UNIT 3 Securing the Server

Section 1: Configuring Firewalls

1. Which of the following is the default firewall management tool in Windows Server 2012 R2?

    o   a) Windows Defender Firewall with Advanced Security

    o   b) Network Security Manager

    o   c) FirewallD

    o   d) Security Essentials

    o   **Answer**: a) Windows Defender Firewall with Advanced Security

2. What is the primary purpose of creating inbound and outbound rules in the Windows Firewall?

    o   a) To block all traffic

    o   b) To allow or deny specific types of network traffic

    o   c) To monitor network traffic without blocking it

    o   d) To disable the firewall

    o   **Answer**: b) To allow or deny specific types of network traffic

3. You need to allow HTTP traffic through the firewall on a Windows Server 2012 R2. Which port should you open?

    o   a) 21

    o   b) 80

    o   c) 443

    o   d) 25

    o   **Answer**: b) 80

4. A server administrator wants to block all traffic except for specific IP addresses. Which type of firewall rule should they configure?

    o   a) Outbound rule

    o   b) Inbound rule

    o   c) Custom rule with IP address filtering

    o   d) Predefined rule

    o   **Answer**: c) Custom rule with IP address filtering

5. Which of the following PowerShell cmdlets is used to enable the Windows Firewall?

- o a) Enable-NetFirewallRule
- o b) Set-NetFirewallProfile
- o c) Enable-NetFirewallProfile
- o d) Start-Firewall
- o **Answer**: c) Enable-NetFirewallProfile

Section 2: Configuring Security Protocols

6. Which protocol is used to encrypt remote desktop connections in Windows Server 2012 R2?

    - o a) SSL
    - o b) RDP
    - o c) TLS
    - o d) SSH
    - o **Answer**: c) TLS

7. What is the primary purpose of implementing IPsec on a Windows Server?

    - o a) To block unauthorized IP addresses
    - o b) To encrypt and secure network traffic
    - o c) To monitor network traffic
    - o d) To configure DNS settings
    - o **Answer**: b) To encrypt and secure network traffic

8. Which of the following is NOT a valid authentication method for IPsec in Windows Server 2012 R2?

    - o a) Kerberos
    - o b) Certificate-based authentication
    - o c) Pre-shared key
    - o d) Password-based authentication
    - o **Answer**: d) Password-based authentication

9. A server administrator needs to secure email communication. Which protocol should they configure to encrypt emails?

    - o a) SMTP

- b) IMAP
- c) S/MIME
- d) POP3
- **Answer**: c) S/MIME

10. Which of the following is a best practice when configuring security protocols on a Windows Server?

   - a) Use outdated protocols for compatibility
   - b) Disable unused protocols
   - c) Enable all protocols for flexibility
   - d) Use default settings without modification
   - **Answer**: b) Disable unused protocols

Section 3: Implementing Intrusion Detection Systems

11. What is the primary purpose of an intrusion detection system (IDS)?

   - a) To block unauthorized access
   - b) To detect and alert on suspicious activities
   - c) To encrypt network traffic
   - d) To manage user accounts
   - **Answer**: b) To detect and alert on suspicious activities

12. Which of the following is an example of a host-based intrusion detection system (HIDS)?

   - a) Snort
   - b) Windows Defender
   - c) Wireshark
   - d) Nessus
   - **Answer**: b) Windows Defender

13. A server administrator notices unusual login attempts from a specific IP address. What should they do first?

   - a) Block the IP address using the firewall
   - b) Restart the server

- c) Disable all user accounts
- d) Ignore the activity
- **Answer**: a) Block the IP address using the firewall

14. Which of the following logs should be monitored to detect potential intrusions on a Windows Server?

- a) Application logs
- b) Security logs
- c) Setup logs
- d) System logs
- **Answer**: b) Security logs

15. What is the difference between an IDS and an IPS?

- a) IDS blocks traffic, while IPS only detects it
- b) IDS detects traffic, while IPS blocks it
- c) IDS and IPS perform the same function
- d) IDS is hardware-based, while IPS is software-based
- **Answer**: b) IDS detects traffic, while IPS blocks it

Section 4: Implementing Logical Access Control Methods

16. Which of the following is an example of logical access control?

- a) Biometric authentication
- b) Password policies
- c) Physical locks on server rooms
- d) Surveillance cameras
- **Answer**: b) Password policies

17. What is the purpose of implementing Group Policy in Windows Server 2012 R2?

- a) To manage physical access to the server
- b) To enforce security settings and configurations
- c) To monitor network traffic
- d) To configure hardware settings

o **Answer**: b) To enforce security settings and configurations

18. A server administrator wants to ensure that users cannot reuse their previous 5 passwords. Which Group Policy setting should they configure?

    o a) Password complexity

    o b) Minimum password length

    o c) Password history

    o d) Account lockout threshold

    o **Answer**: c) Password history

19. Which of the following is a best practice for managing administrator accounts on a Windows Server?

    o a) Use the default Administrator account for all tasks

    o b) Disable the default Administrator account and create a new one

    o c) Share the Administrator account credentials with the team

    o d) Use a single account for all users

    o **Answer**: b) Disable the default Administrator account and create a new one

20. What is the purpose of implementing role-based access control (RBAC)?

    o a) To assign permissions based on user roles

    o b) To monitor user activity

    o c) To encrypt user data

    o d) To block unauthorized IP addresses

    o **Answer**: a) To assign permissions based on user roles

Implementing Data Security Models

21. Which of the following is a key principle of the Confidentiality, Integrity, and Availability (CIA) triad in data security?

- a) Ensuring data is accessible only to authorized users

- b) Preventing unauthorized physical access to the server

- c) Encrypting all network traffic

- d) Backing up data regularly

- **Answer**: a) Ensuring data is accessible only to authorized users

22. What is the primary purpose of implementing data encryption on a Windows Server?

- a) To prevent unauthorized access to the server

- b) To ensure data is unreadable to unauthorized users

- c) To improve server performance

- d) To monitor user activity

- **Answer**: b) To ensure data is unreadable to unauthorized users

23. Which of the following is an example of a discretionary access control (DAC) model?

- a) Permissions assigned by the owner of the resource

- b) Permissions assigned based on user roles

- c) Permissions assigned by the system administrator only

- d) Permissions assigned based on security clearance levels

- **Answer**: a) Permissions assigned by the owner of the resource

24. A server administrator wants to ensure that only users with a specific security clearance can access sensitive files. Which access control model should they implement?

- a) Role-Based Access Control (RBAC)

- b) Mandatory Access Control (MAC)

- c) Discretionary Access Control (DAC)

- d) Attribute-Based Access Control (ABAC)

- **Answer**: b) Mandatory Access Control (MAC)

25. Which of the following is a best practice for securing sensitive data on a Windows Server?

- a) Store sensitive data in plaintext for easy access

- b) Use encryption and access control mechanisms

- c) Allow all users to access sensitive data

- d) Disable auditing for sensitive files

- **Answer**: b) Use encryption and access control mechanisms

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Section 6: Applying Server Hardening Techniques

26. What is the primary goal of server hardening?

- a) To improve server performance

- b) To reduce vulnerabilities and enhance security

- c) To simplify server management

- d) To enable all services by default

- **Answer**: b) To reduce vulnerabilities and enhance security

27. Which of the following is a server hardening technique in Windows Server 2012 R2?

- a) Disabling unnecessary services

- b) Installing all available software

- c) Allowing all inbound traffic

- d) Using default administrator credentials

- **Answer**: a) Disabling unnecessary services

28. A server administrator wants to ensure that only secure protocols are used for remote management. Which protocol should they disable?

- a) SSH

- b) Telnet

- c) RDP

- d) HTTPS

- **Answer**: b) Telnet

29. Which of the following tools can be used to analyze and improve the security configuration of a Windows Server?

- a) Security Configuration Wizard (SCW)

- b) Task Manager

- c) Event Viewer

- d) Disk Cleanup

- **Answer**: a) Security Configuration Wizard (SCW)

30. What is the purpose of applying security updates and patches to a Windows Server?

- a) To improve server performance

- b) To fix vulnerabilities and protect against threats

- c) To enable new features

- d) To reset server configurations

- **Answer**: b) To fix vulnerabilities and protect against threats

Section 7: Implementing Physical Security

31. Which of the following is an example of physical security for a Windows Server?

- a) Using strong passwords

- b) Installing biometric access controls for the server room

- c) Encrypting sensitive data

- d) Configuring firewalls

- **Answer**: b) Installing biometric access controls for the server room

32. What is the purpose of using a server rack with a lockable door?

- a) To improve server cooling

- b) To prevent unauthorized physical access to the server

- c) To organize network cables

- d) To reduce server noise

- **Answer**: b) To prevent unauthorized physical access to the server

33. A server administrator wants to protect the server from power outages. Which device should they use?

- a) Firewall

- b) Uninterruptible Power Supply (UPS)

- c) Network switch

- d) Surge protector

- **Answer**: b) Uninterruptible Power Supply (UPS)

34. Which of the following is a best practice for securing the physical location of a server?

- a) Allowing unrestricted access to the server room

- b) Using surveillance cameras and access controls

- c) Storing the server in a public area

- d) Disabling physical locks on the server room

- **Answer**: b) Using surveillance cameras and access controls

35. What is the purpose of implementing environmental controls in a server room?

- a) To improve server performance

- b) To protect servers from physical damage caused by temperature, humidity, or fire
- c) To monitor user activity
- d) To reduce server noise
- **Answer**: b) To protect servers from physical damage caused by temperature, humidity, or fire

Section 8: Creating Virtual Networks

36. What is the primary purpose of creating a virtual network in Windows Server 2012 R2?
- a) To improve server performance
- b) To isolate and secure network traffic
- c) To enable physical access to the server
- d) To disable unused network adapters
- **Answer**: b) To isolate and secure network traffic

37. Which of the following tools is used to create and manage virtual networks in Windows Server 2012 R2?
- a) Hyper-V Manager
- b) Task Manager
- c) Event Viewer
- d) Disk Management
- **Answer**: a) Hyper-V Manager

38. A server administrator wants to create a virtual switch that allows virtual machines to communicate with the external network. Which type of virtual switch should they create?
- a) Internal
- b) Private
- c) External
- d) Isolated
- **Answer**: c) External

39. What is the purpose of using VLANs in a virtual network?
- a) To improve server performance
- b) To segment and secure network traffic

- c) To enable physical access to the server

- d) To disable unused network adapters

- **Answer**: b) To segment and secure network traffic

40. Which of the following is a best practice for securing virtual networks in Windows Server 2012 R2?

- a) Use default settings for all virtual switches

- b) Enable network isolation and configure firewalls

- c) Allow unrestricted communication between virtual machines

- d) Disable all security features for better performance

- **Answer**: b) Enable network isolation and configure firewalls

Advanced Server Hardening Techniques

41. Which of the following is a recommended practice for securing the Remote Desktop Protocol (RDP) on a Windows Server?

- a) Use the default RDP port (3389)

- b) Disable Network Level Authentication (NLA)

- c) Restrict RDP access to specific IP addresses

- d) Allow RDP access for all users

- **Answer**: c) Restrict RDP access to specific IP addresses

42. A server administrator wants to prevent brute-force attacks on user accounts. Which Group Policy setting should they configure?

- a) Password complexity

- b) Account lockout threshold

- c) Minimum password length

- d) Password history

- **Answer**: b) Account lockout threshold

43. Which of the following is a benefit of disabling unused network adapters on a Windows Server?

- a) Improves server performance

- b) Reduces the attack surface

- c) Increases network speed

- d) Simplifies server management

- **Answer**: b) Reduces the attack surface

44. What is the purpose of enabling auditing on a Windows Server?

- a) To monitor and log security-related events

- b) To improve server performance

- c) To disable unused services

- d) To configure firewall rules

- **Answer**: a) To monitor and log security-related events

45. Which of the following is a server hardening technique to protect against malware?

- a) Disable Windows Defender

- b) Install and regularly update antivirus software

- c) Allow all executable files to run

- d) Disable User Account Control (UAC)

- **Answer**: b) Install and regularly update antivirus software

Section 10: Implementing Physical Security (Advanced)

46. A server administrator wants to prevent unauthorized access to the server room. Which of the following is the most effective solution?

- a) Use a strong password for the server

- b) Install a biometric access control system

- c) Enable encryption on the server

- d) Configure firewall rules

- **Answer**: b) Install a biometric access control system

47. What is the purpose of using a surveillance camera in a server room?

- a) To monitor physical access to the server room

- b) To improve server performance

- c) To configure server settings remotely

- d) To reduce server noise

- **Answer**: a) To monitor physical access to the server room

48. Which of the following is a best practice for securing backup media?

- a) Store backup media in the same room as the server

- b) Encrypt backup data and store it in a secure location

- c) Allow unrestricted access to backup media

- d) Use unencrypted backup methods for faster recovery

- **Answer**: b) Encrypt backup data and store it in a secure location

49. A server administrator wants to protect the server from overheating. Which of the following should they implement?

- a) Biometric access controls

- b) Environmental monitoring systems

- c) Firewall rules

- d) Data encryption

- **Answer**: b) Environmental monitoring systems

50. Which of the following is a physical security measure to protect against theft of server hardware?

- a) Use a server rack with a lockable door

- b) Configure strong passwords for user accounts

- c) Enable encryption on the server

- d) Disable unused services

- **Answer**: a) Use a server rack with a lockable door

Section 11: Advanced Virtual Network Security

51. What is the purpose of configuring a private virtual switch in Hyper-V?

- a) To allow communication between virtual machines and the external network

- b) To isolate communication between virtual machines on the same host

- c) To improve network performance

- d) To enable internet access for virtual machines

- **Answer**: b) To isolate communication between virtual machines on the same host

52. Which of the following is a best practice for securing virtual machines in a virtual network?

- a) Use default credentials for all virtual machines

- b) Enable firewalls and configure network isolation

- c) Allow unrestricted communication between virtual machines

- d) Disable all security features for better performance

- **Answer**: b) Enable firewalls and configure network isolation

53. A server administrator wants to ensure that virtual machines can communicate with the host but not with the external network. Which type of virtual switch should they configure?

- a) External

- b) Internal

- c) Private

- d) Isolated

- **Answer**: b) Internal

54. What is the purpose of enabling VLAN tagging in a virtual network?

- a) To improve server performance

- b) To segment and secure network traffic

- c) To allow unrestricted communication between virtual machines

- d) To disable unused network adapters

- **Answer**: b) To segment and secure network traffic

55. Which of the following is a security risk associated with virtual networks?

- a) Physical theft of server hardware

- b) Misconfigured virtual switches allowing unauthorized access

- c) Overheating of server components

- d) Lack of encryption for physical network cables

- **Answer**: b) Misconfigured virtual switches allowing unauthorized access

Section 12: Scenario-Based Questions

56. A server administrator notices repeated failed login attempts from a specific IP address. What is the best course of action?

- a) Ignore the activity

- b) Block the IP address using the firewall

- c) Restart the server

- d) Disable all user accounts

- **Answer**: b) Block the IP address using the firewall

57. A company wants to ensure that only authorized users can access sensitive files on a shared drive. Which of the following should the administrator implement?

- a) Configure NTFS permissions

- b) Enable auditing for the shared drive

- c) Disable encryption on the shared drive

- d) Allow full control for all users

- **Answer**: a) Configure NTFS permissions

58. A server administrator needs to secure a web server running on Windows Server 2012 R2. Which of the following steps should they take?

- a) Disable HTTPS and use HTTP only

- b) Install an SSL/TLS certificate and configure HTTPS

- c) Allow unrestricted access to the web server

- d) Use default credentials for the web server

- **Answer**: b) Install an SSL/TLS certificate and configure HTTPS

59. A server administrator wants to monitor changes to critical system files. Which feature should they enable?

- a) File Integrity Monitoring (FIM)

- b) Disk Cleanup

- c) Task Manager

- d) Event Viewer

- **Answer**: a) File Integrity Monitoring (FIM)

60. A server administrator needs to ensure that sensitive data is protected during transmission over the network. Which of the following should they implement?

- a) IPsec

- b) Telnet

- c) FTP

- d) SNMP

- **Answer**: a) IPsec

Advanced Logical Access Control

61. Which of the following is a key feature of User Account Control (UAC) in Windows Server 2012 R2?

- a) It prevents unauthorized software installations.

- b) It disables all administrative privileges.

- c) It allows unrestricted access to all users.

- d) It automatically blocks all network traffic.

- **Answer**: a) It prevents unauthorized software installations.

62. A server administrator wants to ensure that only specific users can access a shared folder. Which of the following should they configure?

- a) NTFS permissions

- b) Firewall rules

- c) Group Policy Preferences

- d) Network isolation

- **Answer**: a) NTFS permissions

63. Which of the following is a best practice for managing privileged accounts on a Windows Server?

- a) Use a single administrator account for all tasks.

- b) Create separate accounts for administrative and non-administrative tasks.

- c) Share the administrator account credentials with the team.

- d) Disable all user accounts.

- **Answer**: b) Create separate accounts for administrative and non-administrative tasks.

64. What is the purpose of implementing account lockout policies in Windows Server 2012 R2?

- a) To prevent unauthorized physical access to the server.

- b) To block brute-force attacks on user accounts.

- c) To disable unused accounts.

- d) To monitor user activity.

- **Answer**: b) To block brute-force attacks on user accounts.

