

**NAME**

`ares_query` – Initiate a single-question DNS query

**SYNOPSIS**

```
#include <ares.h>

typedef void (*ares_callback)(void *arg, int status,
int timeouts, unsigned char *abuf, int alen)

void ares_query(ares_channel channel, const char *name,
int dnsclass, int type, ares_callback callback,
void *arg)
```

**DESCRIPTION**

The `ares_query` function initiates a single-question DNS query on the name service channel identified by *channel*. The parameter *name* gives the query name as a NUL-terminated C string of period-separated labels optionally ending with a period; periods and backslashes within a label must be escaped with a backslash. The parameters *dnsclass* and *type* give the class and type of the query using the values defined in `<arpa/nameser.h>`. When the query is complete or has failed, the ares library will invoke *callback*. Completion or failure of the query may happen immediately, or may happen during a later call to `ares_process(3)` or `ares_destroy(3)`.

The callback argument *arg* is copied from the `ares_query` argument *arg*. The callback argument *status* indicates whether the query succeeded and, if not, how it failed. It may have any of the following values:

- ARES\_SUCCESS** The query completed successfully.
- ARES\_ENODATA** The query completed but contains no answers.
- ARES\_EFORMERR** The query completed but the server claims that the query was malformed.
- ARES\_ESERVFAIL** The query completed but the server claims to have experienced a failure. (This code can only occur if the **ARES\_FLAG\_NOCHECKRESP** flag was specified at channel initialization time; otherwise, such responses are ignored at the `ares_send(3)` level.)
- ARES\_ENOTFOUND** The query completed but the queried-for domain name was not found.
- ARES\_ENOTIMP** The query completed but the server does not implement the operation requested by the query. (This code can only occur if the **ARES\_FLAG\_NOCHECKRESP** flag was specified at channel initialization time; otherwise, such responses are ignored at the `ares_send(3)` level.)
- ARES\_EREFOUSED** The query completed but the server refused the query. (This code can only occur if the **ARES\_FLAG\_NOCHECKRESP** flag was specified at channel initialization time; otherwise, such responses are ignored at the `ares_send(3)` level.)
- ARES\_EBADNAME** The query name *name* could not be encoded as a domain name, either because it contained a zero-length label or because it contained a label of more than 63 characters.
- ARES\_ETIMEOUT** No name servers responded within the timeout period.
- ARES\_ECONNREFUSED** No name servers could be contacted.
- ARES\_ENOMEM** Memory was exhausted.
- ARES\_ECANCELLED** The query was cancelled.
- ARES\_EDESTRUCTION** The name service channel *channel* is being destroyed; the query will not be completed.

The callback argument *timeouts* reports how many times a query timed out during the execution of the given request.

If the query completed (even if there was something wrong with it, as indicated by some of the above error codes), the callback argument *abuf* points to a result buffer of length *alen*. If the query did not complete, *abuf* will be NULL and *alen* will be 0.

**SEE ALSO**

**ares\_process(3)**

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