif]-->
<head>
  <meta charset="utf-8">
  <title>Nghttp2: HTTP/2 C Library - nghttp2.org</title>
  <meta name="author" content="Tatsuhiro Tsujikawa">


  <meta name="description" content="Nghttp2: HTTP/2 C Library Feb 16th, 2015 11:16 pm nghttp2 is an implementation of
HTTP/2 and its header
compression algorithm HPACK in
C. The &hellip;">


  <!-- http://t.co/dKP3o1e -->
  <meta name="HandheldFriendly" content="True">
  <meta name="MobileOptimized" content="320">
  <meta name="viewport" content="width=device-width, initial-scale=1">


  <link rel="canonical" href="//nghttp2.org">
  <link href="/favicon.png" rel="icon">
  <link href="/stylesheets/screen.css" media="screen, projection" rel="stylesheet" type="text/css">
  <link href="/atom.xml" rel="alternate" title="nghttp2.org" type="application/atom+xml">
  <script src="/javascripts/modernizr-2.0.js"></script>
  <script src="//ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js"></script>
  <script>!window.jQuery && document.write(unescape('%3Cscript src="./javascripts/libs/jquery.min.js"%3E%3C/script%3E'))</script>
  <script src="/javascripts/octopress.js" type="text/javascript"></script>
  <!--Fonts from Google"s Web font directory at http://google.com/webfonts -->
<link href="//fonts.googleapis.com/css?family=PT+Serif:regular,italic,bold,bolditalic" rel="stylesheet" type="text/css">
<link href="//fonts.googleapis.com/css?family=PT+Sans:regular,italic,bold,bolditalic" rel="stylesheet" type="text/css">



</head>

<body   >
  <header role="banner"><hgroup>
  <h1><a href="/">nghttp2.org</a></h1>

    <h2>HTTP/2 C library and tools</h2>

</hgroup>

</header>
  <nav role="navigation"><ul class="subscription" data-subscription="rss">
  <li><a href="/atom.xml" rel="subscribe-rss" title="subscribe via RSS">RSS</a></li>

</ul>

<form action="https://www.google.com/search" method="get">
  <fieldset role="search">
    <input type="hidden" name="q" value="site://nghttp2.org" />
    <input class="search" type="text" name="q" results="0" placeholder="Search"/>
  </fieldset>
</form>

<ul class="main-navigation">
  <li><a href="/">Top</a></li>
  <li><a href="/blog/">Blog</a></li>
  <li><a href="/blog/archives">Archives</a></li>
  <li><a href="/documentation/">Documentation</a></li>
  <li><a href="/httpbin">Httpbin</a></li>
  <li><a href="https://github.com/nghttp2/nghttp2/releases">Releases</a></li>
  <li><a href="https://github.com/nghttp2/nghttp2">Source Code</a></li>
```

```
</ul>

</nav>
  <div id="main">
    <div id="content">
      <div>
<article role="article">

  <header>
    <h1 class="entry-title">Nghttp2: HTTP/2 C Library</h1>
    <p class="meta">





<time class='entry-date' datetime='2015-02-16T23:16:00+09:00'><span class='date'><span class='date-month'>Feb</span> <span class='date-
day'>16</span><span class='date-suffix'>th</span>, <span class='date-year'>2015</span></span> <span class='time'>11:16
pm</span></time></p>
  </header>

  <p>nghttp2 is an implementation of
<a href="https://tools.ietf.org/html/rfc7540">HTTP/2</a> and its header
compression algorithm <a href="https://tools.ietf.org/html/rfc7541">HPACK</a> in
C.</p>

<p>The framing layer of HTTP/2 is implemented as a form of reusable C
library.  On top of that, we have implemented HTTP/2 <a href="/documentation/nghttp.1.html">client</a>, <a
href="/documentation/nghttpd.1.html">server</a>
and <a href="/documentation/nghttpx.1.html">proxy</a>.
We have also developed <a href="/documentation/h2load.1.html">load test and benchmarking tool</a> for HTTP/2.</p>