65. A server administrator wants to enforce password complexity requirements. Which of the following settings should they configure in Group Policy?

- a) Minimum password length

- b) Password history

- c) Password must meet complexity requirements
- d) Account lockout duration
- **Answer**: c) Password must meet complexity requirements

Section 14: Advanced Data Security Models

66. Which of the following is a key feature of BitLocker in Windows Server 2012 R2?

- a) It encrypts entire drives to protect data.
- b) It monitors network traffic for suspicious activity.
- c) It disables unused services.
- d) It configures firewall rules automatically.
- **Answer**: a) It encrypts entire drives to protect data.

67. A server administrator wants to ensure that sensitive data is protected even if the server is stolen. Which feature should they enable?

- a) BitLocker Drive Encryption
- b) NTFS permissions
- c) User Account Control (UAC)
- d) Event logging
- **Answer**: a) BitLocker Drive Encryption

68. Which of the following is an example of implementing the principle of least privilege?

- a) Granting users only the permissions they need to perform their tasks.
- b) Allowing all users full control over shared resources.
- c) Disabling all user accounts.
- d) Using default administrator credentials.
- **Answer**: a) Granting users only the permissions they need to perform their tasks.

69. What is the purpose of enabling file and folder auditing on a Windows Server?

- a) To monitor access and changes to sensitive files.
- b) To encrypt sensitive data.
- c) To disable unused services.
- d) To configure firewall rules.

- **Answer**: a) To monitor access and changes to sensitive files.

70. A server administrator wants to ensure that sensitive data is not accessible to unauthorized users. Which of the following should they implement?

- a) Data encryption and access control mechanisms.

- b) Default permissions for all files.

- c) Unrestricted access to shared folders.

- d) Disable all security features.

- **Answer**: a) Data encryption and access control mechanisms.

Section 15: Advanced Intrusion Detection and Prevention

71. Which of the following is a key difference between an intrusion detection system (IDS) and an intrusion prevention system (IPS)?

- a) IDS detects threats, while IPS blocks them.

- b) IDS blocks threats, while IPS detects them.

- c) IDS and IPS perform the same function.

- d) IDS is hardware-based, while IPS is software-based.

- **Answer**: a) IDS detects threats, while IPS blocks them.

72. A server administrator wants to monitor and log suspicious activity on the server. Which of the following should they implement?

- a) Host-based Intrusion Detection System (HIDS)

- b) Network Address Translation (NAT)

- c) Virtual Private Network (VPN)

- d) BitLocker Drive Encryption

- **Answer**: a) Host-based Intrusion Detection System (HIDS)

73. Which of the following is a best practice for responding to detected intrusions on a Windows Server?

- a) Ignore the intrusion and continue normal operations.

- b) Investigate the intrusion and take appropriate action, such as blocking IP addresses.

- c) Disable all user accounts.

- d) Restart the server immediately.

- **Answer**: b) Investigate the intrusion and take appropriate action, such as blocking IP addresses.

74. What is the purpose of enabling security event logging on a Windows Server?

- a) To monitor and record security-related events for analysis.

- b) To improve server performance.

- c) To disable unused services.

- d) To configure firewall rules.

- **Answer**: a) To monitor and record security-related events for analysis.

75. A server administrator notices unusual outbound traffic from the server. What is the first step they should take?

- a) Block the traffic using the firewall.

- b) Restart the server.

- c) Disable all network adapters.

- d) Ignore the traffic.

- **Answer**: a) Block the traffic using the firewall.

Section 16: Scenario-Based Questions

76. A server administrator needs to secure a file server that contains sensitive financial data. Which of the following steps should they take?

- a) Configure NTFS permissions and enable encryption.

- b) Allow full control for all users.

- c) Disable auditing for the file server.

- d) Use default permissions for all files.

- **Answer**: a) Configure NTFS permissions and enable encryption.

77. A company wants to ensure that only employees in the finance department can access a specific shared folder. Which of the following should the administrator implement?

- a) Role-Based Access Control (RBAC)

- b) Mandatory Access Control (MAC)

- c) Discretionary Access Control (DAC)

- d) Attribute-Based Access Control (ABAC)

- **Answer**: a) Role-Based Access Control (RBAC)

78. A server administrator wants to prevent unauthorized devices from connecting to the network. Which of the following should they implement?

- a) Network Access Control (NAC)

- b) Virtual Private Network (VPN)

- c) BitLocker Drive Encryption

- d) File Integrity Monitoring (FIM)

- **Answer**: a) Network Access Control (NAC)

79. A server administrator needs to secure remote access to the server. Which of the following steps should they take?

- a) Enable Network Level Authentication (NLA) and use strong passwords.

- b) Disable encryption for remote connections.

- c) Allow unrestricted access to the server.

- d) Use default credentials for remote access.

- **Answer**: a) Enable Network Level Authentication (NLA) and use strong passwords.

80. A server administrator notices that a user account has been compromised. What is the first step they should take?

- a) Disable the compromised account.

- b) Restart the server.

- c) Ignore the issue.

- d) Share the account credentials with the team.

- **Answer**: a) Disable the compromised account.

81. A server administrator wants to block all inbound traffic except for specific services. Which of the following should they configure in Windows Firewall?

- a) Outbound rules

- b) Inbound rules

- c) Connection security rules

- d) Default rules

- **Answer**: b) Inbound rules

82. Which of the following is a best practice for managing Windows Firewall rules?

- a) Allow all traffic by default.

- b) Block all traffic by default and allow only necessary services.

- c) Disable the firewall for better performance.

- d) Use default rules without modification.

- **Answer**: b) Block all traffic by default and allow only necessary services.

83. A server administrator needs to allow FTP traffic through the firewall. Which port should they open?

- a) 21

- b) 22

- c) 80

- d) 443

- **Answer**: a) 21

84. Which of the following PowerShell cmdlets is used to create a new inbound firewall rule?

- a) New-NetFirewallRule

- b) Set-NetFirewallRule

- c) Enable-NetFirewallRule

- d) Add-FirewallRule

- **Answer**: a) New-NetFirewallRule

85. A server administrator wants to log dropped packets in Windows Firewall. Which of the following should they enable?

- a) Firewall logging

- b) Connection security rules

- c) Outbound rules

- d) Network isolation

- **Answer**: a) Firewall logging

Section 18: Advanced Security Protocols

86. Which of the following protocols should be disabled to improve security on a Windows Server?

- a) TLS 1.2

- b) SSL 3.0

- c) HTTPS

- d) IPsec

- **Answer**: b) SSL 3.0

87. A server administrator wants to secure communication between two servers. Which protocol should they use?

- a) IPsec

- b) Telnet

- c) FTP

- d) HTTP

- **Answer**: a) IPsec

88. What is the purpose of enabling Secure LDAP (LDAPS) on a Windows Server?

- a) To encrypt LDAP traffic and protect sensitive data.

- b) To disable user authentication.

- c) To allow anonymous access to the directory.

- d) To improve server performance.

- **Answer**: a) To encrypt LDAP traffic and protect sensitive data.

89. Which of the following is a secure alternative to Telnet for remote management?

- a) SSH

- b) FTP

- c) HTTP

- d) SNMP

- **Answer**: a) SSH

90. A server administrator wants to secure email communication. Which protocol should they configure?

- a) SMTP with STARTTLS

- b) HTTP

- c) Telnet

- d) FTP

- **Answer**: a) SMTP with STARTTLS

Section 19: Advanced Server Hardening Techniques

91. Which of the following is a best practice for securing administrative accounts on a Windows Server?

- a) Use strong, unique passwords for all accounts.

- b) Use the same password for all accounts.

- c) Disable password expiration.

- d) Share administrative credentials with the team.

- **Answer**: a) Use strong, unique passwords for all accounts.

92. A server administrator wants to reduce the attack surface of a Windows Server. Which of the following should they do?

- a) Disable unnecessary services and features.

- b) Enable all services for flexibility.

- c) Use default configurations without modification.

- d) Allow unrestricted access to the server.

- **Answer**: a) Disable unnecessary services and features.

93. What is the purpose of enabling User Account Control (UAC) on a Windows Server?

- a) To prevent unauthorized changes to the system.

- b) To disable administrative privileges.

- c) To allow unrestricted access to all users.

- d) To improve server performance.

- **Answer**: a) To prevent unauthorized changes to the system.

94. Which of the following tools can be used to analyze and improve the security configuration of a Windows Server?

- a) Security Configuration Wizard (SCW)

- b) Task Manager

- c) Event Viewer

- d) Disk Cleanup

- **Answer**: a) Security Configuration Wizard (SCW)

95. A server administrator wants to ensure that only secure protocols are used for remote management. Which protocol should they disable?

- a) Telnet

- b) SSH

- c) RDP

- d) HTTPS

- **Answer**: a) Telnet

Section 20: Scenario-Based Questions

96. A server administrator notices repeated failed login attempts from a specific IP address. What is the best course of action?

- a) Block the IP address using the firewall.

- b) Restart the server.

- c) Disable all user accounts.

- d) Ignore the activity.

- **Answer**: a) Block the IP address using the firewall.

97. A company wants to ensure that only employees in the HR department can access a specific shared folder. Which of the following should the administrator implement?

- a) Role-Based Access Control (RBAC)

- b) Mandatory Access Control (MAC)

- c) Discretionary Access Control (DAC)

- d) Attribute-Based Access Control (ABAC)

- **Answer**: a) Role-Based Access Control (RBAC)

98. A server administrator needs to secure a web server running on Windows Server 2012 R2. Which of the following steps should they take?

- a) Install an SSL/TLS certificate and configure HTTPS.

- b) Disable HTTPS and use HTTP only.

- c) Allow unrestricted access to the web server.

- d) Use default credentials for the web server.

- **Answer**: a) Install an SSL/TLS certificate and configure HTTPS.

99. A server administrator wants to monitor changes to critical system files. Which feature should they enable?

- a) File Integrity Monitoring (FIM)

- b) Disk Cleanup

- c) Task Manager

- d) Event Viewer

- **Answer**: a) File Integrity Monitoring (FIM)

100.   A server administrator needs to ensure that sensitive data is protected during transmission over the network. Which of the following should they implement?

- a) IPsec

- b) Telnet

- c) FTP

- d) SNMP

- **Answer**: a) IPsec

Advanced Logical Access Control

101.   A server administrator wants to ensure that users are automatically logged off after a period of inactivity. Which Group Policy setting should they configure?

- a) Account lockout duration

- b) Interactive logon: Machine inactivity limit

- c) Password expiration policy

- d) User Account Control (UAC)

- **Answer**: b) Interactive logon: Machine inactivity limit

102.   Which of the following is a best practice for managing service accounts on a Windows Server?

- a) Use the same service account for all applications.

- b) Assign minimal permissions required for the service to function.

- c) Use a domain administrator account for all services.

- d) Disable all service accounts.

- **Answer**: b) Assign minimal permissions required for the service to function.

103. What is the purpose of implementing Kerberos authentication in Windows Server 2012 R2?

- a) To encrypt network traffic.

- b) To provide secure, ticket-based authentication.

- c) To monitor user activity.

- d) To configure firewall rules.

- **Answer**: b) To provide secure, ticket-based authentication.

104. A server administrator wants to prevent users from accessing the server outside of business hours. Which of the following should they configure?

- a) Logon hours in Active Directory

- b) Password expiration policy

- c) Account lockout threshold

- d) NTFS permissions

- **Answer**: a) Logon hours in Active Directory

105. Which of the following is a key feature of Role-Based Access Control (RBAC)?

- a) Permissions are assigned based on user roles.

- b) Permissions are assigned by the owner of the resource.

- c) Permissions are assigned based on security clearance levels.

- d) Permissions are assigned randomly.

- **Answer**: a) Permissions are assigned based on user roles.

Section 22: Advanced Data Security Models

106. A server administrator wants to ensure that sensitive data is protected even if it is copied to an external device. Which feature should they implement?

- a) BitLocker To Go

- b) NTFS permissions

- c) User Account Control (UAC)

- d) Event logging

- **Answer**: a) BitLocker To Go

107.   Which of the following is an example of implementing the principle of separation of duties?

- a) Assigning different administrators to manage user accounts and server backups.

- b) Allowing a single administrator to manage all server functions.

- c) Disabling all user accounts.

- d) Using default administrator credentials.

- **Answer**: a) Assigning different administrators to manage user accounts and server backups.

108.   What is the purpose of enabling auditing for sensitive files on a Windows Server?

- a) To monitor access and changes to the files.

- b) To encrypt the files.

- c) To disable unused services.

- d) To configure firewall rules.

- **Answer**: a) To monitor access and changes to the files.

109.   A server administrator wants to ensure that sensitive data is not accessible to unauthorized users. Which of the following should they implement?

- a) Data encryption and access control mechanisms.

- b) Default permissions for all files.

- c) Unrestricted access to shared folders.

- d) Disable all security features.

- **Answer**: a) Data encryption and access control mechanisms.

110.   Which of the following is a key feature of the Mandatory Access Control (MAC) model?

- a) Access is based on security labels and clearance levels.

- b) Access is determined by the owner of the resource.

- c) Access is assigned randomly.

- d) Access is based on user roles.

- **Answer**: a) Access is based on security labels and clearance levels.

Section 23: Advanced Intrusion Detection and Prevention

111.   A server administrator wants to detect unauthorized changes to critical system files. Which of the following should they implement?

- a) File Integrity Monitoring (FIM)

- b) Disk Cleanup

- c) Task Manager

- d) Event Viewer

- **Answer**: a) File Integrity Monitoring (FIM)

112. Which of the following is a key feature of a Host-Based Intrusion Detection System (HIDS)?

- a) It monitors and analyzes activities on a specific server.

- b) It encrypts network traffic.

- c) It blocks all incoming traffic.

- d) It configures firewall rules automatically.

- **Answer**: a) It monitors and analyzes activities on a specific server.

113. A server administrator notices unusual outbound traffic from the server. What is the first step they should take?

- a) Block the traffic using the firewall.

- b) Restart the server.

- c) Disable all network adapters.

- d) Ignore the traffic.

- **Answer**: a) Block the traffic using the firewall.

114. What is the purpose of enabling security event logging on a Windows Server?

- a) To monitor and record security-related events for analysis.

- b) To improve server performance.

- c) To disable unused services.

- d) To configure firewall rules.

- **Answer**: a) To monitor and record security-related events for analysis.

115. Which of the following is a best practice for responding to detected intrusions on a Windows Server?

- a) Investigate the intrusion and take appropriate action, such as blocking IP addresses.

- b) Ignore the intrusion and continue normal operations.

- c) Disable all user accounts.

- d) Restart the server immediately.

- **Answer**: a) Investigate the intrusion and take appropriate action, such as blocking IP addresses.

Section 24: Scenario-Based Questions

116.   A server administrator needs to secure a file server that contains sensitive financial data. Which of the following steps should they take?

- a) Configure NTFS permissions and enable encryption.

- b) Allow full control for all users.

- c) Disable auditing for the file server.

- d) Use default permissions for all files.

- **Answer**: a) Configure NTFS permissions and enable encryption.

117.   A company wants to ensure that only employees in the finance department can access a specific shared folder. Which of the following should the administrator implement?

- a) Role-Based Access Control (RBAC)

- b) Mandatory Access Control (MAC)

- c) Discretionary Access Control (DAC)

- d) Attribute-Based Access Control (ABAC)

- **Answer**: a) Role-Based Access Control (RBAC)

118.   A server administrator wants to prevent unauthorized devices from connecting to the network. Which of the following should they implement?

- a) Network Access Control (NAC)

- b) Virtual Private Network (VPN)

- c) BitLocker Drive Encryption

- d) File Integrity Monitoring (FIM)

- **Answer**: a) Network Access Control (NAC)

119.   A server administrator needs to secure remote access to the server. Which of the following steps should they take?

- a) Enable Network Level Authentication (NLA) and use strong passwords.

- b) Disable encryption for remote connections.

- c) Allow unrestricted access to the server.

- d) Use default credentials for remote access.

- **Answer**: a) Enable Network Level Authentication (NLA) and use strong passwords.

120. A server administrator notices that a user account has been compromised. What is the first step they should take?

- a) Disable the compromised account.

- b) Restart the server.

- c) Ignore the issue.

- d) Share the account credentials with the team.

- **Answer**: a) Disable the compromised account.

121. What is the primary purpose of implementing a data security model on a Windows Server 2012 R2?

   o a) To manage hardware configurations

   o b) To protect sensitive data from unauthorized access

   o c) To improve server performance

   o d) To disable unused services

   o **Answer**: b) To protect sensitive data from unauthorized access

122. In Windows Server 2012 R2, which feature helps enforce file and folder permissions?

   o a) NTFS

   o b) FAT32

   o c) Dynamic Access Control (DAC)

   o d) EFS

   o **Answer**: c) Dynamic Access Control (DAC)

123. A server administrator wants to encrypt sensitive files stored on a Windows Server. Which built-in feature can they use?

   o a) BitLocker

   o b) NTFS Permissions

   o c) EFS (Encrypting File System)

   o d) PowerShell

   o **Answer**: c) EFS (Encrypting File System)

124.   Which Windows Server 2012 R2 feature allows you to classify files automatically based on their content?

- o   a) File Server Resource Manager (FSRM)

- o   b) NTFS Permissions

- o   c) Dynamic Host Configuration Protocol (DHCP)

- o   d) Active Directory Federation Services (ADFS)

- o   **Answer**: a) File Server Resource Manager (FSRM)

125.   A company wants to ensure that sensitive data is accessible only during specific hours. Which feature can help implement this restriction?

