

LDAP

Disusun untuk memenuhi tugas mata kuliah : Workshop Administrasi & Manajemen Jaringan

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KELAS 2

D3 TEKNIK INFORMATIKA

POLITEKNIK ELEKTRONIKA NEGERI SURABAYA

KAMPUS SUMENEP

2022

1. Pastikan DNS telah berjalan dengan baik

```
root@affan:/etc/bind# nslookup ns1.affan.com
Server:          192.168.29.1
Address:         192.168.29.1#53

Name:   ns1.affan.com
Address: 192.168.29.11

root@affan:/etc/bind# nslookup 192.168.29.11
11.29.168.192.in-addr.arpa    name = www.affan.com.29.168.192.in-addr.arpa.
11.29.168.192.in-addr.arpa    name = ns1.affan.com.29.168.192.in-addr.arpa.
11.29.168.192.in-addr.arpa    name = ftp.affan.com.29.168.192.in-addr.arpa.
```

2. Update Debian kemudian install slapd

```
root@affan:/etc/bind# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@affan:/etc/bind# apt update
Get:1 http://security.debian.org/debian-security buster/updates InRelease [65,4 kB]
Hit:2 http://deb.debian.org/debian buster InRelease
Get:3 http://deb.debian.org/debian buster-updates InRelease [51,9 kB]
Get:4 http://security.debian.org/debian-security buster/updates/main Sources [237 kB]
Get:5 http://security.debian.org/debian-security buster/updates/main amd64 Packages [1.1 MB]
Get:6 http://security.debian.org/debian-security buster/updates/main Translation-en [1.1 MB]
Reading package lists... Done
E: Release file for http://deb.debian.org/debian/dists/buster-updates/InRelease is no
valid for another 2h 25min 52s). Updates for this repository will not be applied.
root@affan:/etc/bind# apt install slapd
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  linux-image-4.19.0-18-amd64
Use 'apt autoremove' to remove it.
The following additional packages will be installed:
  libldap-2.4-2 libodbc1
Suggested packages:
  libmyodbc odbc-postgresql tdsodbc unixodbc-bin ldap-utils libsasl2-modules-gssapi-m
  | libsasl2-modules-gssapi-heimdal
The following NEW packages will be installed:
  libodbc1 slapd
The following packages will be upgraded:
  libldap-2.4-2
1 upgraded, 2 newly installed, 0 to remove and 11 not upgraded.
Need to get 1.886 kB of archives.
After this operation, 16,7 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

3. Cek apakah slapd telah terkonfigurasi dengan benar

```
root@affan:/# slapcat
dn: dc=affan,dc=com
objectClass: top
objectClass: dcObject
objectClass: organization
o: affan.com
dc: affan
structuralObjectClass: organization
entryUUID: 9996c196-7def-103c-962d-e3fbdda518e8
creatorsName: cn=admin,dc=affan,dc=com
createTimestamp: 20220611163050Z
entryCSN: 20220611163050.5088472#000000#000#000000
modifiersName: cn=admin,dc=affan,dc=com
modifyTimestamp: 20220611163050Z

dn: cn=admin,dc=affan,dc=com
objectClass: simpleSecurityObject
objectClass: organizationalRole
cn: admin
description: LDAP administrator
userPassword:: e1NTSEF9bkI3UndKdG5DRmZRUmxyTENhTE1CWDh1ZWxWY2pYU2k=
structuralObjectClass: organizationalRole
entryUUID: 99970610-7def-103c-962e-e3fbdda518e8
creatorsName: cn=admin,dc=affan,dc=com
createTimestamp: 20220611163050Z
entryCSN: 20220611163050.5106552#000000#000#000000
modifiersName: cn=admin,dc=affan,dc=com
modifyTimestamp: 20220611163050Z
```

```
root@affan:/# slapcat | grep dn
dn: dc=affan,dc=com
dn: cn=admin,dc=affan,dc=com
```

```
root@affan:/var/lib/ldap# ls
data.mdb  lock.mdb
root@affan:/var/lib/ldap# cp data.mdb data.mdb.backup
cp: tidak dapat memperoleh statistik 'data.mdb': Tidak ada berkas atau direktori sepe
root@affan:/var/lib/ldap# cp data.mdb data.mdb.backup
root@affan:/var/lib/ldap# ls
data.mdb  data.mdb.backup  lock.mdb
root@affan:/var/lib/ldap#
```

```
root@affan:/# systemctl status slapd
• slapd.service - LSB: OpenLDAP standalone server (Lightweight Directory Access Proto
  Loaded: loaded (/etc/init.d/slapd; generated)
  Active: active (running) since Sun 2022-06-12 07:27:58 WIB; 10min ago
    Docs: man:systemd-sysv-generator(8)
  Process: 569 ExecStart=/etc/init.d/slapd start (code=exited, status=0/SUCCESS)
    Tasks: 3 (limit: 1149)
   Memory: 6.1M
    CGroup: /system.slice/slapd.service
            └─663 /usr/sbin/slapd -h ldap:/// ldapi:/// -g openldap -u openldap -F /et

