

Access computers using DNS and DD-WRT

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TipsMake.com - In the following article, we will show you how to access remote computers using DNS on DD-WRT enabled router device. Not long ago, we introduced static DHCP features on routers with DD-WRT and how to make the client system always receive the same IP address from the router.

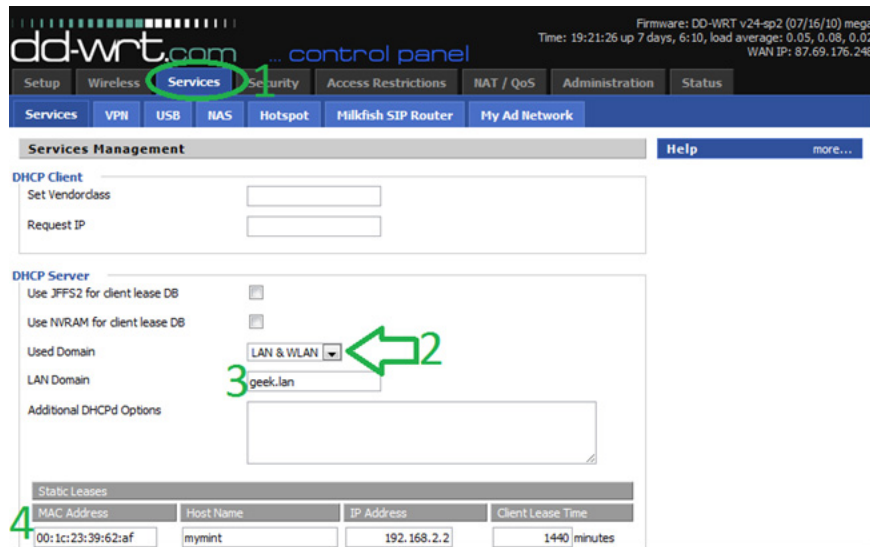
That is the case where we want access to any computer in the system when we know the specific IP address, but in fact, it is not always possible for the user to remember all of this IP address range. Besides, when the concept of UPnP appears, the inconvenience when using IP address is getting bigger. And this is also the reason why DNS appears.

The problem is when the user tries to connect from a computer or peripheral device on the network with an IP address (for example with a **ping** command), but this way only works in certain cases. So what is the problem? And how to solve it?

Technically, the device being used does not know how to switch from a common hostname value to an IP address, because the most important factor is missing, namely **DNS suffix**. When this process requires any computer to switch from a name value to an IP address, there are two ways to resolve it, the most basic way is to send a request through the **Domain Naming System** server (DNS) . However, in order to do this, the client system must resolve all information in the **Fully Qualified Domain Name (FQDN) section**.

A **FQDN** component contains the hostname value like mydesktop and the DNS part, such as geek.lan. Specifically, in our test, the FQDN part of the host will be **mydesktop.geek.lan** and **mylaptop.geek.lan** . When a machine in a client does not have a DNS element, it will of course not be possible to request DNS for a clearly specified name value. Therefore, when we want to access the host with the corresponding name, we must execute the previous ping command (eg ping **mydesktop.geek.lan**). However, if the **DNS suffix** has been initialized somehow, the client system will automatically insert requests to the hostname and DNS server. If the DNS suffix has not been created, the client will try to find the corresponding name by using the **DNS broadcast**.

Therefore, the only workaround is to set up, initialize the DNS value suffix on the router's DHCP. This process will cause the router to have additional dynamic DNS server services, and each computer in the client system can manually assign to that list, and allocate DNS suffix as well as parts of DHCP to the client. To do this, open the admin page, the main configuration of the router:



Select the **Services** section, change the **Used Domain** value to **LAN & WLAN** , in the **LAN Domain** section you enter the **domain** name (in this test is **geek.lan**). While using static DHCP, specify the hostname section to match the name of the computer or device in the operating system, click **Save** and **Apply Settings**.

However, there is one exception to this case. If we use **.local**, the Windows operating system will resolve quite neatly, and Linux will assign this information according to mDNS standard - Multicast DNS and ignore it. whole DNS server signal. And to check the results of this process, open the Command Prompt and type **ipconfig** , we will see that the DNS suffix section is not displayed as shown below:

```

Wireless LAN adapter Wireless Network Connection 3:

Connection-specific DNS Suffix . . . . . : 
Link-local IPv6 Address . . . . . : fe80::a09e:314a:1f51:59f2%21
IPv4 Address. . . . . : 192.168.2.139
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.2.1

```

Type **ipconfig / release** and then **ipconfig / renew** , the results displayed will look like this:

```

Wireless LAN adapter Wireless Network Connection 3:

Connection-specific DNS Suffix . . . . . : geek.lan
Link-local IPv6 Address . . . . . : fe80::a09e:314a:1f51:59f2%21
IPv4 Address. . . . . : 192.168.2.139
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.2.1

```

Continue this process on each client computer, and use only the hostname. We will see that this client system does not automatically understand the full name of the device being pinged to:

```
C:\Users\aviad>ping gamer
Pinging gamer.geek.lan [192.168.2.138] with 32 bytes of data:
Reply from 192.168.2.138: bytes=32 time=1ms TTL=128
Reply from 192.168.2.138: bytes=32 time=1ms TTL=128
Reply from 192.168.2.138: bytes=32 time<1ms TTL=128
Reply from 192.168.2.138: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.2.138:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\aviad>
```

However, if you encounter some pretty complicated and confusing problems, check out some things like:

- Clear DNS caching: because the DNS cache part may overflow the necessary cache, and will cause confusion in the DNS conversion process. With Windows it will be resolved by **ipconfig / flushdns**
- Ensure that the client system is using the router as well as the DNS that has been set up FQDN, especially when using VPN or other complex network systems. The simple way is to use **nslookup** to determine which DNS is being applied in the system:

```
C:\Users\aviad>nslookup gamer.geek.lan
Server: DD-WRT.aviad.lan
Address: 192.168.2.1

Name:     gamer.geek.lan
Address:  192.168.2.138

C:\Users\aviad>
```

Good luck!

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