

**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](mailto: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.