Lab 7

Title: DNS server setup

Objective:

a) To understand the concept of DNS server.

b) To provide domain names to corresponding ip addresses.

Software requirements

SN	Software	Specification
1.	VMWare or VirtualBox	-
2.	Windows OS	Windows 10
3.	Windows Server	2016/2019

Related theory

The Domain Name System (DNS) is the phonebook of the Internet. Humans access information online through domain names, like nytimes.com or espn.com. Web browsers interact through Internet Protocol (IP) addresses. DNS translates domain names to IP addresses so browsers can load Internet resources.

Each device connected to the Internet has a unique IP address which other machines use to find the device. DNS servers eliminate the need for humans to memorize IP addresses such as 192.168.1.1 (in IPv4), or more complex newer alphanumeric IP addresses such as 2400:cb00:2048:1::c629:d7a2 (in IPv6).

How does DNS work?

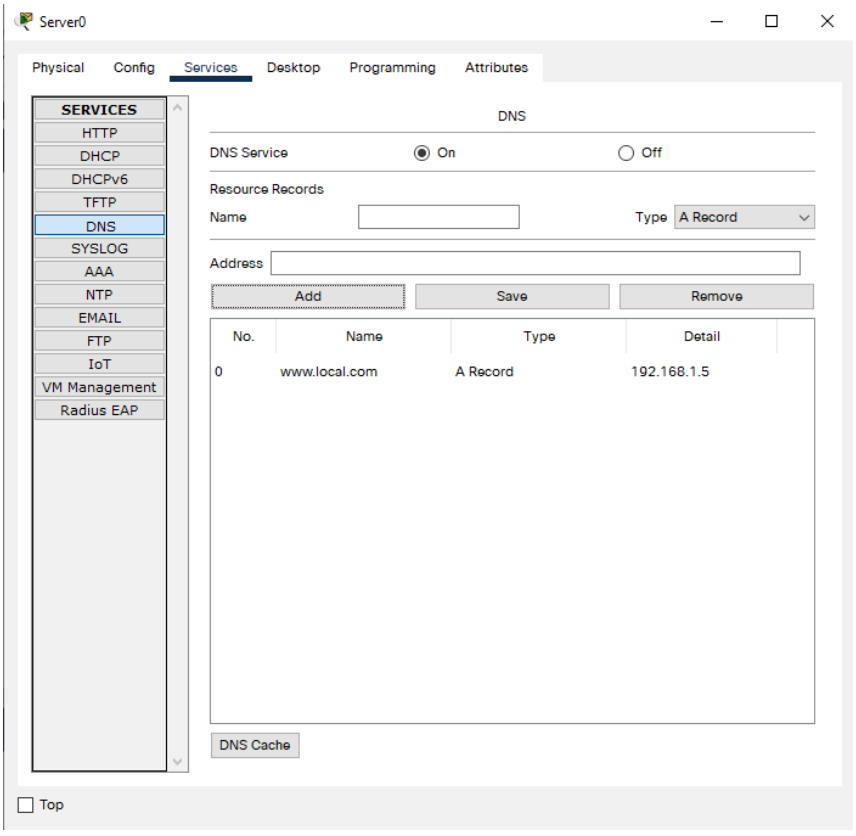
The process of DNS resolution involves converting a hostname (such as www.example.com) into a computer-friendly IP address (such as 192.168.1.1). An IP address is given to each device on the Internet, and that address is necessary to find the appropriate Internet device - like a street address is used to find a particular home. When a user wants to load a webpage, a translation must occur between what a user types into their web browser (example.com) and the machine-friendly address necessary to locate the example.com webpage.

In order to understand the process behind the DNS resolution, it's important to learn about the different hardware components a DNS query must pass between. For the web browser, the DNS lookup occurs " behind the scenes" and requires no interaction from the user's computer apart from the initial request.

Procedure

1. Open Windows Server.
2. Click on Add role and features.
3. Select DNS server to install.
4. After installation, click on DNS option.
5. Add ip addresses that are allowed in the windows server and their corresponding domain names.
6. Open browser and access the web page using domain name or ip address.

Observation:



Here, similar to when creating a web server, DNS server can be create so that instead of accessing the site through ip address everytime we can give it a name/URL which makes it easier to access. We have to turn on DNS then give it the name and ipaddress

Conclusion:

Hence, DNS server was created in Packet Tracer