Jun 12 07:27:58 affan systemd[1]: Starting LSB: OpenLDAP standalone server (Lightweig
Jun 12 07:27:58 affan slapd[619]: @(#) $OpenLDAP: slapd (May 14 2022 18:35:44) $
                                Debian OpenLDAP Maintainers <pkg-openldap-d
Jun 12 07:27:58 affan slapd[663]: slapd starting
Jun 12 07:27:58 affan slapd[569]: Starting OpenLDAP: slapd.
Jun 12 07:27:58 affan systemd[1]: Started LSB: OpenLDAP standalone server (Lightweigh
lines 1-16/16 (END)
```

4. Install ldap

```
root@affan:/# apt install ldap-utils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  linux-image-4.19.0-18-amd64
Use 'apt autoremove' to remove it.
Suggested packages:
  libsasl2-modules-gssapi-mit | libsasl2-modules-gssapi-heimdal
The following NEW packages will be installed:
  ldap-utils
0 upgraded, 1 newly installed, 0 to remove and 11 not upgraded.
Need to get 199 kB of archives.
After this operation, 727 kB of additional disk space will be used.
Get:1 http://security.debian.org/debian-security buster/updates/main amd64 ldap-utils
fsg-3+deb10u7 [199 kB]
Fetched 199 kB in 2s (102 kB/s)
Selecting previously unselected package ldap-utils.
(Sedang membaca basis data ... 48704 berkas atau direktori telah terpasang.)
Preparing to unpack .../ldap-utils_2.4.47+dfsg-3+deb10u7_amd64.deb ...
Unpacking ldap-utils (2.4.47+dfsg-3+deb10u7) ...
Sedang menata ldap-utils (2.4.47+dfsg-3+deb10u7) ...
Processing triggers for man-db (2.8.5-2) ...
```

5. Install apache2

```
root@affan:/etc/ldap# apt install apache2
E: Invalid operation install
root@affan:/etc/ldap# cd ..
root@affan:/etc# cd ..
root@affan:/# apt install apache2
E: Invalid operation install
root@affan:/# apt install apache2
Reading package lists... Done
Building dependency tree
Reading state information... Done
apache2 is already the newest version (2.4.38-3+deb10u7).
The following package was automatically installed and is no longer required:
  linux-image-4.19.0-18-amd64
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
```

6. Install php

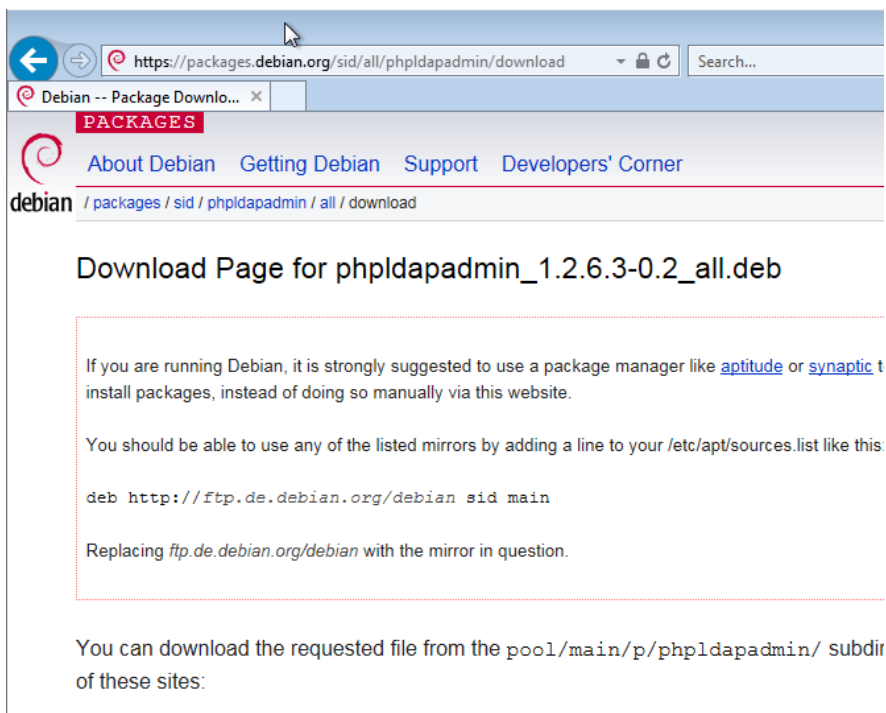
```
root@affan:/# apt install php
Reading package lists... Done
Building dependency tree
Reading state information... Done
php is already the newest version (7.3+69).
The following package was automatically installed and is no longer required:
  linux-image-4.19.0-18-amd64
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
```

7. Restart dan cek status apache2

```
root@affan:/# systemctl restart apache2
root@affan:/# systemctl status apache2
• apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enable
   Active: active (running) since Sun 2022-06-12 08:08:30 WIB; 5s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 1871 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 1875 (apache2)
     Tasks: 6 (limit: 1149)
    Memory: 14.1M
    CGroup: /system.slice/apache2.service
           └─1875 /usr/sbin/apache2 -k start
             └─1876 /usr/sbin/apache2 -k start
               └─1877 /usr/sbin/apache2 -k start
                 └─1878 /usr/sbin/apache2 -k start
                   └─1879 /usr/sbin/apache2 -k start
                     └─1880 /usr/sbin/apache2 -k start

