Dynamic Host Configuration Protocol (DHCP) is a network protocol that enables a server to automatically assign an IP address to a computer from a defined range of numbers (i.e., a scope) configured for a given network.

When a computer uses a static IP address, it means that the computer is manually configured to use a specific IP address. One problem with static assignment, which can result from user error or inattention to detail, occurs when two computers are configured with the same IP address. This creates a conflict that results in loss of service. Using DHCP to dynamically assign IP addresses minimizes these conflicts.

To start the DHCP installation process, you can click Add Roles from the Initial Configuration Tasks window or from Server Manager Roles > Add Roles.
When the **Add Roles Wizard** comes up, you can click **Next** on that screen.

Next, select that you want to add the **DHCP Server Role**, and click **Next**.
How to Install and Configure Windows Server 2008 DHCP Server

Introduction to DHCP Server

The Dynamic Host Configuration Protocol allows servers to assign, or lease, IP addresses to computers on a network. DHCP servers can be configured to provide a range of options to DHCP clients. These options include setting the DNS servers and providing the address of the WINS server, if any. DHCP clients can also be configured to receive their IP addresses automatically.

Things to Note

1. You should configure at least one static IP address on this computer.
2. Before you install DHCP Server, you should plan your subnets, scopes, and exclusions. Make the plan in a safe place for later reference.

Additional Information

- DHCP Server Overview
- Defining DHCP Scopes
- Integrating DHCP with DNS

Click Next >
I have taken this opportunity to configure some basic IP settings and configure my first DHCP Scope.

Click Next >

Next, enter Primary & Secondary DNS Servers (as you see above)
Note: I have not entered any IP is the alternate DNS simply because I only have a single DC right currently.

Click Next >

**DNS Server Settings**

When clients obtain an IP address from the DHCP server, they can be given DHCP or addresses of DNS servers. The settings you provide here will be applied to clients.

- **Preferred DNS server IPv4 address:**
  - 127.0.0.1
  - Valid

- **Alternate DNS server IPv4 address:**

More about DNS server settings

**WINS Server Settings**

When clients obtain an IP address from the DHCP server, they can be given DHCP or addresses of WINS servers. The settings you provide here will be applied to clients.

- **WINS is not required for applications on this network.**
- **WINS is required for applications on this network.**

When WINS is required for applications on this network, specify the IP addresses of the WINS servers that clients will use for name resolution. The settings you provide here will be applied to clients.

- **Preferred WINS server IPv4 address:**
- **Alternate WINS server IPv4 address:**

More about WINS server settings

I don't use WINS on my network and I clicked Next.
Configure your scope details according to your network.
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Select the DHCPv6 Stateless mode for this server.

- Enable DHCPv6 Stateless mode for this server
  IPv6 clients will be automatically configured without using this DHCP server.

- Disable DHCPv6 Stateless mode for this server
  After installing DHCP Server, you can configure the DHCPv6 mode using the DHCP Manager.

Account with permission in AD.
Click Next >
Verify your configuration by opening your DHCP server. You can now carry on creating further scopes if your network has more than 1 vlan or you can modify the settings configured earlier.

Configure a client pc to obtain ip address.
go to command prompt Start > Run > cmd > ipconfig /all
You will see that an ip address has been allocated by the new scope to this client pc.

Good Luck