

Representation of the DNS protocol header

Modules

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Classes

[Header](#)

class **Header**

Representation of the DNS protocol header.

Member variables:

`_id` -- the 16-bit DNS query identifier.

`_opcode` -- one of { `Header.QUERY`, `Header.OPCODE_STATUS` }.

`_rcode` -- the 4-bit DNS response code of { `Header.RCODE_NOERROR`, `Header.RCODE_FORMATERR`, `Header.RCODE_NAMEERR`, `Header.RCODE_NOTIMP`, `Header.RCODE_REFUSED`, `Header.RCODE_SERVERFAIL`, `Header.RCODE_BADVERS`, `Header.RCODE_BADSIG` }.

`_qdcount` -- number of question entries indicated in the [Header](#)

`_ancount` -- number of answer entries indicated in the [Header](#)

`_nscount` -- number of authoritative entries indicated in the [Header](#)

`_arcount` -- number of additional entries indicated in the [Header](#)

`_qr` -- A one bit field that specifies whether this message is a query (0), or a response (1).

`_aa` -- Authoritative Answer - this bit is valid in responses, and specifies that the responding name server is an authority for the domain name in question section.

`_tc` -- TrunCation - specifies that this message was truncated due to length greater than that permitted on the transmission channel.

`_rd` -- Recursion Desired - this bit may be set in a query and is copied into the response. If RD is set, it directs the name server to pursue the query recursively. Recursive query support is optional.

`_ra` -- Recursion Available - this bit is set or cleared in a response, and denotes whether recursive query support is available in the name server.

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Methods defined here:

```
__init__(self, id, opcode, rcode, qdcount=0, ancount=0, nscount=0, arcount=0, qr=False, aa=False, tc=False, rd=False, ra=False)
```

Initialize the [Header](#) from supplied arguments.

id -- the 16-bit DNS query identifier of the query

opcode -- the 4-bit DNS query opcode, one of { [Header](#).OPCODE_QUERY, [Header](#).OPCODE_IQUERY, [Header](#).OPCODE_TUS }.

rcode -- the 4-bit DNS response code, one of { [Header](#).RCODE_NOERR, [Header](#).RCODE_FORMATERR, [Header](#).RCODE_SERVFAIL, [Header](#).RCODE_NAMEERR, [Header](#).RCODE_NIMPL }.

Keyword arguments:

qdcount -- number of question entries indicated in the [Header](#)

ancount -- number of answer entries indicated in the [Header](#)

nscount -- number of authoritative entries indicated in the [Header](#)

arcount -- number of additional entries indicated in the [Header](#)

qr -- whether this message is a query

aa -- Authoritative Answer - this bit is valid in responses

nd -- specifies that the name server is an authoritative

y -- for the domain name in question section.

tc -- TrunCation - specifies that this message was truncated

ue -- to length greater than that permitted on the transmission

n -- channel.

rd -- Recursion Desired - this bit may be set in a query and

s -- copied into the response. If RD is set, it directs the

name -- server to pursue the query recursively. Recursive query

support is optional.

ra -- Recursion Available - this bit is set or cleared in a

response, and denotes whether recursive query support

available in the name server.

```
__len__(self)
```

Return the length of the [Header](#)'s binary string representation.

```
__str__(self)
```

Return a human-readable string representation of the [Header](#)

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pack(self)

Return a packed binary string representation of the [Header](#).

Static methods defined here:

fromData(headerdata, offset=0)

Return a new [Header](#) object from the supplied binary data.

Data and other attributes defined here:

OFFSET_AA = 10

OFFSET_OPCODE = 11

OFFSET_QR = 15

OFFSET_RA = 7

OFFSET_RCODE = 0

OFFSET_RD = 8

OFF

OFF

OPCODE_IQUERY = 1

OPCODE_QUERY = 0

OPCODE_STATUS = 2

QUERY = 0

RCODE_FORMATERR = 1

RCODE_NAMEERR = 3

RCODE_NIMPL = 4

RCODE_NOERR = 0

RCODE_SRVFAIL = 2

RESPONSE = 1

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