Jun 12 08:08:30 affan systemd[1]: apache2.service: Succeeded.
Jun 12 08:08:30 affan systemd[1]: Stopped The Apache HTTP Server.
Jun 12 08:08:30 affan systemd[1]: Starting The Apache HTTP Server...
Jun 12 08:08:30 affan systemd[1]: Started The Apache HTTP Server.
```

8. Buka browser, lalu download phpldapadmin



The screenshot shows a web browser window with the address bar displaying `https://packages.debian.org/sid/all/phpldapadmin/download`. The page title is "Download Page for phpldapadmin_1.2.6.3-0.2_all.deb". The page content includes a warning about using package managers like aptitude or synaptic, instructions on how to add mirrors to `/etc/apt/sources.list`, and a list of download sites. The browser's address bar also shows a search bar and a "Search..." button.

Download Page for phpldapadmin_1.2.6.3-0.2_all.deb

If you are running Debian, it is strongly suggested to use a package manager like [aptitude](#) or [synaptic](#) to install packages, instead of doing so manually via this website.

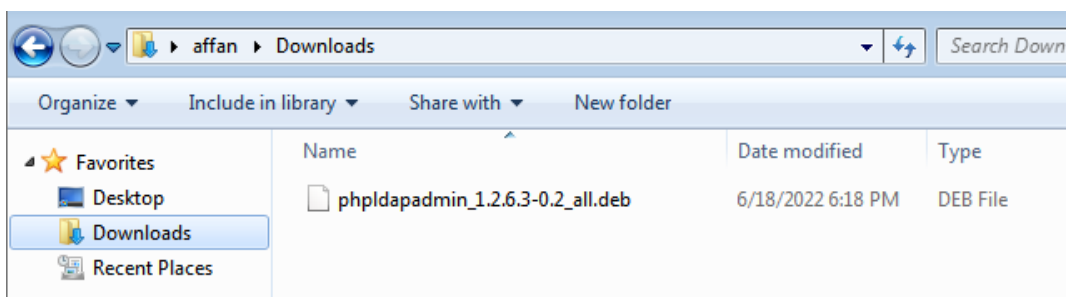
You should be able to use any of the listed mirrors by adding a line to your `/etc/apt/sources.list` like this:

```
deb http://ftp.de.debian.org/debian sid main
```

Replacing `ftp.de.debian.org/debian` with the mirror in question.

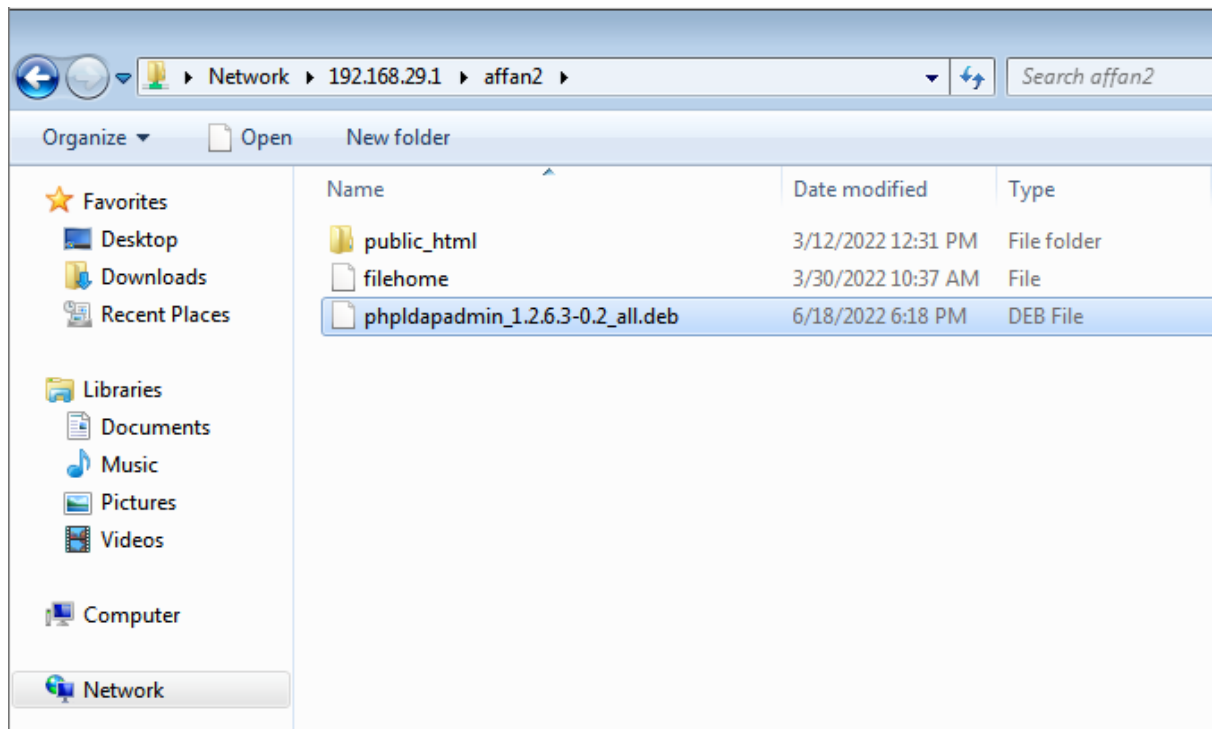
You can download the requested file from the `pool/main/p/phpldapadmin/` subdirectory of these sites:

9. Buka file manager, lalu copy hasil download phpldapadmin ke file sharing Debian



The screenshot shows a file manager window with the address bar displaying `affan > Downloads`. The window contains a table with the following columns: Name, Date modified, and Type. The table lists the file `phpldapadmin_1.2.6.3-0.2_all.deb` with a date modified of `6/18/2022 6:18 PM` and a type of `DEB File`. The left sidebar shows a list of favorites: Desktop, Downloads, and Recent Places.

Name	Date modified	Type
phpldapadmin_1.2.6.3-0.2_all.deb	6/18/2022 6:18 PM	DEB File



10. Kembali ke Debian, lalu masuk ke directory tempat file yang telah di share diatas, setelah itu install phpldapadmin dengan dpkg

