LDAP

Lightweight directory access protocol

Light weight: it is the part of DAP but included the lightweight cases the code to shrink and it uses only read operation takes less time to process

Directory: contains all the entries of related information or what It is created for.

Access: to get approach or look into something

Protocol: rules or conditions set by both parties that both agree over.

So, it’s like a pocket-size phone book for network.

So, in network directory is use to tell where is something like email, webpages, individuals or any resource is located in network.

LDAP is a "lightweight" (smaller amount of code) version of Directory Access Protocol (DAP), which is part of X.500, a standard for directory services in a network.

Directory services are used to store, retrieve, and manage information about objects, such as user accounts, computer accounts, mail accounts, and information on resources available on the network.

LDAP is an application layer protocol that uses port 389 via TCP or user datagram protocol (UDP). LDAP queries can be transmitted in cleartext and, depending upon configuration, can allow for some or all data to be queried anonymously.

The Lightweight Directory Access Protocol, or LDAP for short, is one of the core authentication protocol that was developed for directory services. LDAP historically has been used as a database of information, primarily storing information like: Users. Attributes about those users.

LDAP systems are built on top of relational databases but no necessarily and they are not database themselves

LDAP is highly optomized for reads,

LDAP is a protocol for querying user directories. For example, Active Directory or Novell eDirectory both support LDAP. It is also, to a degree a syntax for doing such queries, like how SQL is a querying language for querying databases.

An LDAP command could look like

(givenName=Mike)

And it would return all Mikes in the directory.

LDAP is basically a protocol to access a directory. Directory here basically refers to a directory having information of the users present in the organisation. Examples of directory include Microsoft's Active Directory (AD) and Oracle's Internet Directory (OID).

Active Directory is a directory services database, and LDAP is one of the protocols you can use to talk to it.

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X.500 is a series of computer networking standards covering electronic directory services.

Because these protocols used the OSI networking stack, a number of alternatives to DAP were developed to allow Internet clients to access to the X.500 Directory using the TCP/IP networking stack. The most well-known alternative to DAP is Lightweight Directory Access Protocol (LDAP). While DAP and the other X.500 protocols can now use the TCP/IP networking stack, LDAP remains a popular directory access protocol.

A program ad-ldap-enum is a Python script that was developed to discover users and their group memberships from Active Directory. In large Active Directory environments, tools such as NBTEnum were not performing fast enough. By executing LDAP queries against a domain controller, ad-ldap-enum is able to target specific Active Directory attributes and build out group membership quickly.