Windows Server 2012, Part 4 of 6: DHCP and DNS

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Prerequisites: The course assumes that students have some familiarity with Microsoft Windows, basic networking concepts, and a fundamental understanding of computer hardware.

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Course description: DHCP is the protocol that automatically assigns IP addresses and other important IP settings to client computers. Although the DHCP server role is a rich feature in Windows Server 2012, this particular exam (Microsoft 70-410) covers DHCP only at a basic and intermediate level. So even if you have never configured a DHCP server before don't we've have you covered. We'll be covering everything from the beginning, including how DHCP works, how to install and authorize a DHCP server, how to configure scopes and options, how to configure reservations, how to use allow and deny filters, and finally how to configure a DHCP relay agent. DNS is arguable the most important service to understand in Windows networks, because so much depends on it. Although you don't need to understand DNS in depth for this exam you do need to master the basics that include understanding how DNS name resolution works and what makes up the basic features of a DNS zone or an active directory domain.

Course outline:

Basics
- Introduction
- What Does DHCP Do?
- Demo: DHCP Scope
- Demo: Reservation
- Demo: Scope Options
- DHCP Lease Process
- Lease Process: Network Capture
- Automatic Private IP Addressing
- Demo: APIPA Addressing
- Summary

Installing and Configuring
- Introduction
- Demo: Installing DHCP
- Demo: DHCP Config Wizard
- Demo: DHCP Authorization
- Demo: Scopes
- Demo: Leases and Options
- DHCP Server Authorization
- Unauth Server: Red Down Arrow
- DHCP Scopes
- DHCP Scopes Must Be Activated
- DHCP Options
- Summary

Additonal Configuration
- Introduction
- DHCP Reservations
- Demo: Reservations
- Demo: Reservations Cont'd
- DHCP: Allow and Deny Filters
- Demo: Filters Location
- DHCP: Allow and Deny Filters
- Demo: Deny Filter
- Demo: Allow Filter
- DHCP Relay Agent
- Demo: DHCP Relay Agent
- Summary

Queries
- Introduction
- Introduction to DNS
- How DNS Works
- DNS Infrastructure
- Cache.dns: Lists Root Servers
- DNS Hierarchy
- A DNS Query
- DNS Forwarding: Example 1
- DNS Forwarding: Example 2
- Conditional Forwarding
- Demo: DNS Client Cache
- Demo: DNS Server
- Demo: Root Servers
- Demo: Forwarding
- Summary

Zone Basics
- Introduction
- DNS Zones
- Zone Stored in AD or Text File
- DNS Zone in AD
- DNS Zone File: DomainName.dns
- Benefits When Stored in AD
- Forward Lookup Zones
- Reverse Lookup Zones
- New Reverse Lookup Zone
- Resource Records in a DNS Zone
- Netlogon.dns: SRV Records
- Demo: Zones
- Summary