```
root@affan:~# cd /home/affan2
root@affan:/home/affan2# ls
filehome                public_html              squirrelmail-webmail-1
phpldapadmin_1.2.6.3-0.2_all.deb  squirrelmail-webmail-1.4.22
root@affan:/home/affan2# dpkg -i phpldapadmin_1.2.6.3-0.2_all.deb
(Sedang membaca basis data ... 45072 berkas atau direktori telah terpasang.)
Preparing to unpack phpldapadmin_1.2.6.3-0.2_all.deb ...
Unpacking phpldapadmin (1.2.6.3-0.2) ...
Sedang menata phpldapadmin (1.2.6.3-0.2) ...

Creating config file /etc/phpldapadmin/config.php with new version
apache2_invoke: Enable configuration phpldapadmin.conf
root@affan:/home/affan2# _
```

11. Masuk ke directory /etc/phpldapadmin, backup config.php

```
root@affan:/home/affan2# cd /etc/phpldapadmin
root@affan:/etc/phpldapadmin# ls -al
total 44
drwxr-xr-x  3 root root    4096 Jun 20 08:10 .
drwxr-xr-x 93 root root    4096 Jun 20 08:10 ..
-rw-r--r--  1 root root    1436 Apr  6  2021 apache.conf
-rw-r-----  1 root www-data 28342 Jun 20 08:10 config.php
drwxr-x---  4 root www-data  4096 Jun 20 08:10 templates
root@affan:/etc/phpldapadmin# cp config.php config.php.orig
root@affan:/etc/phpldapadmin# ls
apache.conf  config.php  config.php.orig  templates
root@affan:/etc/phpldapadmin# _
```

12. Setting config.php

```
/* A convenient name that will appear in the tree viewer and throughout
   phpLDAPadmin to identify this LDAP server to users. */
$servers->setValue('server','name','affan LDAP Server');

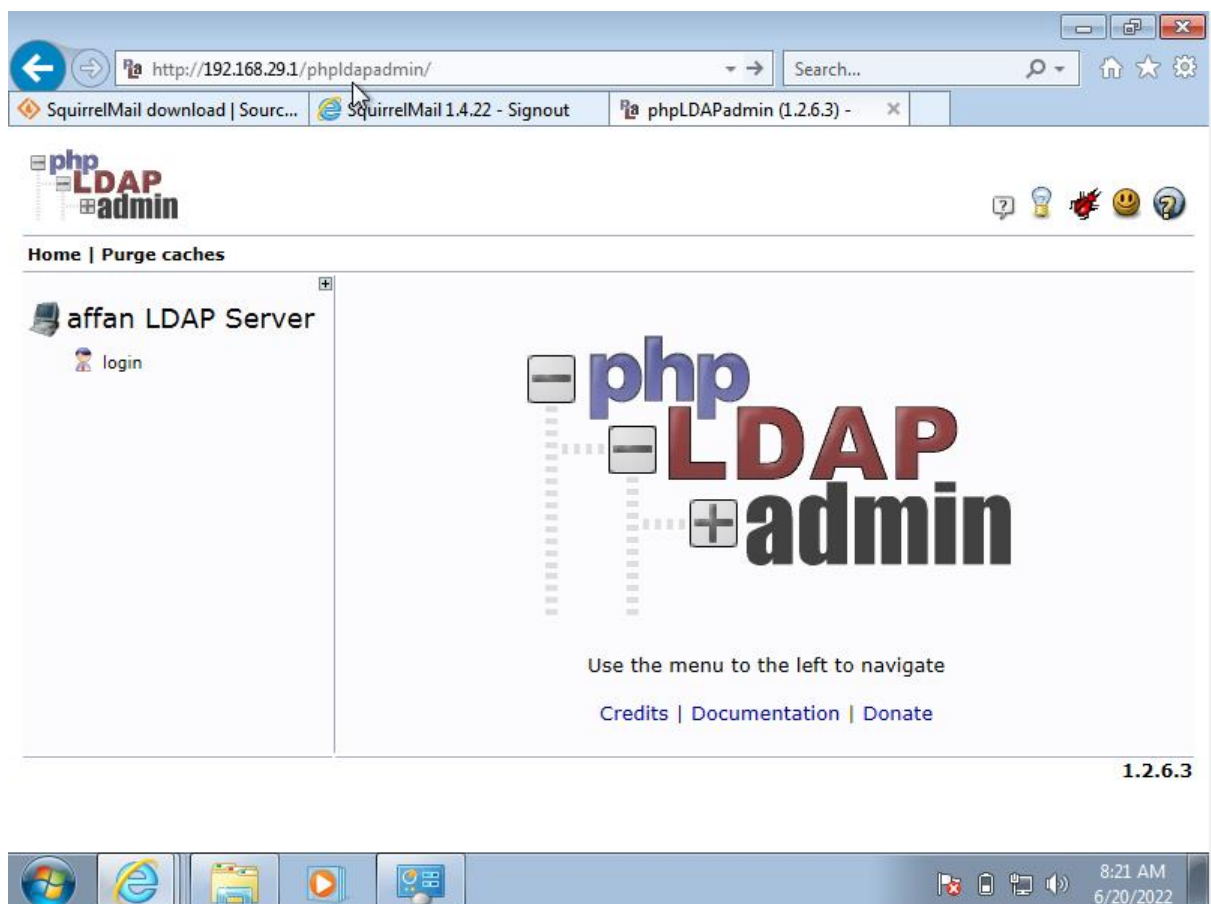
/* Examples:
   'ldap.example.com',
   'ldaps://ldap.example.com/',
   'ldapi://%2fusr%2flocal%2fvar%2frun%2fldapi'
   (Unix socket at /usr/local/var/run/ldap) */
$servers->setValue('server','host','127.0.0.1');

