

Directory Services

- What is Directory Services
- LDAP
- Servers
- 389 DS Demo
- Authentication against DS
- LDAP Queries
- Permissions
- Integration with other Applications/Software

• What is Directory Services

- A directory service is a database for storing and maintaining information about users and resources.
- Directory Services are often referred to as directories, user stores, Identity Stores, or LDAP Directory

What is Directory Services..

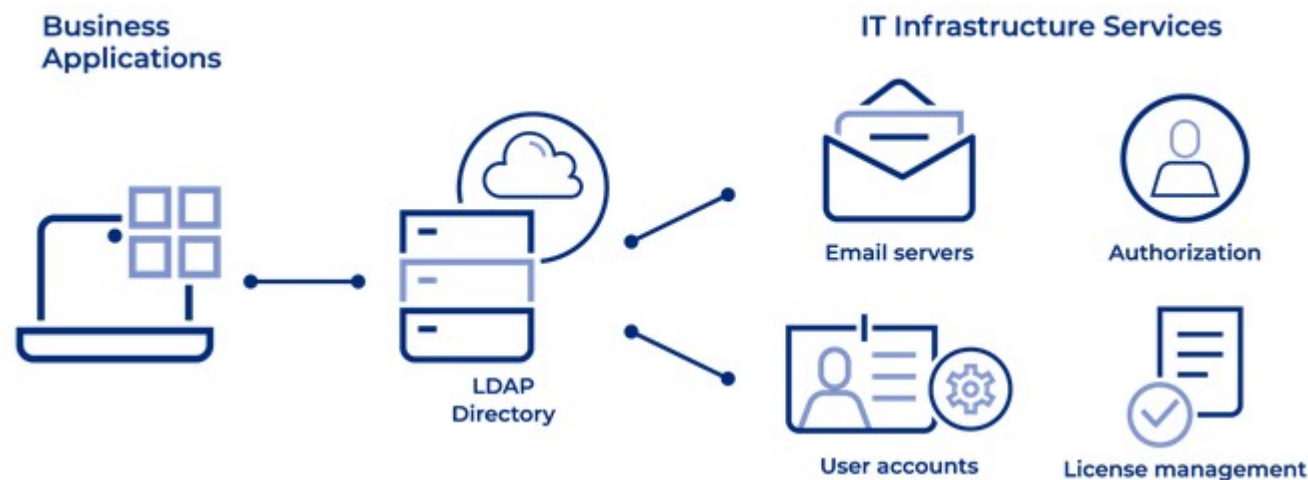
- Network and system administrators use directory services to onboard users, manage access privileges and monitor and control access to applications and infrastructure resources.

What is Directory Services..

- Directory services are fundamental elements of an Identity Security strategy.
- Many identity and access management (IAM) solutions use directory services in conjunction with single sign-on (SSO), multi-factor authentication (MFA) or identity lifecycle management functionality.

What is LDAP

- LDAP is a protocol.
- It's a form of language that allows users to find the information they need very quickly.
- It is vendor-neutral, so it can be used with a variety of different directory programs.



