**DHCP** - Dynamic Host Configuration Protocol Daemon  
  
**What DHCP Server can do?**   
  
1. Provides automatic configuration of IPv4 clients

* IPv4 address
* Subnet mask
* Default gateway
* DNS Server
* NTP Servers
* WINS Servers

2. Leases the addreses and related information based on predefined values:

* 1 day
* 1 week
* 1 month

3. DHCP uses UDP protocol and layer-2 information to request/assign addresses  
  
4. DHCP Process - DORA

* Discovery - client broadcasts on the local subnet for a DHCP server
* Offer - returned by the DHCP server
* Request - formal address request by client
* Acknowledgement/Acceptance - Acknowledgement occurrs

**Note:** DHCPD daemon records leases in: /var/lib/dhcpd/dhcpd.leases  
  
**Installing DHCP Server:**  
  
1. Install DHCP server  
**#yum -y install dhcp**  
  
2. Configure: **/etc/dhcpd.conf** - primary config file.  
  
**Look at sample dhcp configuration file below for the details:**  
  
  
ddns-update-style interim;   
ignore client-updates;  
  
  
subnet 192.168.1.0 netmask 255.255.255.0 {  
  
  
range 192.168.1.10 192.168.1.250; # Range of IP addresses to be issued to DHCP clients  
option subnet-mask 255.255.255.0; # Default subnet mask to be used by DHCP clients  
option broadcast-address 192.168.1.255; # Default broadcastaddress to be used by DHCP clients  
option routers 192.168.1.1; # Default gateway to be used by DHCP clients  
option domain-name "your-domain.com";  
option domain-name-servers 50.145.43.254, 50.145.43.253; # Default DNS to be used by DHCP clients  
option netbios-name-servers 192.168.1.200; # Specify a WINS server for Windows clients. Its Optional.  
default-lease-time 21600; # Amount of time in seconds that a client may keep the IP address  
max-lease-time 43200;  
option time-offset -18000; # Eastern Standard Time  
option ntp-servers 192.168.1.1; # Default NTP server to be used by DHCP clients  
  
  
  
# We want the nameserver "mailsrv2" to appear at a fixed address.  
# Name server with this specified MAC address will recieve this IP.  
  
  
host mailsrv2 {  
next-server mailsrv2.your-domain.com;  
hardware ethernet 00:12:f3:d0:f5:93;  
fixed-address 50.145.43.254;  
}  
  
  
host laser-printer-hp1 {  
hardware ethernet 06:20:2e:4f:b3:88;  
fixed-address 192.168.1.150;  
}  
}  
  
**Note:** DHCP can be configured with more and more options. I have specified very limited only here. refer the man page for details.

3. Set service up to start when system boots  
**#chkconfig dhcpd on - 2345**  
  
4. Start DHCP service:  
**#service dhcpd start**  
  
**How to Setup DHCP reservations?**

* Requires the MAC address of the client (00:0D:69:A5:15:94)
* Requires the 'fixed-address' - IPv4 address to map to the MAC address
* Optional 'option-\*' are supported between host { } block
* **service dhcpd restart** - restart to effect changes