/* The port your LDAP server listens on (no quotes). 389 is standard. */
// $servers->setValue('server','port',389);

/* Array of base DN's of your LDAP server. Leave this blank to have phpLDAPadmin
   auto-detect it for you. */
$servers->setValue('server','base',array('dc=affan,dc=com'));

/* The DN of the user for phpLDAPadmin to bind with. For anonymous binds or
   'cookie','session' or 'sasl' auth_types, LEAVE THE LOGIN_DN AND LOGIN_PASS
   BLANK. If you specify a login_attr in conjunction with a cookie or session
   auth_type, then you can also specify the bind_id/bind_pass here for searching
   the directory for users (ie, if your LDAP server does not allow anonymous
   binds. */
$servers->setValue('login','bind_id','cn=admin,dc=affan,dc=com');
# $servers->setValue('login','bind_id','cn=Manager,dc=example,dc=com');
```

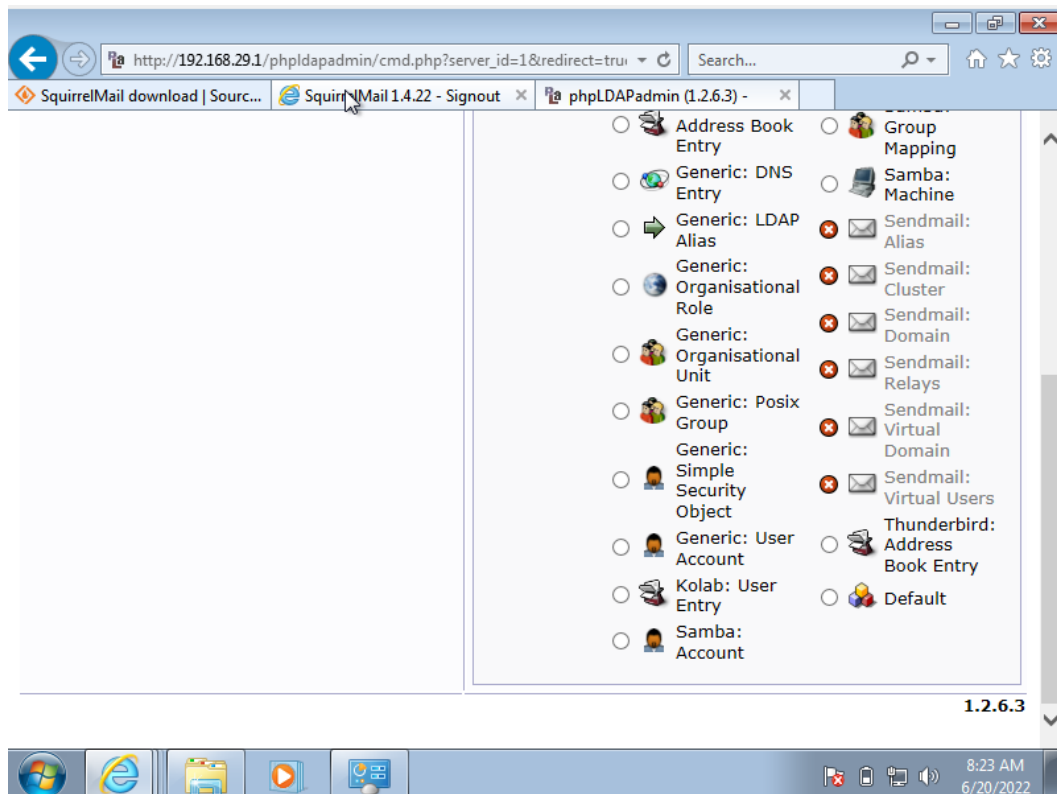
13. Buka browser lalu buka phpldapadmin



14. Login phpldapadmin



15. Buat 2 OU yaitu groups dan people



Browser window showing the phpLDAPadmin interface. The address bar displays `http://192.168.29.1/phpldapadmin/cmd.php?server_id=1&redirect=true`. The page title is "phpLDAPadmin". The left sidebar shows the "affan LDAP Server" tree with a tree view of `dc=affan,dc=com (1)` and `cn=admin`. The main content area displays the "Create Object" form for a "New Organisational Unit (Step 1 of 1)". The form includes a text input field for the "Organisational Unit" name, which contains the text "groups". A "Create Object" button is visible at the bottom of the form.

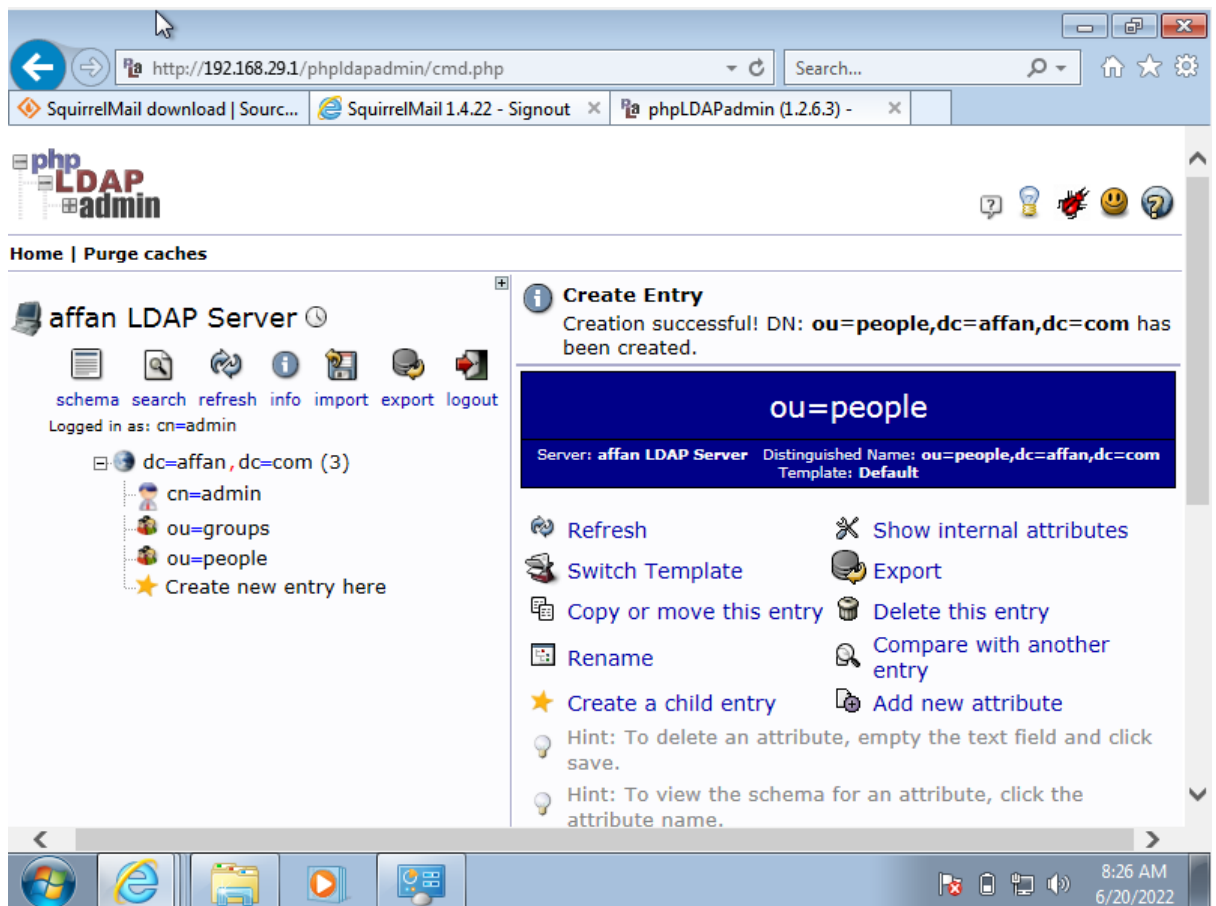
1.2.6.3