- o   a) Access-Based Enumeration (ABE)

- o   b) File Screening

- o   c) Dynamic Access Control (DAC) with conditional expressions

- o   d) NTFS quotas

- o   **Answer**: c) Dynamic Access Control (DAC) with conditional expressions

126.   Which of the following is a key component of implementing data integrity in Windows Server 2012 R2?

- o   a) Monitoring system logs

- o   b) Configuring access control lists (ACLs)

- o   c) Running backups

- o   d) Encrypting data with BitLocker

- o   **Answer**: b) Configuring access control lists (ACLs)

127.   A server administrator assigns "Read" and "Modify" NTFS permissions to a shared folder. Which of the following actions is allowed?

- o   a) Deleting the folder

- o   b) Modifying the contents of files in the folder

- o   c) Changing NTFS permissions on the folder

- o   d) Creating new subfolders

- o   **Answer**: b) Modifying the contents of files in the folder

128.   Which of the following is a significant risk when configuring "Everyone" with "Full Control" permissions on a shared folder?

- o a) Increased performance

- o b) Unauthorized access and data modification

- o c) Automatic encryption of files

- o d) Disabling NTFS permissions

- o **Answer**: b) Unauthorized access and data modification

129. Which of the following tools allows you to track changes made to file permissions in Windows Server 2012 R2?

- o a) Event Viewer

- o b) Server Manager

- o c) File Explorer

- o d) Task Scheduler

- o **Answer**: a) Event Viewer

130. A company wants to ensure that files are only accessible by employees in a specific department. What is the best way to enforce this?

- o a) Assign NTFS permissions based on individual users

- o b) Create a security group for the department and assign folder permissions to the group

- o c) Disable folder sharing

- o d) Use the Guest account for access

- o **Answer**: b) Create a security group for the department and assign folder permissions to the group

131. Which of the following is a key step in server hardening?

- o a) Installing all available software without restrictions

- o b) Disabling unnecessary services and features

- o c) Allowing unrestricted remote access

- o d) Using default configurations for all settings

- o **Answer**: b) Disabling unnecessary services and features

132. What is the purpose of disabling unused network adapters during server hardening?

- o a) To reduce power consumption

- o b) To prevent unauthorized access through unused interfaces

- o c) To improve network speed

- o d) To enable advanced network configurations
- o **Answer**: b) To prevent unauthorized access through unused interfaces

133.   Which of the following is a best practice for securing administrative accounts on a Windows Server?

- o a) Assign multiple users to the same account
- o b) Use complex passwords and enable account lockout policies
- o c) Disable password requirements for administrators
- o d) Allow unlimited remote access
- o **Answer**: b) Use complex passwords and enable account lockout policies

134.   A server administrator is tasked with securing PowerShell scripts on the server. Which of the following should they do?

- o a) Allow all users to run PowerShell scripts
- o b) Use execution policies to restrict script execution
- o c) Disable PowerShell completely
- o d) Run scripts with Guest account privileges
- o **Answer**: b) Use execution policies to restrict script execution

135.   Which Group Policy setting can help reduce the risk of brute force attacks on Windows Server 2012 R2?

- o a) Password complexity
- o b) Account lockout threshold
- o c) Minimum password length
- o d) Kerberos ticket lifetime
- o **Answer**: b) Account lockout threshold

136.   A server administrator wants to restrict RDP access to specific IP addresses. What is the best way to achieve this?

- o a) Configure firewall rules to allow only those IP addresses
- o b) Disable RDP entirely
- o c) Use NTFS permissions
- o d) Use Group Policy Preferences
- o **Answer**: a) Configure firewall rules to allow only those IP addresses

137.	Which of the following tools can be used to analyze and apply security baselines on a Windows Server 2012 R2 system?

- o	a) Security Compliance Manager (SCM)

- o	b) Event Viewer

- o	c) Task Manager

- o	d) Performance Monitor

- o	**Answer**: a) Security Compliance Manager (SCM)

138.	What should be done to secure unused administrative shares (e.g., C$) on a Windows Server?

- o	a) Disable administrative shares using Group Policy

- o	b) Encrypt the administrative shares

- o	c) Assign "Everyone" with "Full Control" permissions

- o	d) Enable Guest account access

- o	**Answer**: a) Disable administrative shares using Group Policy

139.	Which of the following is a critical step to take after hardening a server?

- o	a) Restore default configurations

- o	b) Monitor and audit the server regularly to detect vulnerabilities

- o	c) Disable all security measures for testing purposes

- o	d) Install outdated software for compatibility

- o	**Answer**: b) Monitor and audit the server regularly to detect vulnerabilities

140.	A server administrator needs to prevent unauthorized USB devices from being used on the server. Which tool or setting can they use?

- o	a) Local Security Policy

- o	b) Device Manager

- o	c) Disk Management

- o	d) Resource Monitor

- o	**Answer**: a) Local Security Policy

UNIT 2

Configuring Local Server Properties

1. **Which tool is primarily used to configure local server properties in Windows Server 2012 R2?**

   - o **a) Server Manager**
   - o **b) Task Manager**
   - o **c) Control Panel**
   - o **d) Event Viewer**
   - o **Answer: a) Server Manager**

2. **What is the purpose of the "Configure this local server" option in Server Manager?**

   - o **a) To configure server roles and features**
   - o **b) To manage Active Directory users**
   - o **c) To configure basic server properties such as computer name, time zone, and network settings**
   - o **d) To monitor server performance**
   - o **Answer: c) To configure basic server properties such as computer name, time zone, and network settings**

3. **A server administrator needs to change the computer name of a Windows Server 2012 R2 machine. Which of the following steps is correct?**

   - o **a) Open Server Manager > Local Server > Click the computer name > Change settings**
   - o **b) Open Task Manager > Services > Rename the computer**
   - o **c) Open Control Panel > Network and Sharing Center > Change computer name**
   - o **d) Use PowerShell to rename the computer**
   - o **Answer: a) Open Server Manager > Local Server > Click the computer name > Change settings**

4. **Which PowerShell cmdlet is used to rename a computer in Windows Server 2012 R2?**

   - o **a) Rename-Computer**
   - o **b) Set-ComputerName**
   - o **c) Change-ComputerName**
   - o **d) Update-Computer**
   - o **Answer: a) Rename-Computer**

5. A server administrator wants to disable Windows Firewall on a local server. Which of the following tools can they use?

   - o a) Server Manager

   - o b) Windows Firewall with Advanced Security

   - o c) PowerShell

   - o d) All of the above

   - o Answer: d) All of the above

6. What is the purpose of enabling Remote Desktop on a Windows Server 2012 R2 machine?

   - o a) To allow remote management of the server

   - o b) To enable file sharing

   - o c) To configure Active Directory

   - o d) To monitor server performance

   - o Answer: a) To allow remote management of the server

7. Which of the following is the default port used by Remote Desktop Protocol (RDP)?

   - o a) 22

   - o b) 3389

   - o c) 443

   - o d) 8080

   - o Answer: b) 3389

8. A server administrator wants to configure the time zone on a Windows Server 2012 R2 machine. Where can this be done?

   - o a) Server Manager > Local Server > Time Zone

   - o b) Control Panel > Date and Time

   - o c) Both a and b

   - o d) Task Manager > Services

   - o Answer: c) Both a and b

9. Which of the following is a best practice when configuring Windows Updates on a local server?

   - o a) Disable updates to avoid interruptions

   - o b) Configure updates to install automatically during maintenance windows

- c) Install updates manually only when needed

- d) Ignore updates for production servers

- Answer: b) Configure updates to install automatically during maintenance windows

10. A server administrator wants to view the current IP address of a server. Which tool can they use?

- a) Server Manager > Local Server

- b) Command Prompt with ipconfig

- c) Network and Sharing Center

- d) All of the above

- Answer: d) All of the above

Section 2: Configuring Server Roles

11. What is the primary purpose of server roles in Windows Server 2012 R2?

- a) To define the specific functions a server will perform

- b) To manage hardware configurations

- c) To monitor server performance

- d) To configure user accounts

- Answer: a) To define the specific functions a server will perform

12. Which tool is used to install and configure server roles in Windows Server 2012 R2?

- a) Server Manager

- b) Task Manager

- c) Control Panel

- d) Event Viewer

- Answer: a) Server Manager

13. A server administrator wants to install the DNS Server role. Which of the following steps is correct?

- a) Open Server Manager > Add Roles and Features > Select DNS Server

- b) Open Control Panel > Network and Sharing Center > Add DNS Server

- c) Use PowerShell to install the DNS Server role

- o **d) Both a and c**
- o **Answer: d) Both a and c**

14. **Which of the following server roles is used to manage authentication and authorization in a Windows domain?**
    - o **a) Active Directory Domain Services (AD DS)**
    - o **b) DNS Server**
    - o **c) File and Storage Services**
    - o **d) Web Server (IIS)**
    - o **Answer: a) Active Directory Domain Services (AD DS)**

15. **What is the purpose of the DHCP Server role in Windows Server 2012 R2?**
    - o **a) To assign IP addresses dynamically to devices on the network**
    - o **b) To resolve domain names to IP addresses**
    - o **c) To manage user authentication**
    - o **d) To host websites**
    - o **Answer: a) To assign IP addresses dynamically to devices on the network**

16. **A server administrator wants to install the Web Server (IIS) role. Which of the following is required?**
    - o **a) .NET Framework**
    - o **b) Server Manager**
    - o **c) Administrative privileges**
    - o **d) All of the above**
    - o **Answer: d) All of the above**

17. **Which of the following server roles is used to store and share files on a network?**
    - o **a) File and Storage Services**
    - o **b) DNS Server**
    - o **c) DHCP Server**
    - o **d) Hyper-V**
    - o **Answer: a) File and Storage Services**

18. **What is the purpose of the Hyper-V role in Windows Server 2012 R2?**

- o **a) To provide virtualization capabilities**

- o **b) To manage DNS records**

- o **c) To assign IP addresses**

- o **d) To configure file sharing**

- o **Answer: a) To provide virtualization capabilities**

19. **A server administrator wants to remove a server role. Which tool should they use?**

   - o **a) Server Manager > Remove Roles and Features**

   - o **b) Control Panel > Programs and Features**

   - o **c) Task Manager > Services**

   - o **d) PowerShell**

   - o **Answer: a) Server Manager > Remove Roles and Features**

20. **Which PowerShell cmdlet is used to install a server role?**

   - o **a) Install-WindowsFeature**

   - o **b) Add-Role**

   - o **c) Enable-ServerRole**

   - o **d) Set-Role**

   - o **Answer: a) Install-WindowsFeature**

Section 3: Setting Up IP Addressing and Service Roles

21. **What is the default subnet mask for a Class C IP address?**

   - o **a) 255.0.0.0**

   - o **b) 255.255.0.0**

   - o **c) 255.255.255.0**

   - o **d) 255.255.255.255**

   - o **Answer: c) 255.255.255.0**

22. **A server administrator wants to configure a static IP address. Which of the following steps is correct?**

   - o **a) Open Network and Sharing Center > Change adapter settings > Properties > IPv4 > Configure static IP**

- b) Use the ipconfig command

- c) Open Server Manager > Configure IP settings

- d) Use Task Manager > Network tab

- Answer: a) Open Network and Sharing Center > Change adapter settings > Properties > IPv4 > Configure static IP

23. What is the purpose of a default gateway in IP addressing?

- a) To assign IP addresses dynamically

- b) To route traffic to external networks

- c) To resolve domain names

- d) To monitor network traffic

- Answer: b) To route traffic to external networks

24. Which of the following is a valid private IP address?

- a) 192.168.1.1

- b) 172.16.0.1

- c) 10.0.0.1

- d) All of the above

- Answer: d) All of the above

25. A server administrator wants to verify the current IP configuration of a server. Which command should they use?

- a) ipconfig

- b) ping

- c) tracert

- d) netstat

- Answer: a) ipconfig

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Section 3: Setting Up IP Addressing and Service Roles

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- d) Use Task Manager > Network tab

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o b) ping

o c) tracert

o d) netstat

o Answer: a) ipconfig

Section 3: Setting Up IP Addressing and Service Roles (Continued)

26. A server administrator wants to configure a DHCP scope. What is the purpose of a DHCP scope?

- a) To define a range of IP addresses that can be assigned to clients

- b) To resolve domain names to IP addresses

- c) To configure static IP addresses for all devices

- d) To monitor network traffic

- Answer: a) To define a range of IP addresses that can be assigned to clients

27. Which of the following is a valid subnet mask for a Class B network?

- a) 255.255.0.0

- b) 255.255.255.0

- c) 255.0.0.0

- **d) 255.255.255.255**

- **Answer: a) 255.255.0.0**

28. **A server administrator wants to configure a static IP address using PowerShell. Which cmdlet should they use?**

- **a) New-NetIPAddress**

- **b) Set-NetIPAddress**

- **c) Add-NetIPAddress**

- **d) Configure-NetIP**

- **Answer: a) New-NetIPAddress**

29. **What is the purpose of a DNS Server in a Windows Server 2012 R2 environment?**

- **a) To resolve domain names to IP addresses**

- **b) To assign IP addresses dynamically**

- **c) To manage user authentication**

- **d) To host websites**

- **Answer: a) To resolve domain names to IP addresses**

30. **A server administrator needs to configure a secondary DNS server. What is the primary purpose of a secondary DNS server?**

- **a) To provide redundancy and load balancing for DNS queries**

- **b) To assign IP addresses dynamically**

- **c) To manage DHCP leases**

- **d) To monitor network traffic**

- **Answer: a) To provide redundancy and load balancing for DNS queries**

31. **Which of the following is a valid IPv6 address?**

- **a) 192.168.1.1**

- **b) fe80::1**

- **c) 255.255.255.0**

- **d) 10.0.0.1**

- **Answer: b) fe80::1**

32. **A server administrator wants to test connectivity to another server using its hostname. Which command should they use?**

- a) ping

- b) ipconfig

- c) tracert

- d) nslookup

- Answer: a) ping

33. **What is the purpose of the nslookup command in Windows Server 2012 R2?**

- a) To query DNS servers for domain name resolution

- b) To test network connectivity

- c) To display IP configuration details

- d) To trace the route of packets

- Answer: a) To query DNS servers for domain name resolution

34. **A server administrator wants to configure a DHCP reservation. What is the purpose of a DHCP reservation?**

- a) To assign a specific IP address to a specific device

- b) To block certain devices from receiving IP addresses

- c) To extend the DHCP lease duration

- d) To configure DNS settings automatically

- Answer: a) To assign a specific IP address to a specific device

35. **Which of the following is a best practice when configuring IP addressing on a Windows Server?**

- a) Use static IP addresses for servers

- b) Use dynamic IP addresses for servers

- c) Use default IP configurations without modification

- d) Disable DNS settings for servers

- Answer: a) Use static IP addresses for servers

Section 4: Scenario-Based Questions

36. **A server administrator notices that a client computer is unable to obtain an IP address from the DHCP server. What is the first step they should take to troubleshoot the issue?**

- a) Check if the DHCP service is running on the server

- **b) Restart the client computer**

- **c) Assign a static IP address to the client**

- **d) Reinstall the DHCP role on the server**

- **Answer: a) Check if the DHCP service is running on the server**

37. **A server administrator needs to configure a server to act as a DNS forwarder. What is the purpose of a DNS forwarder?**

- **a) To forward DNS queries to external DNS servers for resolution**

- **b) To assign IP addresses dynamically**

- **c) To manage DHCP leases**

- **d) To monitor DNS traffic**

- **Answer: a) To forward DNS queries to external DNS servers for resolution**

38. **A company wants to ensure that their internal DNS server can resolve external domain names. What should the server administrator configure?**

- **a) DNS forwarders**

- **b) DHCP reservations**

- **c) Static IP addresses**

- **d) Network isolation**

- **Answer: a) DNS forwarders**

39. **A server administrator needs to configure a DHCP scope for a subnet with the IP range 192.168.10.0/24. Which of the following is a valid range of IP addresses for the scope?**

- **a) 192.168.10.1 to 192.168.10.254**

- **b) 192.168.10.1 to 192.168.10.255**

- **c) 192.168.10.0 to 192.168.10.254**

- **d) 192.168.10.2 to 192.168.10.254**

- **Answer: d) 192.168.10.2 to 192.168.10.254**

40. **A server administrator wants to verify if a specific port is open on a server. Which command should they use?**

- **a) netstat -an**

- **b) ipconfig /all**

- **c) ping**

- **d) tracert**

- **Answer: a) netstat -an**

41. **A server administrator needs to configure a server to provide IP addresses to clients on multiple subnets. What should they configure?**

- **a) DHCP relay agent**

- **b) DNS forwarders**

- **c) Static IP addresses**

- **d) Network isolation**

- **Answer: a) DHCP relay agent**

42. **A server administrator wants to configure a DNS zone that allows updates only from secure, authenticated clients. Which type of zone should they configure?**

- **a) Active Directory-integrated zone**

- **b) Primary zone**

- **c) Secondary zone**

- **d) Stub zone**

- **Answer: a) Active Directory-integrated zone**

43. **A server administrator needs to configure a server to host multiple websites using a single IP address. What should they configure?**

