

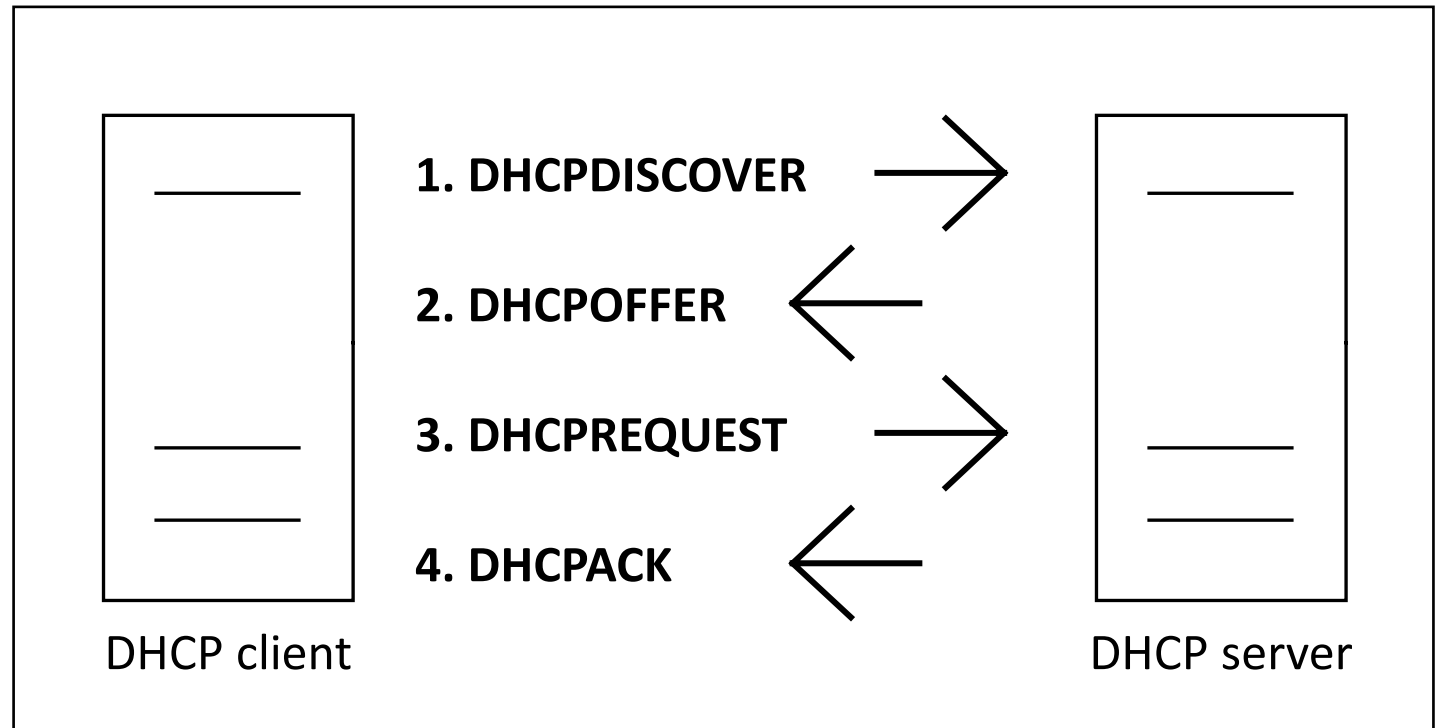
ADMINISTRATION OF OPERATING SYSTEMS

DHCP role on
Windows Server



Overview of the DHCP role

- DHCP simplifies management of IP configuration on clients
- DHCP lease renewal is attempted at:
 - 50% of lease time
 - 87.5% of lease time
- DHCP for IPv6 can be stateful or stateless



Install and configure the DHCP role

- To install the DHCP role:
 - **Windows Admin Center > Roles and Features**
 - **Server Manager**
 - **Add-WindowsFeature DHCP -IncludeManagementTools**
- To manage a DHCP server by using Windows Admin Center, you must install the DHCP PowerShell tools
- DHCP local security groups:
 - DHCP Administrators
 - DHCP Users
- To create the DHCP local security groups:
 - **Server Manager > Post-Install Configuration Wizard**

Configure DHCP options

- A DHCP lease can include options such as:

Option code	Name
1	Subnet mask
3	Router
6	DNS servers
15	DNS domain name

- DHCP options are applied in order:
 1. Server level
 2. Scope level
 3. Class level

Demonstration: Configure the DHCP role

- Install the DHCP Server role
- Install the DHCP PowerShell tools
- Configure a DHCP server option

Configure DHCP scopes

- Properties of a DHCP scope:
 - Name (mandatory)
 - Description
 - IP address range (mandatory)
 - Subnet mask (mandatory)
 - Exclusions
 - Delay
 - Lease duration
 - Options
 - Activation
- DHCP PowerShell cmdlets
 - **Add-DhcpServerv4Scope**
 - **Get-DhcpServerv4Scope**
 - **Get-DhcpServerv4ScopeStatistics**
 - **Set-DhcpServerv4Scope**
- Properties of a DHCP reservation:
 - Reservation name
 - IP address
 - MAC address
 - Description

