

NAME

`ldns_dnssec_data_chain`, `ldns_dnssec_data_chain_struct`, `ldns_dnssec_trust_tree` - data structures for validation chains

SYNOPSIS

```
#include <stdint.h>
#include <stdbool.h>

#include <ldns/ldns.h>

ldns_dnssec_data_chain_struct();
```

DESCRIPTION

ldns_dnssec_data_chain

Chain structure that contains all DNSSEC data needed to verify an rrset

```
struct ldns_dnssec_data_chain_struct
{
    ldns_rr_list *rrset;
    ldns_rr_list *signatures;
    ldns_rr_type parent_type;
    ldns_dnssec_data_chain *parent;
    ldns_pkt_rcode packet_rcode;
    ldns_rr_type packet_qtype;
    bool packet_nodata;
};
```

```
typedef struct ldns_dnssec_data_chain_struct ldns_dnssec_data_chain;
```

ldns_dnssec_data_chain_struct()

ldns_dnssec_trust_tree

Tree structure that contains the relation of DNSSEC data, and their cryptographic status.

This tree is derived from a `data_chain`, and can be used to look whether there is a connection between an RRSET and a trusted key. The tree only contains pointers to the `data_chain`, and therefore one should *never* `free()` the

data_chain when there is still a trust tree derived from that chain.

Example tree:

```

key key key
 \ | /
  \ | /
   \ | /
    ds
     |
    key
     |
    key
     |
    rr

```

For each signature there is a parent; if the parent pointer is null, it couldn't be found and there was no denial; otherwise is a tree which contains either a DNSKEY, a DS, or a NSEC rr

```

struct ldns_dnssec_trust_tree_struct
{
    ldns_rr *rr;
    /* the complete rrset this rr was in */
    ldns_rr_list *rrset;
    ldns_dnssec_trust_tree *parents[LDNS_DNSSEC_TRUST_TREE_MAX_PARENTS];
    ldns_status parent_status[LDNS_DNSSEC_TRUST_TREE_MAX_PARENTS];
    /** for debugging, add signatures too (you might want
        those if they contain errors) */
    ldns_rr *parent_signature[LDNS_DNSSEC_TRUST_TREE_MAX_PARENTS];
    size_t parent_count;
};

typedef struct ldns_dnssec_trust_tree_struct ldns_dnssec_trust_tree;

```

AUTHOR

The ldns team at NLnet Labs.

REPORTING BUGS

Please report bugs to dns-team@nlnetlabs.nl or on GitHub at <https://github.com/NLnetLabs/ldns/issues>

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SEE ALSO

ldns_dnssec_data_chain_new, *ldns_dnssec_trust_tree_new*, *ldns_dnssec_verify_denial*. And **perldoc Net::DNS**, **RFC1034**, **RFC1035**, **RFC4033**, **RFC4034** and **RFC4035**.

REMARKS

This manpage was automatically generated from the ldns source code.