Browser window showing the phpLDAPadmin interface. The address bar displays `http://192.168.29.1/phpldapadmin/cmd.php`. The page title is "phpLDAPadmin". The left sidebar shows the "affan LDAP Server" tree with a tree view of `dc=affan,dc=com (1)` and `cn=admin`. The main content area displays the "Create LDAP Entry" form. The form includes a table with the following data:

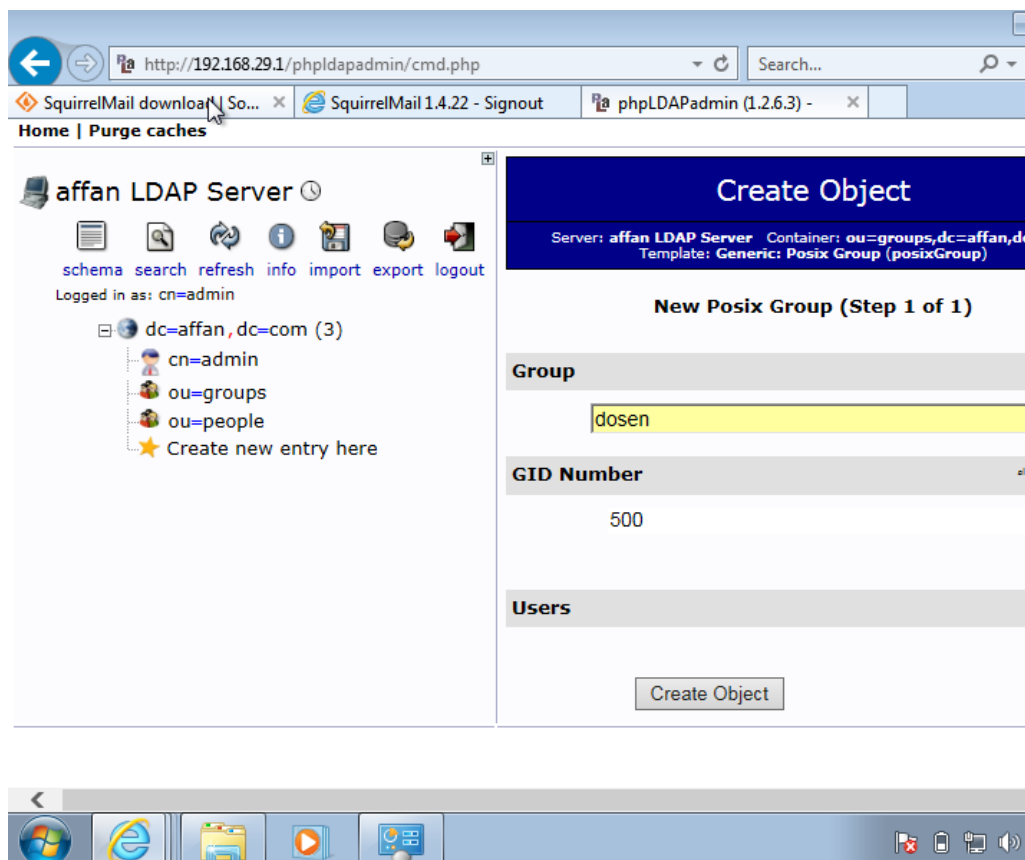
Attribute	New Value	Skip
ou=groups,dc=affan,dc=com		
Organisational Unit	groups	<input type="checkbox"/>
objectClass	organizationalUnit	<input type="checkbox"/>

Below the table are "Commit" and "Cancel" buttons.

1.2.6.3



16. Buat 3 grup yaitu dosen, admin dan siswa



http://192.168.29.1/phpldapadmin/cmd.php

SquirrelMail download | So... SquirrelMail 1.4.22 - Signout phpLDAPAdmin (1.2.6.3) -

phpLDAPadmin

Home | Purge caches

affan LDAP Server

schema search refresh info import export logout
Logged in as: cn=admin

dc=affan,dc=com (3)

- cn=admin
- ou=groups
- ou=people
- Create new entry here

Create LDAP Entry

Server: **affan LDAP Server** Container: **ou=groups,dc=affan,d**

Do you want to create this entry?

Attribute	New Value	Skip
cn=dosen,ou=groups,dc=affan,dc=com		
Group	dosen	<input type="checkbox"/>
GID Number	500	<input type="checkbox"/>
objectClass	posixGroup	<input type="checkbox"/>

Commit Cancel

http://192.168.29.1/phpldapadmin/cmd.php

SquirrelMail download | Sour... SquirrelMail 1.4.22 - Signout phpLDAPAdmin (1.2.6.3) -

affan LDAP Server

schema search refresh info import export logout
Logged in as: cn=admin

dc=affan,dc=com (3)

- cn=admin
- ou=groups (3)
 - cn=admin
 - cn=dosen
 - cn=siswa
- ou=people
- Create new entry here

Create Entry

Creation successful! DN: **cn=siswa,ou=groups,dc=affan,dc=com** has been created.

cn=siswa

Server: **affan LDAP Server** Distinguished Name: **cn=siswa,ou=groups,dc=affan,dc=com**
Template: **Default**

- Refresh
