

70-741: Networking with Windows Server 2016

Audience Profile:

Candidates for this exam perform tasks related to the networking features and functionalities available in Windows Server 2016. Candidates should have familiarity with implementing and managing DNS, DHCP, and IPAM, as well as deploying remote access solutions such as VPN and RADIUS.

Candidates should also have experience managing DFS and branch cache solutions, configuring high performance network features and functionality, and implementing Software Defined Networking (SDN) solutions such as Hyper-V Network Virtualization (HNV) and Network Controller.

Objective Domain

Note: This document shows tracked changes that are effective as of March 13, 2019.

Implement Domain Name System (DNS) (15-20%)

Install and configure DNS servers

This objective may include but is not limited to: Determine DNS installation requirements; install DNS; configure forwarders; configure Root Hints; configure delegation; implement DNS policies; Configure DNS Server settings using Windows PowerShell; configure Domain Name System Security Extensions (DNSSEC); configure DNS Socket Pool; configure cache locking; enable Response Rate Limiting; configure DNS-based Authentication of Named Entities (DANE); configure DNS logging; configure delegated administration; configure recursion settings; implement DNS performance tuning; configure global settings

Create and configure DNS zones and records

This objective may include but is not limited to: Create primary zones; configure Active Directory primary zones; create and configure secondary zones; create and configure stub zones; configure a GlobalNames zone; analyze zone-level statistics; create and configure DNS Resource Records (RR), including A, AAAA, PTR, SOA, NS, SRV, CNAME, and MX records; configure zone scavenging; configure record options, including Time To Live (TTL) and weight; configure round robin; configure secure dynamic updates; configure unknown record support; use DNS audit events and analytical (query) events for auditing and troubleshooting; configure Zone Scopes; configure records in Zone Scopes; configure policies for zones

Implement DHCP and IPAM (15-20%)

Install and configure DHCP

This objective may include but is not limited to: Install and configure DHCP servers; authorize a DHCP server; create and configure scopes; create and configure superscopes and multicast scopes; configure a DHCP reservation; configure DHCP options; configure DNS options from within DHCP; configure policies; configure client and server for PXE boot; configure DHCP Relay Agent; implement IPv6 addressing using DHCPv6; perform export and import of a DHCP server; perform DHCP server migration

Manage and maintain DHCP

This objective may include but is not limited to: Configure a lease period; back up and restore the DHCP database; configure high availability using DHCP failover; configure DHCP name protection; troubleshoot DHCP

Implement and Maintain IP Address Management (IPAM)

This objective may include but is not limited to: Provision IPAM manually or by using Group Policy; configure server discovery; create and manage IP blocks and ranges; monitor utilization of IP address space; migrate existing workloads to IPAM; configure IPAM database storage using SQL Server; determine scenarios for using IPAM with System Center Virtual Machine Manager for physical and virtual IP address space management, Manage DHCP server properties using IPAM; configure DHCP scopes and options; configure DHCP policies and failover; manage DNS server properties using IPAM; manage DNS zones and records; manage DNS and DHCP servers in multiple Active Directory forests; delegate administration for DNS and DHCP using role-based access control (RBAC); Audit the changes performed on the DNS and DHCP servers; audit the IPAM address usage trail; audit DHCP lease events and user logon events

Implement Network Connectivity and Remote Access Solutions (2520-3025%)

Implement network connectivity solutions

This objective may include but is not limited to: Implement Network Address Translation (NAT); configure routing

Implement virtual private network (VPN) and DirectAccess solutions

This objective may include but is not limited to: Implement remote access and site-to-site (S2S) VPN solutions using remote access gateway; configure different VPN protocol options; configure authentication options; configure VPN reconnect; create and configure connection profiles; determine when to use remote access VPN and site-to-site VPN and configure appropriate protocols; install and configure DirectAccess; implement server requirements; implement client configuration; troubleshoot DirectAccess

Implement Network Policy Server (NPS)

This objective may include but is not limited to: Configure a RADIUS server including RADIUS proxy; configure RADIUS clients; configure NPS templates; configure RADIUS accounting; configure certificates; configure Connection Request Policies; configure network policies for VPN and wireless and wired clients; import and export NPS policies

Implement Core and Distributed Network Solutions (4015-4520%)

Implement IPv4 and IPv6 addressing

This objective may include but is not limited to: Configure IPv4 addresses and options; determine and configure appropriate IPv6 addresses; configure IPv4 or IPv6 subnetting; implement IPv6 stateless addressing; configure interoperability between IPv4 and IPv6 by using ISATAP, 6to4, and Teredo scenarios; configure Border Gateway Protocol (BGP); configure IPv4 and IPv6 routing

Implement Distributed File System (DFS) and Branch Office solutions

This objective may include but is not limited to: Install and configure DFS namespaces; configure DFS replication targets; configure replication scheduling; configure Remote Differential Compression (RDC) settings; configure staging; configure fault tolerance; clone a Distributed File System Replication (DFSR) database; recover DFSR databases; optimize DFS Replication; install and configure BranchCache; implement distributed and hosted cache modes; implement BranchCache for web, file, and application servers;; troubleshoot BranchCache

Implement an Advanced Network Infrastructure (4015-4520%)

Implement high performance network solutions

This objective may include but is not limited to: Implement NIC Teaming or the Switch Embedded Teaming (SET) solution and identify when to use each; enable and configure Receive Side Scaling (RSS); enable and configure network Quality of Service (QoS) with Data Center Bridging (DCB); enable and configure SMB Direct on Remote Direct Memory Access (RDMA) enabled network adapters; configure SMB Multichannel; enable and configure virtual Receive Side Scaling (vRSS) on a Virtual Machine Queue (VMQ) capable network adapter; enable and configure Virtual Machine Multi-Queue (VMMQ); enable and configure Single-Root I/O Virtualization (SR-IOV) on a supported network adapter

Determine scenarios and requirements for implementing Software Defined Networking (SDN)

This objective may include but is not limited to: Determine deployment scenarios and network requirements for deploying SDN; determine requirements and scenarios for implementing Hyper-V Network Virtualization (HNV) using Network Virtualization Generic Route Encapsulation (NVGRE) encapsulation or Virtual Extensible LAN (VXLAN) encapsulation; determine scenarios for implementation of Software Load Balancer (SLB) for North-South and East-West load balancing; determine implementation scenarios for various types of Windows Server Gateways, including L3, GRE, and S2S, and their use; determine requirements and scenarios for Datacenter firewall policies and network security groups