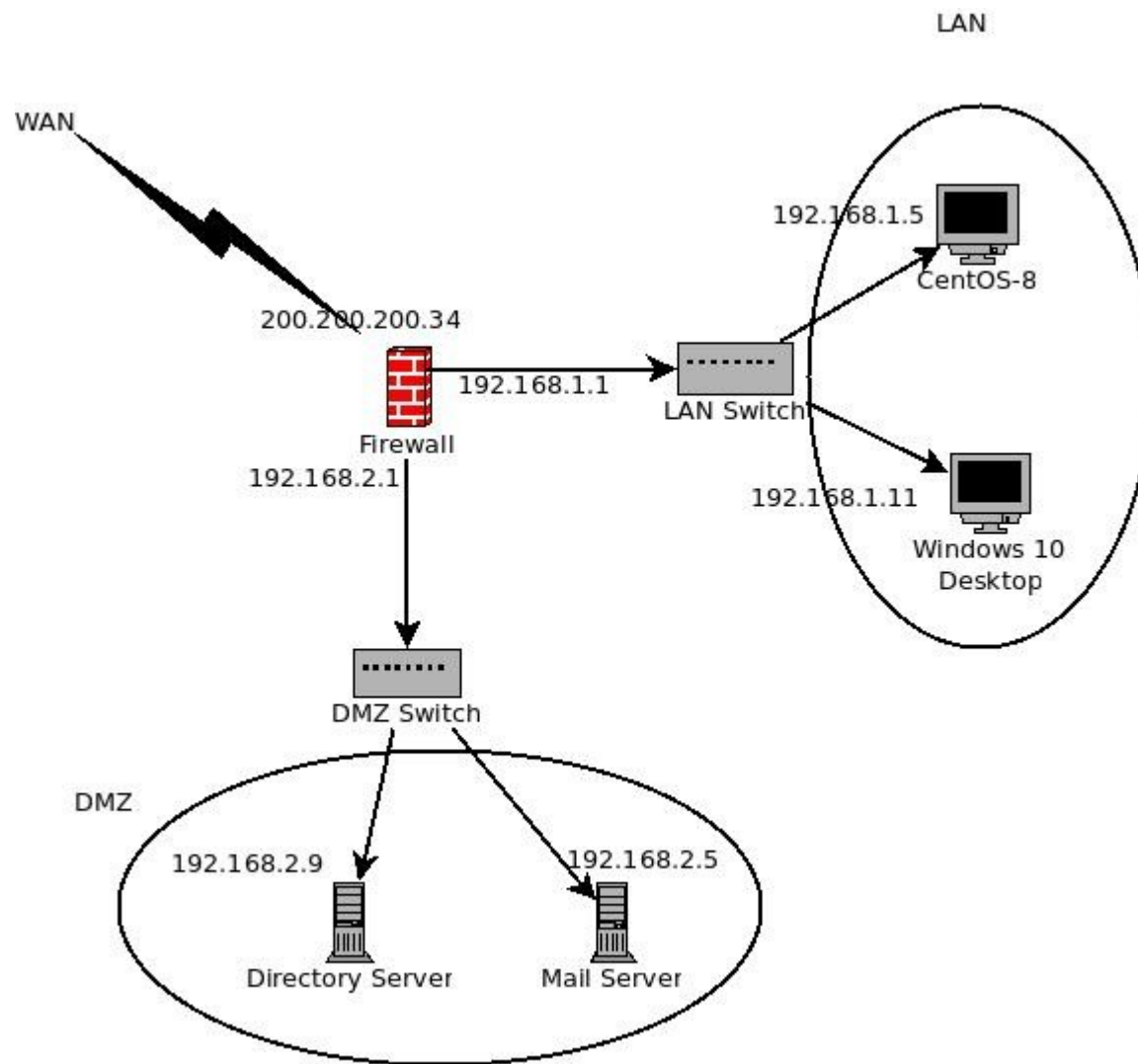
Directory Servers

- https://en.wikipedia.org/wiki/List_of_LDAP_software

389 Directory Server

- An a LDAP server developed by Red Hat as part of the community-supported Fedora Project.
- The name "389" derives from the port number used by LDAP.
- Supports many operating systems, including Fedora, Red Hat Enterprise Linux, Debian, Solaris, and HP-UX 11i.
- Source code is generally available under the GNU General Public License version 3
- Red Hat markets a commercial version of the project as **Red Hat Directory Server** as part of support contracts for RHEL.

Demo Network



Demo

NIELIT Calicut LDAP Server ⌚

schema search refresh info import export logout

Logged in as: cn=Directory Manager

- dc=calicut, dc=nielit, dc=in (6)
 - ou=devices (2)
 - ou=groups (1)
 - ou=people (4)
 - ou=permissions (6)
 - ou=services
 - ou=users (2)
 - ou=staff
 - ou=students (4)
 - ou=mtech
 - ou=sw200 (3)
 - uid=hari1
 - uid=harigov
 - uid=shyna
 - ★ Create new entry here
 - ou=sw900
 - ou=Test
 - ★ Create new entry here
 - ★ Create new entry here
 - ★ Create new entry here

uid=hari1

Server: NIELIT Calicut LDAP Server Distinguished Name: uid=hari1,ou=sw200,ou=students,ou=users,dc=calicut,dc=nielit,dc=in Template: Default

Refresh

Switch Template

Copy or move this entry

Rename

Create a child entry

Hint: To delete an attribute, empty the text field and click save.

Hint: To view the schema for an attribute, click the attribute name.

Show internal attributes

Export

Delete this entry

Compare with another entry

Add new attribute

cn required

(add value)

departmentNumber

(add value)

displayName

Authentication against DS

- LDAP authentication is the process of verifying usernames and passwords stored in a directory service, like OpenLDAP or Microsoft Active Directory.
- Administrators can create user accounts within a directory and grant them permissions.

LDAP Queries

- `ldapsearch -h localhost -D "cn=Directory Manager" -W`
- `ldapsearch -h localhost -D "cn=Directory Manager" -W "nn(uid=hari)"`
- `ldapadd -x -D "cn=Directory Manager" -W -f users.ldif`
- `ldapmodify`
- `ldapdelete`

Permissions

- Can be provided brach wise....(in certain products)

Integration with other Applications/Software

- PFSense
- CMS'
- Mozilla Thunderbird
- Apache

Questions