<p>We have participated in httpbis working group since HTTP/2 draft-04,
which is the first implementation draft.  Since then we have updated
nghttp2 library constantly to latest specification and nghttp2 is now
one of the most mature <a href="https://github.com/http2/http2-spec/wiki/Implementations">HTTP/2 implementations</a>.</p>

<p>All C APIs are <a href="/documentation/apiref.html">fully documented</a>.</p>

<p>HTTP/2 utilizes header compression method called <a href="https://tools.ietf.org/html/rfc7541">HPACK</a>.  We offer
HPACK encoder and decoder are available as <a href="/documentation/tutorial-hpack.html">public API</a>.</p>


    <footer>
      <p class="meta">






<time class='entry-date' datetime='2015-02-16T23:16:00+09:00'><span class='date'><span class='date-month'>Feb</span> <span class='date-
day'>16</span><span class='date-suffix'>th</span>, <span class='date-year'>2015</span></span> <span class='time'>11:16 pm</span></time>

      </p>

        <div class="sharing">

  <a href="//twitter.com/share" class="twitter-share-button" data-url="//nghttp2.org/index.html" data-via=""
data-counturl="//nghttp2.org/index.html" >Tweet</a>



</div>


    </footer>

</article>

</div>

<aside class="sidebar">

    <section>
  <h1>Recent Posts</h1>
  <ul id="recent_posts">

      <li class="post">
```

```
        <a href="/blog/2024/08/27/nghttp2-v1-63-0/">Nghttp2 v1.63.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/05/13/nghttp2-v1-62-0/">Nghttp2 v1.62.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/04/04/nghttp2-v1-61-0/">Nghttp2 v1.61.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/03/01/nghttp2-v1-60-0/">Nghttp2 v1.60.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/01/21/nghttp2-v1-59-0/">Nghttp2 v1.59.0</a>
      </li>

  </ul>
</section>







</aside>


    </div>
  </div>
  <footer role="contentinfo"><p>
  Copyright &copy; 2024 - Tatsuhiro Tsujikawa -
  <span class="credit">Powered by <a href="http://octopress.org">Octopress</a></span>
</p>

</footer>









  <script type="text/javascript">
    (function(){
      var twitterWidgets = document.createElement('script');
      twitterWidgets.type = 'text/javascript';
      twitterWidgets.async = true;
      twitterWidgets.src = '//platform.twitter.com/widgets.js';
      document.getElementsByTagName('head')[0].appendChild(twitterWidgets);
    })();
  </script>






</body>
</html>
* Connection #0 to host www.nghttp2.org left intact
```

Question 12)

INPUT :

OUTPUT :

```
* Host www.nghttp2.org:443 was resolved.
* IPv6: 2400:8902::f03c:91ff:fe69:a454
* IPv4: 139.162.123.134
*   Trying [2400:8902::f03c:91ff:fe69:a454]:443...
*   Trying 139.162.123.134:443...
* Connected to www.nghttp2.org (2400:8902::f03c:91ff:fe69:a454) port 443
* ALPN: curl offers h2,http/1.1
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
*  CAfile: /etc/ssl/certs/ca-certificates.crt
*  CApath: /etc/ssl/certs
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_256_GCM_SHA384 / X25519 / id-ecPublicKey
* ALPN: server accepted h2
* Server certificate:
*  subject: CN=nghttp2.org
*  start date: Aug 20 00:01:35 2024 GMT
*  expire date: Nov 18 00:01:34 2024 GMT
*  subjectAltName: host "www.nghttp2.org" matched cert's "www.nghttp2.org"
*  issuer: C=US; O=Let's Encrypt; CN=E5
*  SSL certificate verify ok.
*   Certificate level 0: Public key type EC/prime256v1 (256/128 Bits/secBits), signed using ecdsa-with-SHA384
*   Certificate level 1: Public key type EC/secp384r1 (384/192 Bits/secBits), signed using sha256WithRSAEncryption
*   Certificate level 2: Public key type RSA (4096/152 Bits/secBits), signed using sha256WithRSAEncryption
* using HTTP/2
* [HTTP/2] [1] OPENED stream for https://www.nghttp2.org:443/
* [HTTP/2] [1] [:method: GET]
* [HTTP/2] [1] [:scheme: https]
* [HTTP/2] [1] [:authority: www.nghttp2.org]
* [HTTP/2] [1] [:path: /]
* [HTTP/2] [1] [user-agent: curl/8.5.0]
* [HTTP/2] [1] [accept: */*]
> GET / HTTP/2
> Host: www.nghttp2.org
> User-Agent: curl/8.5.0
> Accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
< HTTP/2 200
< date: Sun, 15 Sep 2024 09:41:26 GMT
< content-type: text/html
< last-modified: Tue, 27 Aug 2024 09:49:44 GMT
< etag: "66cda138-18b4"
< accept-ranges: bytes
< content-length: 6324
< x-backend-header-rtt: 0.001242
< strict-transport-security: max-age=31536000
< server: nghttpx
< alt-svc: h3=":443"; ma=3600, h3-29=":443"; ma=3600
< via: 2 nghttpx
< x-frame-options: SAMEORIGIN
< x-xss-protection: 1; mode=block
< x-content-type-options: nosniff
<