- **a) Host headers in IIS**

- **b) DNS forwarders**

- **c) DHCP reservations**

- **d) Network isolation**

- **Answer: a) Host headers in IIS**

44. **A server administrator wants to ensure that a specific server always receives the same IP address from the DHCP server. What should they configure?**

- **a) DHCP reservation**

- **b) Static IP address**

- **c) DNS forwarder**

- **d) DHCP relay agent**

- **Answer: a) DHCP reservation**

45. **A server administrator needs to configure a DNS zone that contains only the records necessary to identify the authoritative DNS servers for a zone. Which type of zone should they configure?**

- **a) Stub zone**

- **b) Primary zone**

- **c) Secondary zone**

- **d) Active Directory-integrated zone**

- **Answer: a) Stub zone**

46. **A server administrator needs to configure a server to act as a DHCP relay agent. What is the primary purpose of a DHCP relay agent?**

- **a) To assign IP addresses to clients on the same subnet**

- **b) To forward DHCP requests from clients on remote subnets to a DHCP server**

- **c) To resolve domain names to IP addresses**

- **d) To monitor DHCP lease durations**

- **Answer: b) To forward DHCP requests from clients on remote subnets to a DHCP server**

47. **A server administrator wants to configure a DNS zone that allows updates only from secure, authenticated clients. Which type of zone should they configure?**

- **a) Primary zone**

- **b) Secondary zone**

- **c) Stub zone**

- **d) Active Directory-integrated zone**

- **Answer: d) Active Directory-integrated zone**

48. **A server administrator notices that a client computer is unable to resolve a domain name. What is the first step they should take to troubleshoot the issue?**

- **a) Check if the DNS service is running on the server**

- **b) Restart the client computer**

- **c) Assign a static IP address to the client**

- **d) Reinstall the DNS role on the server**

- **Answer: a) Check if the DNS service is running on the server**

49. **A server administrator needs to configure a DNS zone that contains only the records necessary to identify the authoritative DNS servers for a zone. Which type of zone should they configure?**

- **a) Stub zone**

- **b) Primary zone**

- **c) Secondary zone**

- **d) Active Directory-integrated zone**

- **Answer: a) Stub zone**

50. **A server administrator wants to configure a DHCP scope for a subnet with the IP range 10.0.0.0/24. Which of the following is a valid range of IP addresses for the scope?**

- **a) 10.0.0.1 to 10.0.0.254**

- **b) 10.0.0.1 to 10.0.0.255**

- **c) 10.0.0.0 to 10.0.0.254**

- **d) 10.0.0.2 to 10.0.0.254**

- **Answer: d) 10.0.0.2 to 10.0.0.254**

51. **A server administrator wants to configure a static IP address using PowerShell. Which cmdlet should they use?**

- **a) New-NetIPAddress**

- **b) Set-NetIPAddress**

- **c) Add-NetIPAddress**

- **d) Configure-NetIP**

- **Answer: a) New-NetIPAddress**

52. **A server administrator needs to configure a server to host multiple websites using a single IP address. What should they configure?**

- **a) Host headers in IIS**

- **b) DNS forwarders**

- **c) DHCP reservations**

- **d) Network isolation**

- **Answer: a) Host headers in IIS**

53. **A server administrator wants to ensure that a specific server always receives the same IP address from the DHCP server. What should they configure?**

- **a) DHCP reservation**

- **b) Static IP address**

- **c) DNS forwarder**

- **d) DHCP relay agent**

- **Answer: a) DHCP reservation**

54. **A server administrator needs to verify if a specific port is open on a server. Which command should they use?**

- **a) netstat -an**

- **b) ipconfig /all**

- **c) ping**

- **d) tracert**

- **Answer: a) netstat -an**

55. **A server administrator wants to configure a DNS forwarder. What is the purpose of a DNS forwarder?**

- **a) To forward DNS queries to external DNS servers for resolution**

- **b) To assign IP addresses dynamically**

- **c) To manage DHCP leases**

- **d) To monitor DNS traffic**

- **Answer: a) To forward DNS queries to external DNS servers for resolution**

Updating the Server

1. **Which tool is primarily used to manage updates on a Windows Server 2012 R2 machine?**

   o **a) Windows Update**

   o **b) Server Manager**

   o **c) Windows Server Update Services (WSUS)**

   o **d) PowerShell**

   o **Answer: c) Windows Server Update Services (WSUS)**

2. **A server administrator wants to configure automatic updates on a Windows Server 2012 R2 machine. Where can this be done?**

   o **a) Control Panel > Windows Update > Change settings**

   o **b) Server Manager > Local Server > Configure updates**

   o **c) Group Policy > Configure Automatic Updates**

- o **d) All of the above**

- o **Answer: d) All of the above**

3. **Which PowerShell cmdlet is used to install updates on a Windows Server?**

   - o **a) Install-WindowsUpdate**

   - o **b) Update-Server**

   - o **c) Install-Update**

   - o **d) Get-WindowsUpdate**

   - o **Answer: a) Install-WindowsUpdate**

4. **A server administrator wants to ensure that updates are installed only during a specific maintenance window. Which feature should they configure?**

   - o **a) Active Hours**

   - o **b) Group Policy for Windows Updates**

   - o **c) WSUS scheduling**

   - o **d) Task Scheduler**

   - o **Answer: b) Group Policy for Windows Updates**

5. **What is the primary purpose of WSUS in a Windows Server environment?**

   - o **a) To monitor server performance**

   - o **b) To manage and deploy updates to multiple servers and clients**

   - o **c) To configure server roles**

   - o **d) To back up server data**

   - o **Answer: b) To manage and deploy updates to multiple servers and clients**

6. **A server administrator notices that updates are failing to install on a Windows Server 2012 R2 machine. What is the first step they should take to troubleshoot the issue?**

   - o **a) Check the Windows Update logs in Event Viewer**

   - o **b) Restart the server**

   - o **c) Reinstall the WSUS role**

   - o **d) Disable the firewall**

   - o **Answer: a) Check the Windows Update logs in Event Viewer**

7. **Which of the following is a best practice for managing updates on production servers?**

- a) Install updates immediately without testing

- b) Test updates in a staging environment before deploying to production

- c) Disable updates to avoid interruptions

- d) Allow users to manually install updates

- Answer: b) Test updates in a staging environment before deploying to production

8. A server administrator wants to manually check for updates on a Windows Server 2012 R2 machine. Which command should they use?

- a) wuauclt /detectnow

- b) checkupdate /now

- c) update /scan

- d) get-update /manual

- Answer: a) wuauclt /detectnow

9. What is the purpose of the "Defer Updates" option in Windows Server 2012 R2?

- a) To delay the installation of updates to avoid disruptions

- b) To disable updates permanently

- c) To uninstall previously installed updates

- d) To prioritize security updates over feature updates

- Answer: a) To delay the installation of updates to avoid disruptions

10. A server administrator wants to view the update history on a Windows Server 2012 R2 machine. Where can they find this information?

- a) Control Panel > Windows Update > View update history

- b) Server Manager > Local Server > Update history

- c) Event Viewer > Windows Logs > System

- d) Both a and c

- Answer: d) Both a and c

Section 2: Server Administration Access and Control Methods

11. Which of the following is the default tool for remote server administration in Windows Server 2012 R2?

- a) Remote Desktop Protocol (RDP)

- o **b) Telnet**

- o **c) SSH**

- o **d) Hyper-V Manager**

- o **Answer: a) Remote Desktop Protocol (RDP)**

12. **What is the purpose of enabling Network Level Authentication (NLA) for RDP?**

    - o **a) To encrypt all network traffic**

    - o **b) To require user authentication before establishing a remote desktop session**

    - o **c) To allow anonymous access to the server**

    - o **d) To improve server performance**

    - o **Answer: b) To require user authentication before establishing a remote desktop session**

13. **A server administrator wants to manage a server remotely using PowerShell. Which feature must be enabled on the server?**

    - o **a) Remote Desktop**

    - o **b) Windows Remote Management (WinRM)**

    - o **c) Telnet**

    - o **d) Hyper-V**

    - o **Answer: b) Windows Remote Management (WinRM)**

14. **Which of the following is a secure alternative to Telnet for remote server administration?**

    - o **a) SSH**

    - o **b) FTP**

    - o **c) HTTP**

    - o **d) SNMP**

    - o **Answer: a) SSH**

15. **A server administrator wants to delegate administrative tasks to a junior administrator without giving full control. Which feature should they use?**

    - o **a) Role-Based Access Control (RBAC)**

    - o **b) Group Policy Preferences**

    - o **c) NTFS Permissions**

    - o **d) Remote Desktop**

- o **Answer: a) Role-Based Access Control (RBAC)**

16. **What is the purpose of the "Run As" feature in Windows Server 2012 R2?**

    - o **a) To execute programs with elevated privileges**

    - o **b) To monitor server performance**

    - o **c) To configure server roles**

    - o **d) To disable user accounts**

    - o **Answer: a) To execute programs with elevated privileges**

17. **A server administrator wants to restrict RDP access to specific IP addresses. What is the best way to achieve this?**

    - o **a) Configure firewall rules to allow only those IP addresses**

    - o **b) Disable RDP entirely**

    - o **c) Use NTFS permissions**

    - o **d) Use Group Policy Preferences**

    - o **Answer: a) Configure firewall rules to allow only those IP addresses**

18. **Which of the following tools can be used to manage multiple servers from a single interface?**

    - o **a) Server Manager**

    - o **b) Task Manager**

    - o **c) Event Viewer**

    - o **d) Disk Management**

    - o **Answer: a) Server Manager**

19. **A server administrator wants to monitor who is logging into the server remotely. Which log should they check?**

    - o **a) Security log in Event Viewer**

    - o **b) Application log in Event Viewer**

    - o **c) System log in Event Viewer**

    - o **d) Setup log in Event Viewer**

    - o **Answer: a) Security log in Event Viewer**

20. **Which of the following is a best practice for managing administrative accounts on a Windows Server?**

    - o **a) Use strong, unique passwords for all accounts**

- o   **b) Use the same password for all accounts**

- o   **c) Disable password expiration**

- o   **d) Share administrative credentials with the team**

- o   **Answer: a) Use strong, unique passwords for all accounts**

Section 3: Creating Service Level Agreements (SLAs)

21. **What is the primary purpose of a Service Level Agreement (SLA) in server administration?**

    - o   **a) To define the expected level of service and responsibilities between the provider and the client**

    - o   **b) To configure server roles**

    - o   **c) To monitor server performance**

    - o   **d) To back up server data**

    - o   **Answer: a) To define the expected level of service and responsibilities between the provider and the client**

22. **Which of the following metrics is commonly included in an SLA?**

    - o   **a) Uptime percentage**

    - o   **b) Response time for incidents**

    - o   **c) Resolution time for issues**

    - o   **d) All of the above**

    - o   **Answer: d) All of the above**

23. **A server administrator is drafting an SLA. Which of the following should be included?**

    - o   **a) Scope of services provided**

    - o   **b) Performance metrics and penalties for non-compliance**

    - o   **c) Roles and responsibilities of both parties**

    - o   **d) All of the above**

    - o   **Answer: d) All of the above**

24. **What is the purpose of defining "uptime" in an SLA?**

    - o   **a) To specify the percentage of time the server is expected to be operational**

    - o   **b) To monitor server performance**

- o c) To configure server roles

- o d) To back up server data

- o Answer: a) To specify the percentage of time the server is expected to be operational

Creating Service Level Agreements (SLAs) (Continued)

26. **A company wants to ensure that critical issues are resolved within 4 hours. Where should this requirement be documented?**

- a) In the SLA under resolution time metrics

- b) In the server configuration settings

- c) In the server's Event Viewer logs

- d) In the Windows Update settings

- Answer: a) In the SLA under resolution time metrics

27. **Which of the following is a key benefit of having an SLA in place?**

- a) It ensures that all updates are installed automatically.

- b) It defines clear expectations and responsibilities for both the service provider and the client.

- c) It eliminates the need for server monitoring.

- d) It automates server administration tasks.

- Answer: b) It defines clear expectations and responsibilities for both the service provider and the client.

28. **A server administrator is drafting an SLA for a web hosting service. Which of the following should be included in the SLA?**

- a) Uptime guarantees (e.g., 99.9%)

- b) Backup and disaster recovery procedures

- c) Penalties for failing to meet performance metrics

- d) All of the above

- Answer: d) All of the above

29. **What is the purpose of defining "response time" in an SLA?**

- a) To specify how quickly the service provider will respond to incidents or requests

- b) To monitor server performance

- c) To configure server roles

- d) To back up server data

- **Answer: a) To specify how quickly the service provider will respond to incidents or requests**

30. **A company wants to ensure that their SLA includes provisions for regular server maintenance. What should be included in this section of the SLA?**

- **a) Scheduled maintenance windows**

- **b) Expected downtime during maintenance**

- **c) Notification procedures for planned maintenance**

- **d) All of the above**

- **Answer: d) All of the above**

Section 4: Monitoring Server Performance

31. **Which tool is primarily used to monitor server performance in Windows Server 2012 R2?**

- **a) Performance Monitor**

- **b) Task Manager**

- **c) Event Viewer**

- **d) Server Manager**

- **Answer: a) Performance Monitor**

32. **A server administrator wants to monitor CPU usage over time. Which of the following should they configure in Performance Monitor?**

- **a) A data collector set**

- **b) An event subscription**

- **c) A scheduled task**

- **d) A firewall rule**

- **Answer: a) A data collector set**

33. **What is the purpose of using Performance Monitor in Windows Server 2012 R2?**

- **a) To track and analyze system performance metrics such as CPU, memory, and disk usage**

- **b) To configure server roles**

- **c) To manage user accounts**

- **d) To install updates**

- **Answer: a) To track and analyze system performance metrics such as CPU, memory, and disk usage**

34. **A server administrator notices that a server's CPU usage is consistently above 90%. What is the first step they should take to troubleshoot the issue?**

- a) Identify the processes consuming the most CPU resources using Task Manager

- b) Restart the server

- c) Install additional updates

- d) Disable all running services

- Answer: a) Identify the processes consuming the most CPU resources using Task Manager

35. **Which of the following tools can be used to view real-time performance data on a Windows Server?**

- a) Task Manager

- b) Resource Monitor

- c) Performance Monitor

- d) All of the above

- Answer: d) All of the above

36. **A server administrator wants to monitor disk I/O performance. Which counter should they add in Performance Monitor?**

- a) Disk Reads/sec and Disk Writes/sec

- b) Processor Time

- c) Available Memory

- d) Network Latency

- Answer: a) Disk Reads/sec and Disk Writes/sec

37. **What is the purpose of setting up alerts in Performance Monitor?**

- a) To notify administrators when specific performance thresholds are exceeded

- b) To automatically restart the server

- c) To disable unused services

- d) To configure server roles

- Answer: a) To notify administrators when specific performance thresholds are exceeded

38. **A server administrator wants to monitor network performance on a Windows Server. Which of the following counters should they use?**

- a) Bytes Sent/sec and Bytes Received/sec

- b) Disk Reads/sec

- c) Processor Queue Length

- d) Available Memory

- Answer: a) Bytes Sent/sec and Bytes Received/sec

39. A server administrator notices that a server's memory usage is consistently high. What is the first step they should take to troubleshoot the issue?

- a) Identify the processes consuming the most memory using Task Manager or Resource Monitor

- b) Restart the server

- c) Install additional memory

- d) Disable all running services

- Answer: a) Identify the processes consuming the most memory using Task Manager or Resource Monitor

40. Which of the following is a best practice for monitoring server performance?

- a) Set up regular performance baselines to compare against future performance data

- b) Monitor performance only during peak usage hours

- c) Disable performance monitoring to improve server performance

- d) Use default settings without modification

- Answer: a) Set up regular performance baselines to compare against future performance data

Section 5: Scenario-Based Questions

41. A server administrator notices that a critical application is running slowly on a Windows Server. What is the first step they should take to identify the issue?

- a) Use Performance Monitor to check CPU, memory, and disk usage

- b) Restart the application

- c) Reinstall the application

- d) Disable all other applications

- Answer: a) Use Performance Monitor to check CPU, memory, and disk usage

42. A company wants to ensure that their servers meet the SLA's uptime requirements. Which tool can they use to monitor server availability?