- Switch Template
- Copy or move this entry
- Rename
- Create a child entry
- Show internal attributes
- Export
- Delete this entry
- Compare with another entry
- Add new attribute

Hint: To delete an attribute, empty the text field and click save.
Hint: To view the schema for an attribute, click the attribute name.

Network Connections

8:29 AM 6/20/2022

17. Buat 3 user di phpldapadmin dan masing – masing user masuk ke grup dosen, siswa, dan admin

Create Object

Server: affan LDAP Server Container: ou=people,dc=affan,dc=com
Template: Generic User Account (posixAccount)

New User Account (Step 1 of 1)

First name LDAP, REQUIRED
Mohammad Affan

Last name LDAP, REQUIRED
Hendi Firmansyah

Common Name LDAP, REQUIRED
Mohammad Affan Hendi Firmansyah

User ID LDAP, REQUIRED
affan

Password LDAP, REQUIRED
***** (mc5)
***** (confirm)
[Check password...](#)

UID Number LDAP, REQUIRED, INTEGER
1000

GID Number LDAP, REQUIRED, INTEGER
admin

Home directory LDAP, REQUIRED
/home/users/affan

Login shell LDAP
[v]

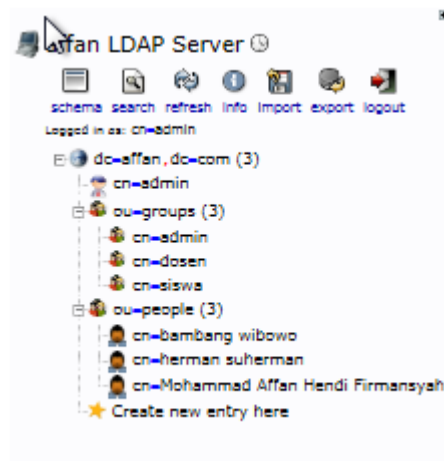
Create LDAP Entry

Server: affan LDAP Server Container: ou=people,dc=affan,dc=com

Do you want to create this entry?

Attribute	New Value	Skip
cn=Mohammad Affan Hendi Firmansyah,ou=people,dc=affan,dc=com		
First name	Mohammad Affan	<input type="checkbox"/>
Last name	Hendi Firmansyah	<input type="checkbox"/>
Common Name	Mohammad Affan Hendi Firmansyah	<input type="checkbox"/>
User ID	affan	<input type="checkbox"/>
Password	*****	<input type="checkbox"/>
UID Number	1000	<input type="checkbox"/>
GID Number	501	<input type="checkbox"/>
Home directory	/home/users/affan	<input type="checkbox"/>
objectClass	InetOrgPerson posixAccount	<input type="checkbox"/>

18. Hasil



19. Install libpam-ldap

