IWT711S – Lab 1   **2023 - Sem. 1 – Week 4**

DHCP Server for Client/Server environment

Theory

A Systems Administrator will come across many different servers, and to assist in the setup of servers, a client/server environment should be setup. Fundamental parameters are needed to setup clients, such as the gateway, DNS, subnet masks, and a range of IP addresses. Using a DHCP server reduces the complexity in setting each individual client on the network, by automatically distributing the settings to the clients on a network.

Objective

In this lab, you will learn how to setup a DHCP server. You will learn how to test your DHCP server and troubleshoot problems.

Tools/Equipment

1. Virtual Software (Virtual PC)
2. Network connectivity

Lab Exercise

Setup two Operating System clients in a Virtual Environment.

• Using Virtual Machine, start client virtual machine saved under c:\VM

• Setup on two different Workstations

Setup Windows Server 2012 in a Virtual Environment.

• Using Virtual Machine, start Windows Server 2012 virtual machine saved under c:\VM

1) Configure IP address settings of your server as:
   a) IP address: 192.168.0.254
   b) Default Gateway: 192.168.0.1
   c) DNS: 192.168.0.254
2) Configure Active Directory Domain Controller and DNS through Manage your Server
3) Configure your Server to act as DHCP server, through Manage your Server.
4) IP address range is between 192.168.0.1 to 192.168.0.254
5) Subnet length should be 24
6) Reserve 192.168.0.254 for the Router
7) Reserve the first 10 addresses for client reservations, 192.168.0.1 to 192.168.0.10
8) Start clients on the network and check for automatic IP addressing.
9) Test connectivity from Server to clients and Vice Versa.
10) Check Address Leases under DHCP server.
11) Create two user accounts on the server then join the two clients to the Domain (Recap on SAD).

Evaluation questions

What was needed to setup a DHCP server?

What are possible problems that could arise during the setup of a DHCP server? What are some of the benefits of a DHCP server?

What solution would you employ if you had fewer IP Addresses than clients and no option to extend your address pool?

Documentation is encouraged to outline difficulties and uncertainties.

>>> End of Lab >>>