- a) **Performance Monitor**

- b) **Task Manager**

- c) **Event Viewer**

- d) **Network monitoring tools like PRTG or Nagios**

- **Answer: d) Network monitoring tools like PRTG or Nagios**

43. **A server administrator wants to ensure that a server's performance does not degrade over time. What should they do?**

- a) **Regularly monitor performance metrics and address bottlenecks**

- b) **Restart the server daily**

- c) **Disable unused services without monitoring**

- d) **Install updates without testing**

- **Answer: a) Regularly monitor performance metrics and address bottlenecks**

44. **A server administrator notices frequent disk usage spikes on a server. What is the most likely cause?**

- a) **High I/O operations from applications or services**

- b) **Insufficient memory**

- c) **Network latency**

- d) **CPU bottlenecks**

- **Answer: a) High I/O operations from applications or services**

45. **A server administrator wants to ensure that critical alerts are sent to their email. Which feature should they configure?**

- a) **Alerts in Performance Monitor with email notifications**

- b) **Task Scheduler**

- c) **Event Viewer logs**

- d) **Windows Update settings**

- **Answer: a) Alerts in Performance Monitor with email notifications**

1: **Updating the Server**

46. **A server administrator wants to ensure that only critical updates are installed on a Windows Server 2012 R2 machine. Which of the following should they configure?**

  - a) **Group Policy to allow only critical updates**

o   b) WSUS to approve only critical updates

o   c) Windows Update settings to "Critical Updates Only"

o   d) Task Scheduler to install updates manually

o   Answer: b) WSUS to approve only critical updates

47. Which of the following is a valid reason to defer updates on a production server?

o   a) To avoid potential downtime during business hours

o   b) To permanently disable updates

o   c) To prevent security patches from being installed

o   d) To allow users to manually install updates

o   Answer: a) To avoid potential downtime during business hours

48. A server administrator wants to automate the installation of updates during non-business hours. Which tool should they use?

o   a) Task Scheduler

o   b) Group Policy

o   c) WSUS

o   d) All of the above

o   Answer: d) All of the above

49. A server administrator notices that a server is repeatedly failing to install updates. What is the most likely cause?

o   a) Insufficient disk space

o   b) Incorrect time zone settings

o   c) Disabled firewall

o   d) Outdated drivers

o   Answer: a) Insufficient disk space

50. Which of the following is a best practice for managing updates on a server cluster?

o   a) Update all servers in the cluster simultaneously

o   b) Update one server at a time to minimize downtime

o   c) Disable updates on all servers in the cluster

o   d) Use manual updates for all servers

- Answer: b) Update one server at a time to minimize downtime

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Section 2: Server Administration Access and Control Methods

51. **A server administrator wants to restrict administrative access to a server. Which of the following should they configure?**

    - a) Role-Based Access Control (RBAC)
    - b) NTFS permissions
    - c) Group Policy to restrict logon rights
    - d) Both a and c
    - Answer: d) Both a and c

52. **Which of the following is a secure method for managing multiple servers remotely?**

    - a) Remote Desktop Protocol (RDP) with Network Level Authentication (NLA)
    - b) Telnet
    - c) FTP
    - d) HTTP
    - Answer: a) Remote Desktop Protocol (RDP) with Network Level Authentication (NLA)

53. **A server administrator wants to monitor who is accessing a server remotely. Which log should they review?**

    - a) Security log in Event Viewer
    - b) Application log in Event Viewer
    - c) System log in Event Viewer
    - d) Setup log in Event Viewer
    - Answer: a) Security log in Event Viewer

54. **Which of the following is a best practice for managing administrative accounts on a Windows Server?**

    - a) Use unique, strong passwords for all accounts
    - b) Share administrative credentials with the team
    - c) Disable password expiration for administrative accounts
    - d) Use the same password for all accounts
    - Answer: a) Use unique, strong passwords for all accounts

55. **A server administrator wants to allow a junior administrator to manage DNS settings but not other server roles. What should they configure?**

- o **a) Role-Based Access Control (RBAC)**
- o **b) NTFS permissions**
- o **c) Group Policy Preferences**
- o **d) Remote Desktop access**
- o **Answer: a) Role-Based Access Control (RBAC)**

Section 3: Creating Service Level Agreements (SLAs)

56. **Which of the following is a key component of an SLA?**

- o **a) Uptime guarantees**
- o **b) Response time for incidents**
- o **c) Backup and disaster recovery procedures**
- o **d) All of the above**
- o **Answer: d) All of the above**

57. **A company wants to ensure that their SLA includes provisions for regular server maintenance. What should be included in this section of the SLA?**

- o **a) Scheduled maintenance windows**
- o **b) Expected downtime during maintenance**
- o **c) Notification procedures for planned maintenance**
- o **d) All of the above**
- o **Answer: d) All of the above**

58. **What is the purpose of defining "resolution time" in an SLA?**

- o **a) To specify how quickly issues will be resolved after being reported**
- o **b) To monitor server performance**
- o **c) To configure server roles**
- o **d) To back up server data**
- o **Answer: a) To specify how quickly issues will be resolved after being reported**

59. **A server administrator is drafting an SLA for a web hosting service. Which of the following should be included?**

- o **a) Uptime guarantees (e.g., 99.9%)**

- o **b) Penalties for failing to meet performance metrics**

- o **c) Backup and disaster recovery procedures**

- o **d) All of the above**

- o **Answer: d) All of the above**

60. **A company wants to ensure that critical issues are resolved within 2 hours. Where should this requirement be documented?**

  - o **a) In the SLA under resolution time metrics**

  - o **b) In the server configuration settings**

  - o **c) In the server's Event Viewer logs**

  - o **d) In the Windows Update settings**

  - o **Answer: a) In the SLA under resolution time metrics**

Section 4: Monitoring Server Performance

61. **A server administrator wants to monitor disk I/O performance. Which counter should they add in Performance Monitor?**

  - o **a) Disk Reads/sec and Disk Writes/sec**

  - o **b) Processor Time**

  - o **c) Available Memory**

  - o **d) Network Latency**

  - o **Answer: a) Disk Reads/sec and Disk Writes/sec**

62. **What is the purpose of setting up alerts in Performance Monitor?**

  - o **a) To notify administrators when specific performance thresholds are exceeded**

  - o **b) To automatically restart the server**

  - o **c) To disable unused services**

  - o **d) To configure server roles**

  - o **Answer: a) To notify administrators when specific performance thresholds are exceeded**

63. **A server administrator notices that a server's memory usage is consistently high. What is the first step they should take to troubleshoot the issue?**

- a) Identify the processes consuming the most memory using Task Manager or Resource Monitor
- b) Restart the server
- c) Install additional memory
- d) Disable all running services
- Answer: a) Identify the processes consuming the most memory using Task Manager or Resource Monitor

64. Which of the following is a best practice for monitoring server performance?

- a) Set up regular performance baselines to compare against future performance data
- b) Monitor performance only during peak usage hours
- c) Disable performance monitoring to improve server performance
- d) Use default settings without modification
- Answer: a) Set up regular performance baselines to compare against future performance data

65. A server administrator wants to monitor network performance on a Windows Server. Which of the following counters should they use?

- a) Bytes Sent/sec and Bytes Received/sec
- b) Disk Reads/sec
- c) Processor Queue Length
- d) Available Memory
- Answer: a) Bytes Sent/sec and Bytes Received/sec

Section 5: Scenario-Based Questions

66. A server administrator notices frequent disk usage spikes on a server. What is the most likely cause?

- a) High I/O operations from applications or services
- b) Insufficient memory
- c) Network latency
- d) CPU bottlenecks
- Answer: a) High I/O operations from applications or services

67. **A server administrator wants to ensure that critical alerts are sent to their email. Which feature should they configure?**

   - o **a) Alerts in Performance Monitor with email notifications**

   - o **b) Task Scheduler**

   - o **c) Event Viewer logs**

   - o **d) Windows Update settings**

   - o **Answer: a) Alerts in Performance Monitor with email notifications**

68. **A server administrator notices that a critical application is running slowly on a Windows Server. What is the first step they should take to identify the issue?**

   - o **a) Use Performance Monitor to check CPU, memory, and disk usage**

   - o **b) Restart the application**

   - o **c) Reinstall the application**

   - o **d) Disable all other applications**

   - o **Answer: a) Use Performance Monitor to check CPU, memory, and disk usage**

69. **A company wants to ensure that their servers meet the SLA's uptime requirements. Which tool can they use to monitor server availability?**

   - o **a) Performance Monitor**

   - o **b) Task Manager**

   - o **c) Event Viewer**

   - o **d) Network monitoring tools like PRTG or Nagios**

1: Performing Capacity Planning

   1. **What is the primary purpose of capacity planning in a storage solution?**

   - o **a) To monitor server performance**

   - o **b) To ensure sufficient storage resources are available for current and future needs**

   - o **c) To configure RAID levels**

   - o **d) To deploy storage devices**

   - o **Answer: b) To ensure sufficient storage resources are available for current and future needs**

2. A server administrator is tasked with estimating future storage requirements for a file server. Which of the following should they consider?

   - o **a) Current storage usage trends**
   - o **b) Expected growth in data**
   - o **c) Backup and disaster recovery requirements**
   - o **d) All of the above**
   - o **Answer: d) All of the above**

3. Which tool in Windows Server 2012 R2 can be used to monitor disk usage trends over time?

   - o **a) Performance Monitor**
   - o **b) Task Manager**
   - o **c) Event Viewer**
   - o **d) Disk Cleanup**
   - o **Answer: a) Performance Monitor**

4. A company plans to store large multimedia files on a server. Which file system should they use to support large file sizes?

   - o **a) FAT32**
   - o **b) NTFS**
   - o **c) ReFS**
   - o **d) exFAT**
   - o **Answer: c) ReFS**

5. A server administrator needs to calculate the required storage capacity for a database server. Which of the following factors should they consider?

   - o **a) Database size and growth rate**
   - o **b) Transaction logs**
   - o **c) Backup storage requirements**
   - o **d) All of the above**
   - o **Answer: d) All of the above**

6. What is the maximum volume size supported by NTFS in Windows Server 2012 R2?

   - o **a) 2 TB**
   - o **b) 16 TB**

- c) 256 TB
- d) 16 EB
- Answer: d) 16 EB

7. A server administrator is planning storage for a virtualized environment. Which of the following should they prioritize?

- a) High IOPS (Input/Output Operations Per Second)
- b) Low latency
- c) Sufficient capacity for virtual machine growth
- d) All of the above
- Answer: d) All of the above

8. Which of the following tools can be used to analyze disk space usage on a Windows Server?

- a) Disk Management
- b) File Server Resource Manager (FSRM)
- c) Task Manager
- d) Event Viewer
- Answer: b) File Server Resource Manager (FSRM)

9. A server administrator wants to ensure that storage capacity is not exceeded on a shared folder. Which feature should they configure?

- a) Quotas in File Server Resource Manager (FSRM)
- b) Disk Cleanup
- c) RAID
- d) Storage Spaces
- Answer: a) Quotas in File Server Resource Manager (FSRM)

10. What is the purpose of thin provisioning in storage solutions?

- a) To allocate storage dynamically as needed, rather than reserving it upfront
- b) To create redundant copies of data
- c) To improve disk performance
- d) To monitor storage usage
- Answer: a) To allocate storage dynamically as needed, rather than reserving it upfront

Section 2: Deploying Primary Storage Devices

11. **Which of the following is an example of a primary storage device?**

    o **a) Hard Disk Drive (HDD)**

    o **b) Solid-State Drive (SSD)**

    o **c) Network-Attached Storage (NAS)**

    o **d) Both a and b**

    o **Answer: d) Both a and b**

12. **A server administrator wants to deploy high-performance storage for a database server. Which type of storage should they choose?**

    o **a) SSD**

    o **b) HDD**

    o **c) Tape Drive**

    o **d) Optical Disk**

    o **Answer: a) SSD**

13. **What is the primary advantage of using SSDs over HDDs in a storage solution?**

    o **a) Higher storage capacity**

    o **b) Faster read/write speeds**

    o **c) Lower cost per GB**

    o **d) Longer lifespan**

    o **Answer: b) Faster read/write speeds**

14. **Which of the following is a key consideration when deploying storage devices in a server environment?**

    o **a) Performance requirements**

    o **b) Redundancy and fault tolerance**

    o **c) Scalability**

    o **d) All of the above**

    o **Answer: d) All of the above**

15. **A server administrator wants to deploy a storage solution that can be accessed over the network. Which of the following should they choose?**

- o **a) NAS (Network-Attached Storage)**

- o **b) DAS (Direct-Attached Storage)**

- o **c) Local HDD**

- o **d) Optical Disk**

- o **Answer: a) NAS**

16. **What is the primary purpose of a SAN (Storage Area Network)?**

- o **a) To provide high-speed access to shared storage resources**

- o **b) To back up server data**

- o **c) To monitor server performance**

- o **d) To configure RAID**

- o **Answer: a) To provide high-speed access to shared storage resources**

17. **Which protocol is commonly used for accessing SAN storage?**

- o **a) iSCSI**

- o **b) FTP**

- o **c) HTTP**

- o **d) SMB**

- o **Answer: a) iSCSI**

18. **A server administrator wants to deploy a storage solution that supports block-level access. Which of the following should they choose?**

- o **a) SAN**

- o **b) NAS**

- o **c) Tape Drive**

- o **d) Optical Disk**

- o **Answer: a) SAN**

19. **Which of the following is a key benefit of using Storage Spaces in Windows Server 2012 R2?**

- o **a) It allows the creation of virtual disks from physical storage pools**

- o **b) It improves network performance**

- o **c) It provides automatic updates for storage devices**

- o **d) It monitors server performance**

o Answer: a) It allows the creation of virtual disks from physical storage pools

20. A server administrator wants to deploy a storage solution that provides redundancy and fault tolerance. Which of the following should they configure?

  o a) RAID

  o b) Thin provisioning

  o c) Disk Cleanup

  o d) NTFS permissions

  o Answer: a) RAID

Section 3: Storage Technologies

21. What is the primary purpose of RAID in a storage solution?

  o a) To provide redundancy and improve performance

  o b) To monitor server performance

  o c) To configure server roles

  o d) To back up server data

  o Answer: a) To provide redundancy and improve performance

22. Which RAID level provides striping with parity?

  o a) RAID 0

  o b) RAID 1

  o c) RAID 5

  o d) RAID 10

  o Answer: c) RAID 5

23. A server administrator wants to configure a RAID level that provides mirroring. Which RAID level should they choose?

  o a) RAID 0

  o b) RAID 1

  o c) RAID 5

  o d) RAID 10

  o Answer: b) RAID 1

24. **Which RAID level combines both striping and mirroring?**

   o **a) RAID 0**

   o **b) RAID 1**

   o **c) RAID 5**

   o **d) RAID 10**

   o **Answer: d) RAID 10**

25. **A server administrator wants to configure a RAID level that provides the highest performance but no redundancy. Which RAID level should they choose?**

   o **a) RAID 0**

   o **b) RAID 1**

   o **c) RAID 5**

   o **d) RAID 10**

   o **Answer: a) RAID 0**

Configuring RAID

26. **A server administrator wants to configure a RAID level that provides redundancy and can tolerate the failure of one disk. Which RAID level should they choose?**

   • **a) RAID 0**

   • **b) RAID 1**

   • **c) RAID 5**

   • **d) RAID 10**

   • **Answer: c) RAID 5**

27. **Which of the following RAID levels requires a minimum of 4 disks?**

   • **a) RAID 0**

   • **b) RAID 1**

   • **c) RAID 6**

   • **d) RAID 10**

   • **Answer: c) RAID 6**

28. **A server administrator wants to configure a RAID level that provides the best combination of performance and redundancy. Which RAID level should they choose?**

   • **a) RAID 0**

- **b) RAID 1**

- **c) RAID 5**

- **d) RAID 10**

- **Answer: d) RAID 10**

29. **What is the primary disadvantage of RAID 0?**

- **a) High cost**

- **b) No redundancy or fault tolerance**

- **c) Slow write performance**

- **d) Requires a minimum of 3 disks**

- **Answer: b) No redundancy or fault tolerance**

30. **Which RAID level uses double parity to provide fault tolerance for up to two disk failures?**

- **a) RAID 1**

- **b) RAID 5**

- **c) RAID 6**

- **d) RAID 10**

- **Answer: c) RAID 6**

31. **A server administrator is configuring RAID 1. How many disks are required for this configuration?**

- **a) 1**

- **b) 2**

- **c) 3**

- **d) 4**

- **Answer: b) 2**

32. **Which of the following RAID levels does not provide redundancy?**

- **a) RAID 0**

- **b) RAID 1**

- **c) RAID 5**

- **d) RAID 6**

- **Answer: a) RAID 0**

33. **A server administrator wants to configure a RAID level that provides redundancy and uses the least amount of storage for parity. Which RAID level should they choose?**

- a) RAID 1

- b) RAID 5

- c) RAID 6

- d) RAID 10

- Answer: b) RAID 5

34. **Which of the following is a key benefit of using RAID 10 over RAID 5?**

- a) Higher fault tolerance

- b) Lower cost

- c) Requires fewer disks

- d) Better read/write performance

- Answer: d) Better read/write performance

35. **A server administrator is configuring RAID 6. How many disks are required at a minimum?**

- a) 2

- b) 3

- c) 4

- d) 5

- Answer: c) 4

Section 5: Storage Technologies and Advanced Scenarios

36. **A server administrator wants to create a virtual disk using multiple physical disks. Which Windows Server 2012 R2 feature should they use?**

- a) Storage Spaces

- b) Disk Management

- c) File Server Resource Manager (FSRM)

- d) Task Scheduler

- Answer: a) Storage Spaces

37. **What is the primary purpose of tiered storage in Windows Server 2012 R2?**

- a) To combine SSDs and HDDs to optimize performance and cost

- b) To create redundant copies of data

- c) To monitor storage usage

- d) To configure RAID levels

- Answer: a) To combine SSDs and HDDs to optimize performance and cost

38. A server administrator wants to configure a storage pool. What is a storage pool?

- a) A collection of physical disks grouped together to create virtual disks

- b) A backup solution for server data

- c) A RAID configuration tool

- d) A network storage device

- Answer: a) A collection of physical disks grouped together to create virtual disks

39. Which of the following is a key benefit of using Storage Spaces in Windows Server 2012 R2?

- a) Thin provisioning

- b) Fault tolerance

- c) Scalability

- d) All of the above

- Answer: d) All of the above

40. A server administrator wants to configure a storage solution that automatically moves frequently accessed data to faster storage. Which feature should they use?