<!DOCTYPE html>
<!--[if IEMobile 7 ]><html class="no-js iem7"><![endif]-->
<!--[if lt IE 9]><html class="no-js lte-ie8"><![endif]-->
<!--[if (gt IE 8)|(gt IEMobile 7)|!(IEMobile)|!(IE)]><!--><html class="no-js" lang="en"><!--<![endif]-->
<head>
  <meta charset="utf-8">
  <title>Nghttp2: HTTP/2 C Library - nghttp2.org</title>
  <meta name="author" content="Tatsuhiro Tsujikawa">


  <meta name="description" content="Nghttp2: HTTP/2 C Library Feb 16th, 2015 11:16 pm nghttp2 is an implementation of
HTTP/2 and its header
compression algorithm HPACK in
C. The &hellip;">



  <!-- http://t.co/dKP3o1e -->
  <meta name="HandheldFriendly" content="True">
  <meta name="MobileOptimized" content="320">
  <meta name="viewport" content="width=device-width, initial-scale=1">


  <link rel="canonical" href="//nghttp2.org">
  <link href="/favicon.png" rel="icon">
  <link href="/stylesheets/screen.css" media="screen, projection" rel="stylesheet" type="text/css">
  <link href="/atom.xml" rel="alternate" title="nghttp2.org" type="application/atom+xml">
  <script src="/javascripts/modernizr-2.0.js"></script>
  <script src="//ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js"></script>
  <script>!window.jQuery && document.write(unescape('%3Cscript src="./javascripts/libs/jquery.min.js"%3E%3C/script%3E'))</script>
  <script src="/javascripts/octopress.js" type="text/javascript"></script>
  <!--Fonts from Google"s Web font directory at http://google.com/webfonts -->
<link href="//fonts.googleapis.com/css?family=PT+Serif:regular,italic,bold,bolditalic" rel="stylesheet" type="text/css">
<link href="//fonts.googleapis.com/css?family=PT+Sans:regular,italic,bold,bolditalic" rel="stylesheet" type="text/css">



</head>

<body   >
  <header role="banner"><hgroup>
  <h1><a href="/">nghttp2.org</a></h1>

    <h2>HTTP/2 C library and tools</h2>

</hgroup>

</header>
  <nav role="navigation"><ul class="subscription" data-subscription="rss">
  <li><a href="/atom.xml" rel="subscribe-rss" title="subscribe via RSS">RSS</a></li>

</ul>

<form action="https://www.google.com/search" method="get">
  <fieldset role="search">
    <input type="hidden" name="q" value="site://nghttp2.org" />
    <input class="search" type="text" name="q" results="0" placeholder="Search"/>
  </fieldset>
</form>

<ul class="main-navigation">
  <li><a href="/">Top</a></li>
  <li><a href="/blog/">Blog</a></li>
  <li><a href="/blog/archives">Archives</a></li>
  <li><a href="/documentation/">Documentation</a></li>
  <li><a href="/httpbin">Httpbin</a></li>
  <li><a href="https://github.com/nghttp2/nghttp2/releases">Releases</a></li>
  <li><a href="https://github.com/nghttp2/nghttp2">Source Code</a></li>
</ul>