Demonstration: Create and configure a DHCP scope

- Create a DHCP scope
- Create a DHCP reservation

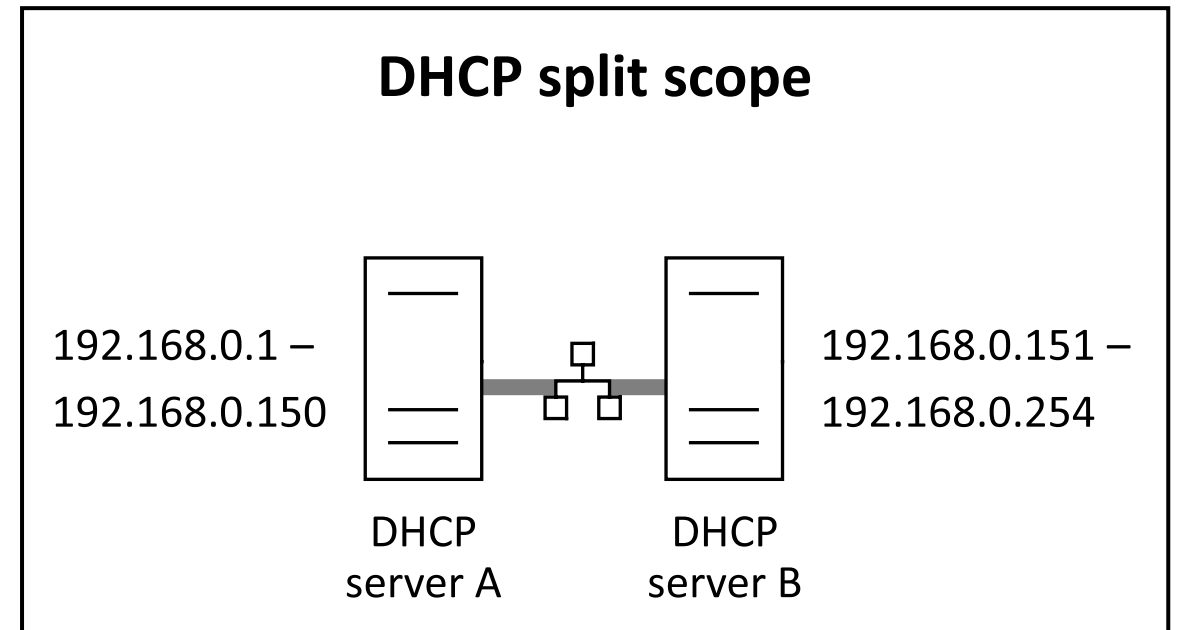
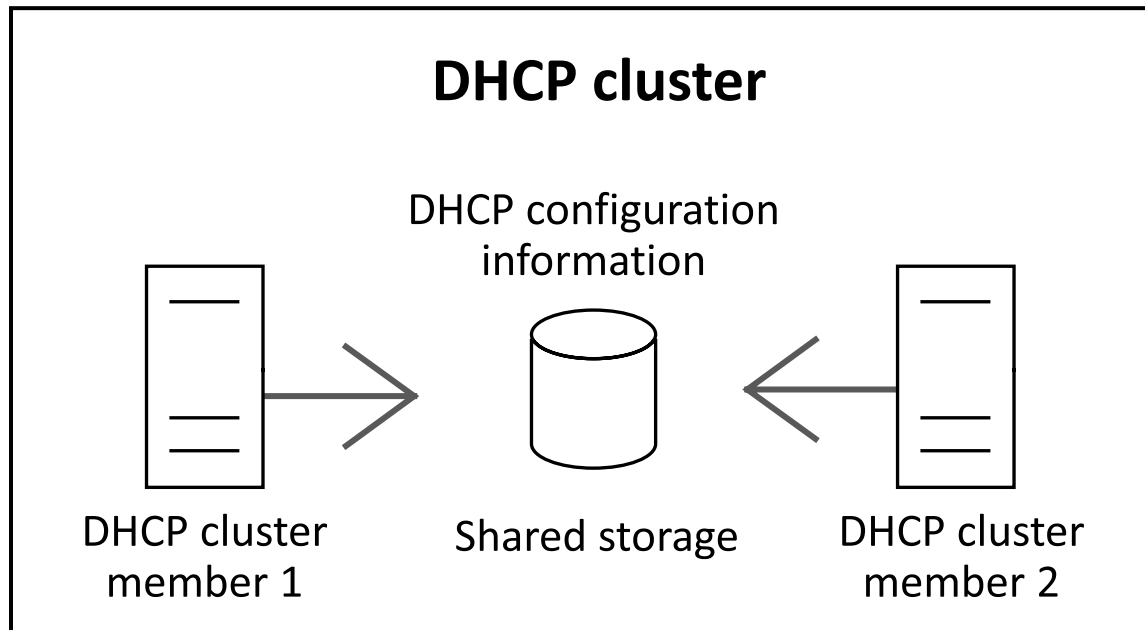
DHCP AD DS authorization

- A DHCP server on Windows Server must be authorized in AD DS to lease IP addresses:
 - To authorize a DHCP server by using Windows PowerShell, run:
`Add-DHCPServerinDC <name or IP address of DHCP server>`
- A standalone server with DHCP will not lease IP addresses if an authorized DHCP server is detected
- Non-Windows DHCP servers function regardless of authorization

High availability options for DHCP (slide 1 of 2)

- DHCP Failover:
 - Newer method for high availability
 - Strongly preferred to implement high availability for DHCP
- DHCP clustering:
 - Is configured to run in a failover cluster
 - Install the DHCP Server role on cluster nodes
 - DHCP configuration information is stored on shared storage
- Split scopes:
 - Involve two DHCP servers that are configured with non-overlapping scopes
 - Control the primary server by configuring delay

High availability options for DHCP (slide 2 of 2)



DHCP Failover

- Creates a partnership between two DHCP servers
- Lease information is replicated between the partners
- Configuration modes:
 - Load balance
 - Hot standby
- Other configuration options:
 - MCLT
 - Auto state switchover interval
 - Message authentication

References

- For more information, refer to the following links:
 - [Manage Servers with Windows Admin Center](#)
 - [DhcpServer](#)
 - [DNS Policy Scenario Guide](#)
 - [Publishing Applications with SharePoint, Exchange and RDG](#)

Hvala na pažnji!