- a) Tiered Storage in Storage Spaces

- b) RAID 5

- c) Disk Cleanup

- d) NTFS permissions

- Answer: a) Tiered Storage in Storage Spaces

41. What is the primary purpose of using ReFS (Resilient File System) in Windows Server 2012 R2?

- a) To provide better data integrity and resilience to corruption

- b) To improve disk performance

- c) To support legacy applications

- d) To enable faster backups

- **Answer: a) To provide better data integrity and resilience to corruption**

42. **A server administrator wants to configure a shared folder with quotas to limit storage usage. Which tool should they use?**

- **a) File Server Resource Manager (FSRM)**

- **b) Disk Management**

- **c) Storage Spaces**

- **d) Task Scheduler**

- **Answer: a) File Server Resource Manager (FSRM)**

43. **Which of the following is a key feature of thin provisioning in Storage Spaces?**

- **a) Allocates storage dynamically as needed**

- **b) Creates redundant copies of data**

- **c) Improves disk performance**

- **d) Monitors storage usage**

- **Answer: a) Allocates storage dynamically as needed**

44. **A server administrator wants to configure a storage solution that provides fault tolerance and scalability. Which of the following should they use?**

- **a) Storage Spaces with parity**

- **b) RAID 0**

- **c) Disk Cleanup**

- **d) NTFS permissions**

- **Answer: a) Storage Spaces with parity**

45. **Which of the following is a key benefit of using iSCSI in a storage solution?**

- **a) Provides block-level access over a network**

- **b) Improves disk performance**

- **c) Reduces storage costs**

- **d) Enables faster backups**

- **Answer: a) Provides block-level access over a network**

46. **A server administrator wants to configure a storage solution that supports deduplication. Which Windows Server 2012 R2 feature should they use?**

- **a) Data Deduplication**

- **b) Storage Spaces**

- **c) File Server Resource Manager (FSRM)**

- **d) Disk Management**

- **Answer: a) Data Deduplication**

47. **What is the primary purpose of Data Deduplication in Windows Server 2012 R2?**

- **a) To reduce storage usage by eliminating duplicate copies of data**

- **b) To improve disk performance**

- **c) To create redundant copies of data**

- **d) To monitor storage usage**

- **Answer: a) To reduce storage usage by eliminating duplicate copies of data**

48. **A server administrator wants to configure a storage solution that provides high availability for critical data. Which of the following should they use?**

- **a) RAID 10**

- **b) RAID 0**

- **c) Thin provisioning**

- **d) Disk Cleanup**

- **Answer: a) RAID 10**

49. **Which of the following is a key benefit of using ReFS over NTFS?**

- **a) Improved data integrity and resilience to corruption**

- **b) Better compatibility with legacy applications**

- **c) Lower storage costs**

- **d) Faster read/write speeds**

- **Answer: a) Improved data integrity and resilience to corruption**

50. **A server administrator wants to monitor disk performance in real time. Which tool should they use?**

- **a) Performance Monitor**

- **b) Disk Management**

- **c) File Server Resource Manager (FSRM)**

- **d) Task Scheduler**

- Answer: a) Performance Monitor

Advanced Storage Scenarios and Troubleshooting

51. A server administrator notices that a storage pool in Windows Server 2012 R2 is running out of capacity. What is the best course of action?

- a) Add additional physical disks to the storage pool

- b) Delete unused files from the storage pool

- c) Reformat the storage pool

- d) Disable thin provisioning

- Answer: a) Add additional physical disks to the storage pool

52. A server administrator wants to ensure that a storage solution can survive the failure of two disks. Which configuration should they use?

- a) RAID 5

- b) RAID 6

- c) RAID 10

- d) RAID 0

- Answer: b) RAID 6

53. Which of the following is a key benefit of using Storage Spaces with parity in Windows Server 2012 R2?

- a) Improved performance for read/write operations

- b) Fault tolerance with efficient use of storage

- c) Faster backups

- d) Simplified disk management

- Answer: b) Fault tolerance with efficient use of storage

54. A server administrator wants to configure a storage solution that provides redundancy and high performance for read/write operations. Which RAID level should they choose?

- a) RAID 0

- b) RAID 1

- c) RAID 5

- d) RAID 10

- Answer: d) RAID 10

55. **A server administrator is troubleshooting a storage issue where a disk in a RAID 5 array has failed. What is the first step they should take?**

- a) **Replace the failed disk and rebuild the array**

- b) **Reformat the entire RAID array**

- c) **Delete the RAID configuration and start over**

- d) **Disable the RAID controller**

- **Answer: a) Replace the failed disk and rebuild the array**

56. **A server administrator wants to monitor disk performance in real time. Which tool should they use?**

- a) **Performance Monitor**

- b) **Disk Management**

- c) **File Server Resource Manager (FSRM)**

- d) **Task Scheduler**

- **Answer: a) Performance Monitor**

57. **A server administrator is configuring a storage pool with thin provisioning. What is a potential risk of using thin provisioning?**

- a) **Running out of physical storage if usage exceeds expectations**

- b) **Reduced read/write performance**

- c) **Increased disk fragmentation**

- d) **Incompatibility with NTFS**

- **Answer: a) Running out of physical storage if usage exceeds expectations**

58. **Which of the following is a key feature of tiered storage in Windows Server 2012 R2?**

- a) **Automatically moves frequently accessed data to faster storage tiers**

- b) **Provides block-level access over a network**

- c) **Reduces storage costs by eliminating duplicate data**

- d) **Creates redundant copies of data**

- **Answer: a) Automatically moves frequently accessed data to faster storage tiers**

59. **A server administrator wants to configure a storage solution that supports deduplication. Which Windows Server 2012 R2 feature should they use?**

- a) **Data Deduplication**

- b) Storage Spaces

- c) File Server Resource Manager (FSRM)

- d) Disk Management

- Answer: a) Data Deduplication

60. What is the primary purpose of Data Deduplication in Windows Server 2012 R2?

- a) To reduce storage usage by eliminating duplicate copies of data

- b) To improve disk performance

- c) To create redundant copies of data

- d) To monitor storage usage

- Answer: a) To reduce storage usage by eliminating duplicate copies of data

Section 7: Storage Troubleshooting and Optimization

61. A server administrator notices that a disk in a storage pool is marked as "Retired." What does this indicate?

- a) The disk has failed and should be replaced

- b) The disk is no longer needed and can be removed

- c) The disk is full and cannot store more data

- d) The disk is offline but can be brought back online

- Answer: a) The disk has failed and should be replaced

62. A server administrator wants to optimize the performance of a storage pool. Which of the following actions should they take?

- a) Add additional physical disks to the pool

- b) Enable tiered storage

- c) Use SSDs for frequently accessed data

- d) All of the above

- Answer: d) All of the above

63. A server administrator is troubleshooting a slow-performing RAID 5 array. What is the most likely cause?

- a) A degraded array due to a failed disk

- b) Insufficient memory on the server

- c) High network latency

- d) Incorrect file system configuration

- Answer: a) A degraded array due to a failed disk

64. Which of the following tools can be used to check the health of a physical disk in Windows Server 2012 R2?

- a) Disk Management

- b) PowerShell with Get-PhysicalDisk

- c) Performance Monitor

- d) Task Scheduler

- Answer: b) PowerShell with Get-PhysicalDisk

65. A server administrator wants to ensure that a storage pool is protected against data loss. Which configuration should they use?

- a) Parity in Storage Spaces

- b) Thin provisioning

- c) Tiered storage

- d) NTFS permissions

- Answer: a) Parity in Storage Spaces

66. A server administrator notices that a storage pool is running out of capacity. What is the best course of action?

- a) Add additional physical disks to the pool

- b) Delete unused files from the pool

- c) Reformat the storage pool

- d) Disable thin provisioning

- Answer: a) Add additional physical disks to the pool

67. A server administrator wants to monitor disk I/O performance. Which counter should they add in Performance Monitor?

- a) Disk Reads/sec and Disk Writes/sec

- b) Processor Time

- c) Available Memory

- d) Network Latency

- **Answer: a) Disk Reads/sec and Disk Writes/sec**

68. **A server administrator wants to configure a storage solution that provides high availability for critical data. Which of the following should they use?**

- **a) RAID 10**

- **b) RAID 0**

- **c) Thin provisioning**

- **d) Disk Cleanup**

- **Answer: a) RAID 10**

69. **Which of the following is a key benefit of using ReFS over NTFS?**

- **a) Improved data integrity and resilience to corruption**

- **b) Better compatibility with legacy applications**

- **c) Lower storage costs**

- **d) Faster read/write speeds**

- **Answer: a) Improved data integrity and resilience to corruption**

70. **A server administrator wants to monitor disk performance in real time. Which tool should they use?**

- **a) Performance Monitor**

- **b) Disk Management**

- **c) File Server Resource Manager (FSRM)**

- **d) Task Scheduler**

- **Answer: a) Performance Monitor**

UNIT 3

Preparing an Installation Plan

1. **What is the first step in preparing an installation plan for Windows Server 2012 R2?**

   - **a) Installing the operating system**

   - **b) Identifying the server's role and purpose**

   - **c) Configuring RAID**

   - **d) Setting up Active Directory**

- o   **Answer: b) Identifying the server's role and purpose**

2. **A company plans to deploy Windows Server 2012 R2 for hosting a web application. Which edition of Windows Server should they choose?**

    - o   **a) Essentials**

    - o   **b) Standard**

    - o   **c) Datacenter**

    - o   **d) Foundation**

    - o   **Answer: b) Standard**

3. **Which of the following is a critical consideration when planning the installation of Windows Server 2012 R2?**

    - o   **a) Hardware compatibility**

    - o   **b) Licensing requirements**

    - o   **c) Network configuration**

    - o   **d) All of the above**

    - o   **Answer: d) All of the above**

4. **A server administrator is planning to install Windows Server 2012 R2 on a virtual machine. What is the minimum recommended RAM for this installation?**

    - o   **a) 512 MB**

    - o   **b) 1 GB**

    - o   **c) 2 GB**

    - o   **d) 4 GB**

    - o   **Answer: c) 2 GB**

5. **What is the minimum disk space required to install Windows Server 2012 R2?**

    - o   **a) 16 GB**

    - o   **b) 32 GB**

    - o   **c) 64 GB**

    - o   **d) 128 GB**

    - o   **Answer: b) 32 GB**

6. **A company wants to deploy Windows Server 2012 R2 with Hyper-V for virtualization. Which edition should they choose to support unlimited virtual machines?**

- a) Essentials

- b) Standard

- c) Datacenter

- d) Foundation

- Answer: c) Datacenter

7. **Which of the following tools can be used to verify hardware compatibility before installing Windows Server 2012 R2?**

   - a) Windows Server Compatibility Checker

   - b) Microsoft Assessment and Planning Toolkit (MAP)

   - c) Disk Management

   - d) Task Manager

   - Answer: b) Microsoft Assessment and Planning Toolkit (MAP)

8. **A server administrator is planning to install Windows Server 2012 R2 on a server with UEFI firmware. What is the required partition style?**

   - a) MBR (Master Boot Record)

   - b) GPT (GUID Partition Table)

   - c) FAT32

   - d) NTFS

   - Answer: b) GPT (GUID Partition Table)

9. **Which of the following is a best practice when preparing an installation plan for Windows Server 2012 R2?**

   - a) Back up existing data on the server

   - b) Verify hardware compatibility

   - c) Plan for post-installation configurations

   - d) All of the above

   - Answer: d) All of the above

10. **A server administrator is planning to install Windows Server 2012 R2 on a server that will act as a domain controller. Which installation option should they choose?**

    - a) Server Core Installation

    - b) Server with a GUI

- c) Minimal Server Interface

- d) Nano Server

- Answer: b) Server with a GUI

Section 2: Preparing the Server Hardware

11. **Which of the following is the first step in preparing server hardware for Windows Server 2012 R2 installation?**

    - a) Configuring RAID

    - b) Verifying hardware compatibility

    - c) Installing the operating system

    - d) Setting up Active Directory

    - Answer: b) Verifying hardware compatibility

12. **A server administrator wants to configure RAID before installing Windows Server 2012 R2. Where should they configure RAID?**

    - a) In the operating system after installation

    - b) In the server's BIOS/UEFI settings

    - c) Using Disk Management

    - d) Using Task Manager

    - Answer: b) In the server's BIOS/UEFI settings

13. **What is the purpose of configuring RAID on a server before installing Windows Server 2012 R2?**

    - a) To improve performance and/or provide redundancy

    - b) To install the operating system faster

    - c) To enable virtualization

    - d) To configure Active Directory

    - Answer: a) To improve performance and/or provide redundancy

14. **A server administrator is preparing a server with multiple network adapters. What is the best practice for configuring these adapters before installation?**

    - a) Enable only the primary network adapter

    - b) Configure NIC teaming for redundancy and performance

- c) Disable all network adapters
- d) Use only one network adapter for installation
- Answer: b) Configure NIC teaming for redundancy and performance

15. Which of the following hardware components is most critical for determining the performance of a Windows Server 2012 R2 installation?

- a) CPU
- b) RAM
- c) Disk subsystem
- d) All of the above
- Answer: d) All of the above

16. A server administrator is preparing a server with UEFI firmware. Which boot mode should they enable for installing Windows Server 2012 R2?

- a) Legacy BIOS
- b) UEFI Boot Mode
- c) Safe Mode
- d) Compatibility Mode
- Answer: b) UEFI Boot Mode

17. What is the purpose of running a memory diagnostic tool before installing Windows Server 2012 R2?

- a) To verify that the RAM is functioning properly
- b) To configure virtual memory
- c) To install the operating system faster
- d) To enable RAID
- Answer: a) To verify that the RAM is functioning properly

18. A server administrator is preparing a server with multiple hard drives. Which of the following configurations should they consider for redundancy?

- a) RAID 0
- b) RAID 1
- c) RAID 5
- d) Both b and c

- o Answer: d) Both b and c

19. Which of the following tools can be used to create a bootable USB drive for installing Windows Server 2012 R2?

- o a) Rufus
- o b) Windows Media Creation Tool
- o c) Diskpart
- o d) All of the above
- o Answer: d) All of the above

20. A server administrator wants to ensure that the server hardware is ready for installation. Which of the following should they check?

- o a) CPU compatibility
- o b) Sufficient RAM and disk space
- o c) Network connectivity
- o d) All of the above
- o Answer: d) All of the above

Section 3: Installing the Operating System

21. Which of the following installation options is recommended for a minimal footprint and improved security in Windows Server 2012 R2?

- o a) Server Core Installation
- o b) Server with a GUI
- o c) Minimal Server Interface
- o d) Nano Server
- o Answer: a) Server Core Installation

22. A server administrator is installing Windows Server 2012 R2. Which of the following installation media can they use?

- o a) DVD
- o b) USB drive
- o c) Network-based installation (PXE)
- o d) All of the above

o **Answer: d) All of the above**

23. **During the installation of Windows Server 2012 R2, the administrator is prompted to select a partition. What should they ensure before proceeding?**

o **a) The partition is formatted with NTFS**

o **b) The partition has sufficient free space**

o **c) The partition is set as active**

o **d) All of the above**

o **Answer: d) All of the above**

24. **A server administrator wants to automate the installation of Windows Server 2012 R2. Which tool should they use?**

o **a) Windows Deployment Services (WDS)**

o **b) Disk Management**

o **c) Task Scheduler**

o **d) Event Viewer**

o **Answer: a) Windows Deployment Services (WDS)**

25. **Which of the following is a key benefit of using Server Core Installation in Windows Server 2012 R2?**

o **a) Reduced attack surface**

o **b) Lower resource usage**

o **c) Faster installation and updates**

o **d) All of the above**

o **Answer: d) All of the above**

Installing the Operating System (Continued)

26. **A server administrator is installing Windows Server 2012 R2 and wants to configure the server as a domain controller. Which post-installation step is required?**

• **a) Install the Active Directory Domain Services (AD DS) role**

• **b) Configure DNS settings**

• **c) Promote the server to a domain controller**

• **d) All of the above**

• **Answer: d) All of the above**

27. **During the installation of Windows Server 2012 R2, the administrator is prompted to choose between "Server Core Installation" and "Server with a GUI." What is the primary advantage of choosing Server Core?**

- **a) Easier to manage**

- **b) Reduced attack surface and resource usage**

- **c) Includes all graphical tools**

- **d) Supports legacy applications**

- **Answer: b) Reduced attack surface and resource usage**

28. **A server administrator wants to install Windows Server 2012 R2 on multiple servers simultaneously. Which tool should they use?**

- **a) Windows Deployment Services (WDS)**

- **b) Disk Management**

- **c) Task Scheduler**

- **d) Event Viewer**

- **Answer: a) Windows Deployment Services (WDS)**

29. **Which of the following is required to perform a network-based installation of Windows Server 2012 R2?**

- **a) PXE-enabled network adapter**

- **b) Windows Deployment Services (WDS)**

- **c) A bootable installation image**

- **d) All of the above**

- **Answer: d) All of the above**

30. **A server administrator is installing Windows Server 2012 R2 on a server with no optical drive. What is the best installation method?**

- **a) Use a bootable USB drive**

- **b) Use a network-based installation (PXE)**

- **c) Use an external DVD drive**

- **d) Any of the above**

- **Answer: d) Any of the above**

31. **During the installation of Windows Server 2012 R2, the administrator is prompted to enter a product key. What happens if the product key is not entered?**

- a) The installation will fail

- b) The server will run in evaluation mode for 180 days

- c) The server will not boot

- d) The installation will proceed, but the server will shut down after 30 days

- Answer: b) The server will run in evaluation mode for 180 days

32. A server administrator wants to install Windows Server 2012 R2 on a server with existing data. What should they do to avoid data loss?

