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eldap

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**December 3, 2013**



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# 1 Eldap User's Guide

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The *Eldap* application provides an api for accessing an LDAP server.

The original code was developed by Torbjörn Törnkvist.

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## 2 Reference Manual

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## eldap

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Erlang module

This module provides a client api to the Lightweight Directory Access Protocol (LDAP).

References:

- RFC 4510 - RFC 4519

The above publications can be found at **IETF**.

*Types*

```
handle()      Connection handle
attribute()   {Type = string(), Values=[string()]}
modify_op()   See mod_add/2, mod_delete/2, mod_replace/2
scope()       See baseObject/0, singleLevel/0, wholeSubtree/0
dereference() See neverDerefAliases/0, derefInSearching/0, derefFindingBaseObj/0, derefAlways/0
filter()      See present/1, substrings/2,
               equalityMatch/2, greaterOrEqual/2, lessOrEqual/2,
               approxMatch/2,
               'and'/1, 'or'/1, 'not'/1.
```

## Exports

`open([Host]) -> {ok, Handle} | {error, Reason}`

Types:

**Handle** = **handle()**

Setup a connection to an LDAP server, the HOST's are tried in order.

`open([Host], [Option]) -> {ok, Handle} | {error, Reason}`

Types:

**Handle** = **handle()**  
**Option** = {**port**, **integer()**} | {**log**, **function()**} | {**timeout**, **integer()**} |  
{**ssl**, **boolean()**} | {**sslopts**, **list()**}

Setup a connection to an LDAP server, the HOST's are tried in order.

The log function takes three arguments, `fun(Level, FormatString, [FormatArg]) end`.

Timeout set the maximum time in milliseconds that each server request may take.

`close(Handle) -> ok`

Types:

**Handle** = **handle()**

Shutdown the connection.

`simple_bind(Handle, Dn, Password) -> ok | {error, Reason}`

Types:

```

Handle = handle()
Dn = string()
Password = string()

```

Authenticate the connection using simple authentication.

```
add(Handle, Dn, [Attribute]) -> ok | {error, Reason}
```

Types:

```

Handle = handle()
Dn = string()
Attribute = attribute()

```

Add an entry. The entry must not exist.

```

add(Handle,
    "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com",
    [{"objectclass", ["person"]},
     {"cn", ["Bill Valentine"]},
     {"sn", ["Valentine"]},
     {"telephoneNumber", ["545 555 00"]}])

```

```
delete(Handle, Dn) -> ok | {error, Reason}
```

Types:

```
Dn = string()
```

Delete an entry.

```
delete(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com")
```

```
mod_add(Type, [Value]) -> modify_op()
```

Types:

```

Type = string()
Value = string()

```

Create an add modification operation.

```
mod_delete(Type, [Value]) -> modify_op()
```

Types:

```

Type = string()
Value = string()

```

Create a delete modification operation.

```
mod_replace(Type, [Value]) -> modify_op()
```

Types:

```
Type = string()
```

```
Value = string()
```

Create a replace modification operation.

```
modify(Handle, Dn, [ModifyOp]) -> ok | {error, Reason}
```

Types:

```
Dn = string()
```

```
ModifyOp = modify_op()
```

Modify an entry.

```
modify(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com",
  [eldap:mod_replace("telephoneNumber", ["555 555 00"]),
  eldap:mod_add("description", ["LDAP Hacker"]) ])
```

```
modify_dn(Handle, Dn, NewRDN, DeleteOldRDN, NewSupDN) -> ok | {error, Reason}
```

Types:

```
Dn = string()
```

```
NewRDN = string()
```

```
DeleteOldRDN = boolean()
```

```
NewSupDN = string()
```

Modify the DN of an entry. `DeleteOldRDN` indicates whether the current RDN should be removed after operation. `NewSupDN` should be "" if the RDN should not be moved or the new parent which the RDN will be moved to.

```
modify_dn(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com ",
  "cn=Bill Jr Valentine", true, "")
```

```
search(Handle, SearchOptions) -> {ok, #eldap_search_result{}} | {error, Reason}
```

Types:

```
SearchOptions = #eldap_search{} | [SearchOption]
```

```
SearchOption = {base, string()} | {filter, filter()} | {scope, scope()}
| {attributes, [string()]} | {deref, dereference()} | | {types_only,
boolean()} | {timeout, integer()}
```

Search the directory with the supplied the `SearchOptions`. The base and filter options must be supplied. Default values: scope is `wholeSubtree()`, deref is `derefAlways()`, types\_only is false and timeout is 0 (meaning infinity).

```
Filter = eldap:substrings("cn", [{any,"V"}]),
search(Handle, [{base, "dc=example, dc=com"}, {filter, Filter}, {attributes, ["cn"]}])
```

```
baseObject() -> scope()
```

Search baseobject only.



`singleLevel() -> scope()`

Search the specified level only, i.e. do not recurse.

`wholeSubtree() -> scope()`

Search the entire subtree.

`neverDerefAliases() -> dereference()`

Never dereference aliases, treat aliases as entries.

`derefAlways() -> dereference()`

Always dereference aliases.

`derefInSearching() -> dereference()`

Dereference aliases only when searching.

`derefFindingBaseObj() -> dereference()`

Dereference aliases only in finding the base.

`present(Type) -> filter()`

Types:

**Type = string()**

Create a filter which filters on attribute type presence.

`substrings(Type, [SubString]) -> filter()`

Types:

**Type = string()**

**SubString = {StringPart, string()}**

**StringPart = initial | any | final**

Create a filter which filters on substrings.

`equalityMatch(Type, Value) -> filter()`

Types:

**Type = string()**

**Value = string()**

Create a equality filter.

`greaterOrEqual(Type, Value) -> filter()`

Types:

**Type = string()**

**Value = string()**

Create a greater or equal filter.

`lessOrEqual(Type, Value) -> filter()`

Types:

**Type = string()**

**Value = string()**

Create a less or equal filter.

`approxMatch(Type, Value) -> filter()`

Types:

**Type = string()**

**Value = string()**

Create a approximation match filter.

`'and'([Filter]) -> filter()`

Types:

**Filter = filter()**

Creates a filter where all `Filter` must be true.

`'or'([Filter]) -> filter()`

Types:

**Filter = filter()**

Create a filter where at least one of the `Filter` must be true.

`'not'(Filter) -> filter()`

Types:

**Filter = filter()**

Negate a filter.