</nav>
  <div id="main">
    <div id="content">
      <div>
<article role="article">

  <header>
    <h1 class="entry-title">Nghttp2: HTTP/2 C Library</h1>
    <p class="meta">




<time class='entry-date' datetime='2015-02-16T23:16:00+09:00'><span class='date'><span class='date-month'>Feb</span> <span class='date-
day'>16</span><span class='date-suffix'>th</span>, <span class='date-year'>2015</span></span> <span class='time'>11:16
pm</span></time></p>
  </header>

  <p>nghttp2 is an implementation of
<a href="https://tools.ietf.org/html/rfc7540">HTTP/2</a> and its header
compression algorithm <a href="https://tools.ietf.org/html/rfc7541">HPACK</a> in
C.</p>

<p>The framing layer of HTTP/2 is implemented as a form of reusable C
library.  On top of that, we have implemented HTTP/2 <a href="/documentation/nghttp.1.html">client</a>, <a
href="/documentation/nghttpd.1.html">server</a>
and <a href="/documentation/nghttpx.1.html">proxy</a>.
We have also developed <a href="/documentation/h2load.1.html">load test and benchmarking tool</a> for HTTP/2.</p>
```

```html
<p>We have participated in httpbis working group since HTTP/2 draft-04,
which is the first implementation draft.  Since then we have updated
nghttp2 library constantly to latest specification and nghttp2 is now
one of the most mature <a href="https://github.com/http2/http2-spec/wiki/Implementations">HTTP/2 implementations</a>.</p>

<p>All C APIs are <a href="/documentation/apiref.html">fully documented</a>.</p>

<p>HTTP/2 utilizes header compression method called <a href="https://tools.ietf.org/html/rfc7541">HPACK</a>.  We offer
HPACK encoder and decoder are available as <a href="/documentation/tutorial-hpack.html">public API</a>.</p>


    <footer>
      <p class="meta">






<time class='entry-date' datetime='2015-02-16T23:16:00+09:00'><span class='date'><span class='date-month'>Feb</span> <span class='date-day'>16</span><span class='date-suffix'>th</span>, <span class='date-year'>2015</span></span> <span class='time'>11:16 pm</span></time>

      </p>

        <div class="sharing">

  <a href="//twitter.com/share" class="twitter-share-button" data-url="//nghttp2.org/index.html" data-via=""
data-counturl="//nghttp2.org/index.html" >Tweet</a>



</div>


    </footer>

</article>

</div>

<aside class="sidebar">

    <section>
  <h1>Recent Posts</h1>
  <ul id="recent_posts">

      <li class="post">
        <a href="/blog/2024/08/27/nghttp2-v1-63-0/">Nghttp2 v1.63.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/05/13/nghttp2-v1-62-0/">Nghttp2 v1.62.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/04/04/nghttp2-v1-61-0/">Nghttp2 v1.61.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/03/01/nghttp2-v1-60-0/">Nghttp2 v1.60.0</a>
      </li>

      <li class="post">
        <a href="/blog/2024/01/21/nghttp2-v1-59-0/">Nghttp2 v1.59.0</a>
      </li>

  </ul>
</section>






</aside>
```

```
    </div>
  </div>
  <footer role="contentinfo"><p>
  Copyright &copy; 2024 - Tatsuhiro Tsujikawa -
  <span class="credit">Powered by <a href="http://octopress.org">Octopress</a></span>
</p>

</footer>








  <script type="text/javascript">
    (function(){
      var twitterWidgets = document.createElement('script');
      twitterWidgets.type = 'text/javascript';
      twitterWidgets.async = true;
      twitterWidgets.src = '//platform.twitter.com/widgets.js';
      document.getElementsByTagName('head')[0].appendChild(twitterWidgets);
    })();
  </script>





</body>
</html>
* Connection #0 to host www.nghttp2.org left intact
```

On a les certifications TLS en plus pour montrer que le chiffrement des données est signé.