- a) Perform a custom installation and select a partition without formatting

- b) Perform an in-place upgrade

- c) Back up the data before installation

- d) Both a and c

- Answer: d) Both a and c

33. Which of the following is a key difference between "Server Core Installation" and "Server with a GUI" in Windows Server 2012 R2?

- a) Server Core does not include a graphical user interface

- b) Server Core uses fewer system resources

- c) Server Core has a smaller attack surface

- d) All of the above

- Answer: d) All of the above

34. A server administrator is installing Windows Server 2012 R2 and wants to automate the installation process. Which file should they create?

- a) Unattend.xml

- b) Autoexec.bat

- c) Install.ini

- d) Config.sys

- Answer: a) Unattend.xml

35. A server administrator is installing Windows Server 2012 R2 on a server with GPT partitioning. Which firmware mode must be enabled?

- a) Legacy BIOS

- b) UEFI

- **c) Compatibility Mode**

- **d) Safe Mode**

- **Answer: b) UEFI**

Section 4: Post-Installation Configuration

36. **After installing Windows Server 2012 R2, what is the first step a server administrator should take?**

- **a) Configure the server's IP address**

- **b) Install updates and patches**

- **c) Configure server roles and features**

- **d) All of the above**

- **Answer: d) All of the above**

37. **A server administrator has installed Windows Server 2012 R2 and wants to rename the server. Which tool should they use?**

- **a) Server Manager**

- **b) Control Panel > System**

- **c) PowerShell with Rename-Computer cmdlet**

- **d) Any of the above**

- **Answer: d) Any of the above**

38. **Which of the following is a best practice after installing Windows Server 2012 R2?**

- **a) Enable Windows Firewall**

- **b) Configure a static IP address**

- **c) Install antivirus software**

- **d) All of the above**

- **Answer: d) All of the above**

39. **A server administrator wants to configure Windows Updates after installing Windows Server 2012 R2. Where can they do this?**

- **a) Control Panel > Windows Update**

- **b) Server Manager > Local Server**

- **c) Group Policy**

- **d) All of the above**

- **Answer: d) All of the above**

40. **After installing Windows Server 2012 R2, the administrator wants to enable Remote Desktop. Where can this be configured?**

- **a) Server Manager > Local Server**

- **b) Control Panel > System > Remote Settings**

- **c) Group Policy**

- **d) Any of the above**

- **Answer: d) Any of the above**

41. **A server administrator has installed Windows Server 2012 R2 and wants to configure the server as a file server. Which role should they install?**

- **a) File and Storage Services**

- **b) Active Directory Domain Services**

- **c) DHCP Server**

- **d) DNS Server**

- **Answer: a) File and Storage Services**

42. **After installing Windows Server 2012 R2, the administrator wants to configure the server to use a static IP address. Which tool should they use?**

- **a) Network and Sharing Center**

- **b) PowerShell with New-NetIPAddress cmdlet**

- **c) Server Manager > Local Server**

- **d) Any of the above**

- **Answer: d) Any of the above**

43. **A server administrator wants to configure a server to act as a DHCP server after installing Windows Server 2012 R2. What is the first step?**

- **a) Install the DHCP Server role**

- **b) Configure a static IP address**

- **c) Create a DHCP scope**

- **d) All of the above**

- **Answer: d) All of the above**

44. After installing Windows Server 2012 R2, the administrator wants to monitor server performance. Which tool should they use?

- a) Performance Monitor

- b) Task Manager

- c) Resource Monitor

- d) All of the above

- Answer: d) All of the above

45. A server administrator wants to configure the time zone on a newly installed Windows Server 2012 R2 machine. Where can this be done?

- a) Control Panel > Date and Time

- b) Server Manager > Local Server

- c) PowerShell with Set-TimeZone cmdlet

- d) Any of the above

- Answer: d) Any of the above

Configuring Network : manage network cabling, configure network interface cards, implement IP addressing and network infrastructure services Managing Network Cabling

1. Which of the following is the most commonly used network cabling type in modern Ethernet networks?

   - a) Coaxial cable

   - b) Fiber optic cable

   - c) Twisted pair cable (Cat5e/Cat6)

   - d) Serial cable

   - Answer: c) Twisted pair cable (Cat5e/Cat6)

2. A server administrator is setting up a network for a data center. Which cabling type should they use for long-distance, high-speed connections?

   - a) Cat5e

   - b) Cat6

   - c) Fiber optic

   - d) Coaxial

- o **Answer: c) Fiber optic**

3. **What is the maximum cable length for a Cat6 Ethernet cable in a standard network setup?**

    - o **a) 50 meters**

    - o **b) 100 meters**

    - o **c) 200 meters**

    - o **d) 500 meters**

    - o **Answer: b) 100 meters**

4. **A server administrator is troubleshooting a network issue and suspects a faulty cable. Which tool should they use to test the cable?**

    - o **a) Multimeter**

    - o **b) Cable tester**

    - o **c) Network analyzer**

    - o **d) Packet sniffer**

    - o **Answer: b) Cable tester**

5. **Which of the following is a key advantage of using fiber optic cables over twisted pair cables?**

    - o **a) Lower cost**

    - o **b) Higher bandwidth and longer distance support**

    - o **c) Easier installation**

    - o **d) Compatibility with legacy systems**

    - o **Answer: b) Higher bandwidth and longer distance support**

6. **A server administrator is setting up a network in an environment with high electromagnetic interference (EMI). Which cabling type should they choose?**

    - o **a) Unshielded Twisted Pair (UTP)**

    - o **b) Shielded Twisted Pair (STP)**

    - o **c) Coaxial cable**

    - o **d) Fiber optic cable**

    - o **Answer: d) Fiber optic cable**

7. **Which of the following connectors is commonly used with twisted pair Ethernet cables?**

    - o **a) RJ11**

- o **b) RJ45**

- o **c) SC**

- o **d) LC**

- o **Answer: b) RJ45**

8. **A server administrator is installing a network in a large office building. Which cabling standard should they follow to ensure proper installation?**

    - o **a) IEEE 802.3**

    - o **b) TIA/EIA-568**

    - o **c) ISO/IEC 11801**

    - o **d) ITU-T G.652**

    - o **Answer: b) TIA/EIA-568**

9. **What is the primary purpose of a patch panel in a network setup?**

    - o **a) To connect multiple servers to a single switch**

    - o **b) To organize and manage network cables**

    - o **c) To amplify network signals**

    - o **d) To provide wireless connectivity**

    - o **Answer: b) To organize and manage network cables**

10. **A server administrator is setting up a network with multiple floors in a building. Which cabling type is best suited for vertical connections between floors?**

    - o **a) Cat5e**

    - o **b) Cat6**

    - o **c) Fiber optic**

    - o **d) Coaxial**

    - o **Answer: c) Fiber optic**

Section 2: Configuring Network Interface Cards (NICs)

11. **Which of the following is the primary purpose of a network interface card (NIC)?**

    - o **a) To provide a physical connection to the network**

    - o **b) To manage IP addressing**

- c) To configure DNS settings

- d) To monitor network traffic

- Answer: a) To provide a physical connection to the network

12. **A server administrator wants to update the driver for a NIC. Which tool should they use?**

   - a) Device Manager

   - b) Task Manager

   - c) Event Viewer

   - d) Disk Management

   - Answer: a) Device Manager

13. **A server administrator is configuring a NIC for a server. Which of the following settings is critical for network communication?**

   - a) IP address

   - b) Subnet mask

   - c) Default gateway

   - d) All of the above

   - Answer: d) All of the above

14. **Which of the following is a key benefit of using a NIC with multiple ports?**

   - a) Increased bandwidth and redundancy

   - b) Reduced power consumption

   - c) Simplified configuration

   - d) Improved wireless connectivity

   - Answer: a) Increased bandwidth and redundancy

15. **A server administrator wants to configure a NIC to operate at 1 Gbps. Where can they configure this setting?**

   - a) Device Manager > NIC Properties > Speed & Duplex

   - b) Control Panel > Network and Sharing Center

   - c) Server Manager > Local Server

   - d) Task Manager > Performance Tab

   - Answer: a) Device Manager > NIC Properties > Speed & Duplex

16. A server administrator notices that a NIC is not functioning properly. What is the first step they should take to troubleshoot the issue?

   o **a) Check the NIC status in Device Manager**

   o **b) Replace the NIC**

   o **c) Reinstall the operating system**

   o **d) Configure a new IP address**

   o **Answer: a) Check the NIC status in Device Manager**

17. Which of the following is a key feature of a virtual NIC in a virtualized environment?

   o **a) It provides network connectivity to virtual machines**

   o **b) It requires physical cabling**

   o **c) It cannot be configured with an IP address**

   o **d) It is only used for storage networks**

   o **Answer: a) It provides network connectivity to virtual machines**

18. A server administrator wants to enable Wake-on-LAN (WoL) on a NIC. Where can this feature be configured?

   o **a) NIC Properties in Device Manager**

   o **b) BIOS/UEFI settings**

   o **c) Power Options in Control Panel**

   o **d) Both a and b**

   o **Answer: d) Both a and b**

19. Which of the following is a best practice when configuring NICs on a server?

   o **a) Use static IP addresses for servers**

   o **b) Enable NIC teaming for redundancy**

   o **c) Update NIC drivers regularly**

   o **d) All of the above**

   o **Answer: d) All of the above**

20. A server administrator wants to configure a NIC to prioritize specific types of network traffic. Which feature should they use?

   o **a) Quality of Service (QoS)**

   o **b) NIC teaming**

- o c) VLAN tagging

- o d) Speed & Duplex settings

- o Answer: a) Quality of Service (QoS)

Section 3: Implementing IP Addressing and Network Infrastructure Services

21. Which of the following is a valid IPv4 address?

    - o a) 192.168.1.256

    - o b) 10.0.0.1

    - o c) 172.16.300.1

    - o d) 255.255.255.256

    - o Answer: b) 10.0.0.1

22. A server administrator wants to configure a static IP address on a Windows Server. Which tool should they use?

    - o a) Control Panel > Network and Sharing Center

    - o b) PowerShell with New-NetIPAddress cmdlet

    - o c) Server Manager > Local Server

    - o d) Any of the above

    - o Answer: d) Any of the above

23. Which of the following is a private IP address range?

    - o a) 192.168.0.0 - 192.168.255.255

    - o b) 172.16.0.0 - 172.31.255.255

    - o c) 10.0.0.0 - 10.255.255.255

    - o d) All of the above

    - o Answer: d) All of the above

24. A server administrator wants to configure a DHCP server. What is the primary purpose of DHCP?

    - o a) To assign IP addresses dynamically to clients

    - o b) To resolve domain names to IP addresses

    - o c) To monitor network traffic

- o **d) To configure VLANs**

- o **Answer: a) To assign IP addresses dynamically to clients**

25. **Which of the following is a valid subnet mask for a Class C network?**

    - o **a) 255.255.255.0**

    - o **b) 255.255.0.0**

    - o **c) 255.0.0.0**

    - o **d) 255.255.255.255**

    - o **Answer: a) 255.255.255.0**

NIC Teaming

26. **What is the primary purpose of NIC teaming in Windows Server 2012 R2?**

    - • **a) To increase network bandwidth and provide redundancy**

    - • **b) To configure VLANs**

    - • **c) To assign multiple IP addresses to a single NIC**

    - • **d) To monitor network traffic**

    - • **Answer: a) To increase network bandwidth and provide redundancy**

27. **A server administrator wants to configure NIC teaming on a Windows Server 2012 R2 machine. How many NICs are required at a minimum?**

    - • **a) 1**

    - • **b) 2**

    - • **c) 3**

    - • **d) 4**

    - • **Answer: b) 2**

28. **Which of the following teaming modes is supported in Windows Server 2012 R2?**

    - • **a) Static Teaming**

    - • **b) Switch Independent**

    - • **c) LACP (Link Aggregation Control Protocol)**

    - • **d) All of the above**

    - • **Answer: d) All of the above**

29. **A server administrator is configuring NIC teaming in Switch Independent mode. What is the key feature of this mode?**

- a) It requires configuration on the switch.

- b) It does not require switch configuration and works with any switch.

- c) It provides the highest bandwidth.

- d) It supports only one NIC at a time.

- Answer: b) It does not require switch configuration and works with any switch.

30. **Which of the following is a valid load-balancing mode for NIC teaming in Windows Server 2012 R2?**

- a) Address Hash

- b) Hyper-V Port

- c) Dynamic

- d) All of the above

- Answer: d) All of the above

31. **A server administrator wants to configure NIC teaming for a Hyper-V host. Which load-balancing mode is recommended?**

- a) Address Hash

- b) Hyper-V Port

- c) Static Teaming

- d) LACP

- Answer: b) Hyper-V Port

32. **What happens if one NIC in a NIC team fails?**

- a) The entire team stops functioning.

- b) The remaining NICs in the team continue to handle traffic.

- c) The server loses network connectivity.

- d) The team must be reconfigured.

- Answer: b) The remaining NICs in the team continue to handle traffic.

33. **A server administrator is troubleshooting a NIC teaming issue. Which tool should they use to verify the status of the NIC team?**

- a) Server Manager

- **b) PowerShell with Get-NetLbfoTeam cmdlet**

- **c) Device Manager**

- **d) Task Manager**

- **Answer: b) PowerShell with Get-NetLbfoTeam cmdlet**

34. **Which of the following is a key benefit of using NIC teaming in a virtualized environment?**

- **a) Improved network performance for virtual machines**

- **b) Redundancy in case of NIC failure**

- **c) Load balancing of network traffic**

- **d) All of the above**

- **Answer: d) All of the above**

35. **A server administrator wants to configure NIC teaming using PowerShell. Which cmdlet should they use to create a new NIC team?**

- **a) New-NetLbfoTeam**

- **b) Add-NetLbfoTeamMember**

- **c) Set-NetLbfoTeam**

- **d) Get-NetLbfoTeam**

- **Answer: a) New-NetLbfoTeam**

Section 5: Scenario-Based Questions

36. **A server administrator is configuring a Windows Server 2012 R2 machine with two NICs. They want to ensure that the server remains connected to the network even if one NIC fails. What should they configure?**

- **a) NIC teaming with Switch Independent mode**

- **b) Static IP addressing**

- **c) VLAN tagging**

- **d) DHCP failover**

- **Answer: a) NIC teaming with Switch Independent mode**

37. **A server administrator notices that a server is experiencing intermittent network connectivity issues. What is the first step they should take to troubleshoot the issue?**

- **a) Check the NIC status in Device Manager**

- b) **Replace the network cable**

- c) **Restart the server**

- d) **Reinstall the NIC driver**

- Answer: a) Check the NIC status in Device Manager

38. A server administrator is configuring a DHCP server on a Windows Server 2012 R2 machine. They want to ensure that a specific server always receives the same IP address. What should they configure?

- a) **DHCP reservation**

- b) **Static IP address**

- c) **VLAN tagging**

- d) **NIC teaming**

- Answer: a) DHCP reservation

39. A server administrator is setting up a network for a small office. They want to use private IP addresses. Which IP range should they choose?

- a) **192.168.0.0 - 192.168.255.255**

- b) **172.16.0.0 - 172.31.255.255**

- c) **10.0.0.0 - 10.255.255.255**

- d) **Any of the above**

- Answer: d) Any of the above

40. A server administrator is configuring a NIC on a Windows Server 2012 R2 machine. They want to ensure that the server can communicate with devices on other networks. What should they configure?

- a) **Default gateway**

- b) **Subnet mask**

- c) **DNS server**

- d) **VLAN tagging**

- Answer: a) Default gateway

41. A server administrator is troubleshooting a network issue and suspects that the server is not resolving domain names correctly. What should they check?

- a) **DNS server settings**

- b) **Default gateway**

- c) Subnet mask

- d) NIC teaming configuration

- Answer: a) DNS server settings

42. A server administrator is configuring a Windows Server 2012 R2 machine with multiple NICs. They want to ensure that each NIC is assigned to a specific VLAN. What should they configure?

- a) VLAN tagging

- b) NIC teaming

- c) DHCP reservations

- d) Static IP addresses

- Answer: a) VLAN tagging

43. A server administrator is configuring a DHCP server on a Windows Server 2012 R2 machine. They want to ensure that IP addresses are assigned only to authorized devices. What should they configure?

- a) DHCP filters

- b) Static IP addresses

- c) VLAN tagging

- d) NIC teaming

- Answer: a) DHCP filters

44. A server administrator is configuring NIC teaming on a Windows Server 2012 R2 machine. They want to ensure that the team provides both redundancy and load balancing. Which load-balancing mode should they choose?

- a) Dynamic

- b) Address Hash

- c) Hyper-V Port

- d) Static Teaming

- Answer: a) Dynamic

45. A server administrator is configuring a Windows Server 2012 R2 machine with a single NIC. They want to ensure that the server can communicate with devices on the same subnet. What should they configure?

- a) Subnet mask

- b) Default gateway

- c) DNS server

- d) VLAN tagging

- Answer: a) Subnet mask

46. A server administrator wants to configure a Windows Server 2012 R2 machine to act as a DNS server. Which role should they install?