```
root@affan:/etc/phpldapadmin# cd ..
root@affan:/etc# cd ..
root@affan:/# apt install libpam-ldap
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  libpam-ldap
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B/87,0 kB of archives.
After this operation, 250 kB of additional disk space will be used.
Prakonfigurasi paket ...
(Sedang membaca basis data ... 45757 berkas atau direktori telah terpasang.)
Preparing to unpack ../libpam-ldap_186-4_amd64.deb ...
Unpacking libpam-ldap:amd64 (186-4) ...
Sedang menata libpam-ldap:amd64 (186-4) ...
Processing triggers for man-db (2.8.5-2) ...
```

20. Buat atribut baru, cari gecoc kemudian masukkan sshen di kolom gecoc

cn=Muhammad Affan Hendi Firmansyah

Server: affan LDAP Server Distinguished Name: cn=Muhammad Affan Hendi Firmansyah,ou=people,dc=affan,dc=com Template: Default

Refresh Show internal attributes
Switch Template Export
Copy or move this entry Delete this entry
Rename Compare with another entry
Create a child entry Add new attribute

Hint: To delete an attribute, empty the text field and click save.
Hint: To view the schema for an attribute, click the attribute name.

Add Attribute

gecoc

sshen

cn

Muhammad Affan Hendi Firmansyah

(add value)
(rename)

gidNumber

501

admin ()

21. Jika tidak mendapatkan attribute pada Langkah sebelumnya, cari ObjectClass klik huruf l di depan PosixAccount. Klik Attribute Types kemudian cari gecoss

Schema for server affan LDAP Server

ObjectClasses | Attribute Types | Syntaxes | Matching Rules

Jump to an objectClass:
posixAccount

posixAccount	
OID: 1.3.6.1.1.1.2.0	
Description: Abstraction of an account with POSIX attributes	
Type: auxiliary	
Inherits from: top	
Parent to: (none)	
Required Attributes	Optional Attributes
<ul style="list-style-type: none">cngidNumberhomeDirectoryuiduidNumber	<ul style="list-style-type: none">descriptiongecosloginShelluserPassword

Schema for server affan LDAP Server

ObjectClasses | Attribute Types | Syntaxes | Matching Rules

Jump to an attribute type:
gecos

aliasedEntryName	
Description	RFC4512: name of aliased object
OID	2.5.4.1
Obsolete	No
Inherits from	
Equality	distinguishedNameMatch
Ordering	(not specified)
Substring Rule	(not specified)
Syntax	Distinguished Name (1.3.6.1.4.1.1466.115.121.1.12)
Single Valued	Yes
Collective	No
User Modification	Yes
Usage	(not specified)
Maximum Length	(not applicable)
Aliases	aliasedObjectName
Used by objectClasses	(none)
Force as MAY by config	No