

**NAME**

gnutls\_prf - API function

**SYNOPSIS**

```
#include <gnutls/gnutls.h>
```

```
int gnutls_prf(gnutls_session_t session, size_t label_size, const char * label, int server_random_first, size_t extra_size, const char * extra, size_t outsize, char * out);
```

**ARGUMENTS**

gnutls\_session\_t session

is a **gnutls\_session\_t** type.

size\_t label\_size

length of the *label* variable.

const char \* label

label used in PRF computation, typically a short string.

int server\_random\_first

non-zero if server random field should be first in seed

size\_t extra\_size

length of the *extra* variable.

const char \* extra

optional extra data to seed the PRF with.

size\_t outsize size of pre-allocated output buffer to hold the output.

char \* out pre-allocated buffer to hold the generated data.

**DESCRIPTION**

Applies the TLS Pseudo-Random-Function (PRF) on the master secret and the provided data, seeded with the client and server random fields. For the key expansion specified in RFC5705 see **gnutls\_prf\_rfc5705()**.

The *label* variable usually contains a string denoting the purpose for the generated data. The *server\_random\_first* indicates whether the client random field or the server random field should be first in the seed. Non-zero indicates that the server random field is first, 0 that the client random field is

first.

The *extra* variable can be used to add more data to the seed, after the random variables. It can be used to make sure the generated output is strongly connected to some additional data (e.g., a string used in user authentication).

The output is placed in *out* , which must be pre-allocated.

## NOTE

This function produces identical output with **gnutls\_prf\_rfc5705()** when *server\_random\_first* is set to 0 and *extra* is **NULL**. Under TLS1.3 this function will only operate when these conditions are true, or otherwise return **GNUTLS\_E\_INVALID\_REQUEST**.

## RETURNS

**GNUTLS\_E\_SUCCESS** on success, or an error code.

## REPORTING BUGS

Report bugs to <bugs@gnutls.org>.

Home page: <https://www.gnutls.org>

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## SEE ALSO

The full documentation for **gnutls** is maintained as a Texinfo manual. If the `/usr/local/share/doc/gnutls/` directory does not contain the HTML form visit

<https://www.gnutls.org/manual/>