- a) DHCP Server

- b) DNS Server

- c) File and Storage Services

- d) Active Directory Domain Services

- Answer: b) DNS Server

47. A server administrator is configuring a DHCP server. What is the purpose of a DHCP scope?

- a) To define a range of IP addresses that can be assigned to clients

- b) To resolve domain names to IP addresses

- c) To configure VLANs

- d) To monitor network traffic

- Answer: a) To define a range of IP addresses that can be assigned to clients

48. Which of the following is a valid IPv6 address?

- a) 192.168.1.1

- b) fe80::1

- c) 255.255.255.255

- d) 10.0.0.1

- Answer: b) fe80::1

49. A server administrator wants to configure a Windows Server 2012 R2 machine to act as a router. Which feature should they enable?

- a) Routing and Remote Access Service (RRAS)

- b) NIC teaming

- c) VLAN tagging

- d) Hyper-V

- Answer: a) Routing and Remote Access Service (RRAS)

50. **A server administrator is troubleshooting a network issue and wants to verify the server's current IP configuration. Which command should they use?**

- a) ipconfig

- b) ping

- c) tracert

- d) nslookup

- Answer: a) ipconfig

51. **A server administrator wants to test connectivity to a remote server. Which command should they use?**

- a) ping

- b) ipconfig

- c) netstat

- d) nslookup

- Answer: a) ping

52. **Which of the following is a key benefit of using VLANs in a network?**

- a) Improved network segmentation and security

- b) Increased bandwidth

- c) Simplified IP addressing

- d) Reduced hardware costs

- Answer: a) Improved network segmentation and security

53. **A server administrator wants to configure a VLAN on a Windows Server 2012 R2 machine. Which tool should they use?**

- a) NIC Properties in Device Manager

- b) Server Manager

- c) PowerShell

- d) All of the above

- Answer: d) All of the above

54. **A server administrator is configuring a DNS server. What is the purpose of a forward lookup zone?**

- a) To resolve domain names to IP addresses

- b) To resolve IP addresses to domain names

- c) To monitor DNS traffic

- d) To configure DHCP scopes

- Answer: a) To resolve domain names to IP addresses

55. A server administrator wants to configure a reverse lookup zone on a DNS server. What is the purpose of this zone?

- a) To resolve IP addresses to domain names

- b) To resolve domain names to IP addresses

- c) To monitor DNS traffic

- d) To configure DHCP scopes

- Answer: a) To resolve IP addresses to domain names

Section 7: Scenario-Based Networking Questions

56. A server administrator is configuring a DHCP server and wants to ensure that specific devices always receive the same IP address. What should they configure?

- a) DHCP reservation

- b) Static IP address

- c) VLAN tagging

- d) NIC teaming

- Answer: a) DHCP reservation

57. A server administrator is troubleshooting a DNS issue where a client cannot resolve a domain name. What is the first step they should take?

- a) Check the DNS server settings on the client

- b) Restart the DNS server

- c) Reinstall the DNS role

- d) Configure a static IP address on the client

- Answer: a) Check the DNS server settings on the client

58. A server administrator wants to configure a Windows Server 2012 R2 machine to act as a VPN server. Which role should they install?

- a) Routing and Remote Access Service (RRAS)

- b) DHCP Server

- c) DNS Server

- d) File and Storage Services

- Answer: a) Routing and Remote Access Service (RRAS)

59. A server administrator is configuring a DHCP server and wants to exclude a range of IP addresses from being assigned to clients. What should they configure?

- a) Exclusion range

- b) DHCP reservation

- c) Static IP addresses

- d) VLAN tagging

- Answer: a) Exclusion range

60. A server administrator is troubleshooting a network issue and wants to check the route packets take to a remote server. Which command should they use?

- a) tracert

- b) ping

- c) ipconfig

- d) nslookup

- Answer: a) tracert

61. A server administrator is configuring a DNS server and wants to ensure that it can resolve external domain names. What should they configure?

- a) Forwarders

- b) Reverse lookup zones

- c) DHCP scopes

- d) VLAN tagging

- Answer: a) Forwarders

62. A server administrator is configuring a Windows Server 2012 R2 machine with multiple NICs. They want to ensure that each NIC is assigned to a specific VLAN. What should they configure?

- a) VLAN tagging

- b) NIC teaming

- c) DHCP reservations

- **d) Static IP addresses**

- **Answer: a) VLAN tagging**

63. **A server administrator is troubleshooting a network issue and suspects that the server is not resolving domain names correctly. What should they check?**

- **a) DNS server settings**

- **b) Default gateway**

- **c) Subnet mask**

- **d) NIC teaming configuration**

- **Answer: a) DNS server settings**

64. **A server administrator is configuring NIC teaming on a Windows Server 2012 R2 machine. They want to ensure that the team provides both redundancy and load balancing. Which load-balancing mode should they choose?**

- **a) Dynamic**

- **b) Address Hash**

- **c) Hyper-V Port**

- **d) Static Teaming**

- **Answer: a) Dynamic**

65. **A server administrator is configuring a Windows Server 2012 R2 machine with a single NIC. They want to ensure that the server can communicate with devices on the same subnet. What should they configure?**

- **a) Subnet mask**

- **b) Default gateway**

- **c) DNS server**

- **d) VLAN tagging**

- **Answer: a) Subnet mask**

Creating Virtual Servers

1. **Which feature in Windows Server 2012 R2 is used to create and manage virtual machines?**

   - **a) Hyper-V**

   - **b) VMware**

   - **c) Remote Desktop Services**

- o   **d) Failover Clustering**

- o   **Answer: a) Hyper-V**

2. **What is the minimum RAM requirement to enable the Hyper-V role in Windows Server 2012 R2?**

    - o   **a) 1 GB**

    - o   **b) 2 GB**

    - o   **c) 4 GB**

    - o   **d) 8 GB**

    - o   **Answer: c) 4 GB**

3. **What is the primary purpose of a virtual server?**

    - o   **a) To host multiple operating systems on a single physical server**

    - o   **b) To provide shared access to storage devices**

    - o   **c) To improve network security**

    - o   **d) To replace physical servers entirely**

    - o   **Answer: a) To host multiple operating systems on a single physical server**

4. **A server administrator wants to create a virtual server. Which tool should they use in Windows Server 2012 R2?**

    - o   **a) Hyper-V Manager**

    - o   **b) Task Manager**

    - o   **c) Server Manager**

    - o   **d) Disk Management**

    - o   **Answer: a) Hyper-V Manager**

5. **Which of the following is a key benefit of creating virtual servers?**

    - o   **a) Reduced hardware costs**

    - o   **b) Improved disaster recovery capabilities**

    - o   **c) Easier testing and development environments**

    - o   **d) All of the above**

    - o   **Answer: d) All of the above**

6. **A server administrator is deploying a virtual machine (VM) for high-performance applications. What type of virtual disk should they use?**

- a) Fixed size

- b) Dynamically expanding

- c) Differencing

- d) Pass-through disk

- Answer: a) Fixed size

7. A server administrator wants to ensure that a virtual machine uses the exact amount of physical CPU resources assigned to it. Which configuration setting should they adjust?

- a) Processor weight

- b) Processor limit

- c) Processor reserve

- d) Dynamic Memory

- Answer: b) Processor limit

8. What is the primary function of the Integration Services in Hyper-V?

- a) To provide better communication between the host and guest operating system

- b) To configure network settings for virtual machines

- c) To manage virtual switches

- d) To create snapshots of virtual machines

- Answer: a) To provide better communication between the host and guest operating system

9. A server administrator wants to create multiple VMs quickly with the same configuration. Which feature should they use?

- a) VM cloning

- b) VM checkpoint

- c) VM export/import

- d) Dynamic Memory

- Answer: a) VM cloning

10. Which PowerShell cmdlet can be used to create a new virtual machine in Hyper-V?

- a) New-VM

- b) Create-VM

- c) Install-VM

- o   **d) Add-VM**

- o   **Answer: a) New-VM**

11. **A server administrator wants to allocate additional memory to a running virtual machine without restarting it. Which feature should they use?**

    - o   **a) Dynamic Memory**

    - o   **b) Fixed Memory**

    - o   **c) Memory Buffer**

    - o   **d) Resource Metering**

    - o   **Answer: a) Dynamic Memory**

12. **A server administrator is configuring a VM and wants to isolate it from production network traffic. What should they use?**

    - o   **a) Private virtual switch**

    - o   **b) External virtual switch**

    - o   **c) Internal virtual switch**

    - o   **d) None of the above**

    - o   **Answer: a) Private virtual switch**

13. **What is the maximum number of virtual processors supported by a single VM in Windows Server 2012 R2 Hyper-V?**

    - o   **a) 32**

    - o   **b) 64**

    - o   **c) 128**

    - o   **d) 256**

    - o   **Answer: c) 128**

14. **A server administrator needs to install a guest operating system on a virtual machine. What must be done first?**

    - o   **a) Attach an ISO file or physical installation media to the VM**

    - o   **b) Configure the VM's network settings**

    - o   **c) Enable Dynamic Memory**

    - o   **d) Enable checkpointing**

    - o   **Answer: a) Attach an ISO file or physical installation media to the VM**

15. **A server administrator is using Hyper-V Manager to monitor resource usage by virtual machines. Which resource metrics can be monitored?**

   o **a) CPU, memory, disk, and network usage**

   o **b) Only CPU and memory usage**

   o **c) Only network usage**

   o **d) None of the above**

   o **Answer: a) CPU, memory, disk, and network usage**

Section 2: Creating Virtual Switches

16. **What is the purpose of a virtual switch in Hyper-V?**

   o **a) To provide network connectivity to virtual machines**

   o **b) To create additional virtual processors**

   o **c) To allocate memory to VMs**

   o **d) To manage virtual disks**

   o **Answer: a) To provide network connectivity to virtual machines**

17. **A server administrator wants a virtual machine to communicate with the physical network. Which type of virtual switch should they create?**

   o **a) External**

   o **b) Internal**

   o **c) Private**

   o **d) Isolated**

   o **Answer: a) External**

18. **Which of the following is true about an internal virtual switch?**

   o **a) It allows communication between VMs and the physical network.**

   o **b) It allows communication only between VMs on the same host and the host itself.**

   o **c) It isolates VMs from all networks.**

   o **d) It is used for VLAN tagging.**

   o **Answer: b) It allows communication only between VMs on the same host and the host itself.**

19. **A server administrator wants to isolate virtual machines completely from any external or host communication. Which type of virtual switch should they use?**

    o **a) External**

    o **b) Internal**

    o **c) Private**

    o **d) None**

    o **Answer: c) Private**

20. **Which PowerShell cmdlet can be used to create a virtual switch in Hyper-V?**

    o **a) New-VMSwitch**

    o **b) Create-VirtualSwitch**

    o **c) Add-VSwitch**

    o **d) Set-VMSwitch**

    o **Answer: a) New-VMSwitch**

21. **A server administrator is configuring a Hyper-V virtual switch. What is the purpose of enabling VLAN tagging?**

    o **a) To assign virtual machines to specific VLANs for network segmentation**

    o **b) To increase network throughput**

    o **c) To enable external communication**

    o **d) To configure private virtual switches**

    o **Answer: a) To assign virtual machines to specific VLANs for network segmentation**

22. **What is the maximum number of virtual machines that can be connected to a single virtual switch?**

    o **a) 256**

    o **b) 512**

    o **c) 1024**

    o **d) Unlimited**

    o **Answer: d) Unlimited**

23. **A server administrator is configuring an external virtual switch. What must be selected during its creation?**

    o **a) A physical network adapter to bind the virtual switch**

- ○ **b) A virtual hard disk**
- ○ **c) A VLAN ID**
- ○ **d) A virtual processor**
- ○ **Answer: a) A physical network adapter to bind the virtual switch**

24. **A server administrator wants to ensure that multiple virtual machines can communicate with each other without accessing the physical network. What should they configure?**

   - ○ **a) Internal virtual switch**
   - ○ **b) Private virtual switch**
   - ○ **c) External virtual switch**
   - ○ **d) VLAN tagging**
   - ○ **Answer: a) Internal virtual switch**

25. **What is one disadvantage of using a private virtual switch?**

   - ○ **a) Virtual machines cannot communicate with the host or external network.**
   - ○ **b) It requires additional network adapters.**
   - ○ **c) It reduces the performance of virtual machines.**
   - ○ **d) It does not support VLAN tagging.**
   - ○ **Answer: a) Virtual machines cannot communicate with the host or external network.**

Section 3: Scenario-Based Questions

26. **A server administrator is creating a virtual server for testing purposes. They want to ensure the VM is isolated from the production network and other physical devices. What is the best configuration?**

   - ○ **a) Private virtual switch**
   - ○ **b) Internal virtual switch**
   - ○ **c) External virtual switch**
   - ○ **d) Dynamic Memory**
   - ○ **Answer: a) Private virtual switch**

27. **A server administrator wants to migrate an existing virtual machine to another Hyper-V host. What should they do first?**

   - • **a) Export the virtual machine from the current host**

- **b) Delete the virtual machine from the current host**
- **c) Create a new virtual machine on the destination host**
- **d) Configure a new virtual switch on the destination host**
- **Answer: a) Export the virtual machine from the current host**

28. **A server administrator is configuring a virtual machine for a database server. They want to ensure the VM has consistent disk performance. Which virtual disk type should they choose?**

- **a) Fixed size**
- **b) Dynamically expanding**
- **c) Differencing**
- **d) Pass-through disk**
- **Answer: a) Fixed size**

29. **A server administrator wants to create a virtual machine that can boot from a physical disk attached to the host. What should they configure?**

- **a) Pass-through disk**
- **b) Fixed-size virtual disk**
- **c) Dynamically expanding virtual disk**
- **d) Differencing disk**
- **Answer: a) Pass-through disk**

30. **A server administrator is troubleshooting a virtual machine that is not connecting to the network. The VM is connected to an external virtual switch. What should they check first?**

- **a) The physical network adapter on the host**
- **b) The VM's operating system configuration**
- **c) The virtual switch settings in Hyper-V Manager**
- **d) All of the above**
- **Answer: d) All of the above**

31. **A server administrator wants to create a virtual machine that uses minimal disk space initially but can grow as needed. Which virtual disk type should they use?**

- **a) Dynamically expanding**
- **b) Fixed size**
- **c) Differencing**

- **d) Pass-through disk**

- **Answer: a) Dynamically expanding**

32. **A server administrator is configuring a virtual machine for a web server. They want to ensure the VM can communicate with the internet and the host machine. Which virtual switch type should they use?**

- **a) External**

- **b) Internal**

- **c) Private**

- **d) None of the above**

- **Answer: a) External**

33. **A server administrator wants to create a virtual machine that uses a parent virtual disk but stores changes in a separate disk file. What should they configure?**

- **a) Differencing disk**

- **b) Fixed-size disk**

- **c) Dynamically expanding disk**

- **d) Pass-through disk**

- **Answer: a) Differencing disk**

34. **A server administrator is configuring a virtual machine with Dynamic Memory. What is the purpose of the "Memory Buffer" setting?**

- **a) To reserve additional memory for the VM in case of spikes in demand**

- **b) To limit the maximum memory the VM can use**

- **c) To allocate a fixed amount of memory to the VM**

- **d) To configure the minimum memory for the VM**

- **Answer: a) To reserve additional memory for the VM in case of spikes in demand**

35. **A server administrator wants to monitor the resource usage of virtual machines on a Hyper-V host. Which feature should they use?**

- **a) Resource Metering**

- **b) Dynamic Memory**

- **c) Integration Services**

- **d) Checkpoints**

- Answer: a) Resource Metering

Section 4: Advanced Virtual Environment Concepts

36. A server administrator wants to ensure that a virtual machine can only use a specific percentage of the host's CPU resources. Which setting should they configure?

- a) Processor limit

- b) Processor reserve

- c) Processor weight

- d) Dynamic Memory

- Answer: a) Processor limit

37. A server administrator is configuring a virtual machine with multiple virtual network adapters. What is the purpose of assigning each adapter to a different virtual switch?

- a) To allow the VM to communicate with multiple networks

- b) To increase the VM's bandwidth

- c) To enable VLAN tagging

- d) To isolate the VM from the host

- Answer: a) To allow the VM to communicate with multiple networks

38. A server administrator wants to create a checkpoint for a virtual machine. What is the primary purpose of a checkpoint?

- a) To save the current state of the VM for later restoration

- b) To back up the VM's data

- c) To monitor the VM's performance

- d) To migrate the VM to another host

- Answer: a) To save the current state of the VM for later restoration

39. A server administrator is configuring a virtual machine for a high-security environment. They want to ensure that the VM cannot access the physical network. What should they configure?

- a) Private virtual switch

- b) Internal virtual switch

- c) External virtual switch

- d) VLAN tagging

- **Answer: a) Private virtual switch**

40. **A server administrator wants to configure a virtual machine to use a specific VLAN. What should they configure in Hyper-V Manager?**

- **a) VLAN ID on the virtual network adapter**

- **b) VLAN tagging on the virtual switch**

- **c) VLAN settings in the host operating system**

- **d) VLAN settings in the guest operating system**

- **Answer: a) VLAN ID on the virtual network adapter**

41. **A server administrator wants to migrate a virtual machine to another Hyper-V host without downtime. Which feature should they use?**

- **a) Live Migration**

- **b) Export/Import**

- **c) Checkpoints**

- **d) Resource Metering**

- **Answer: a) Live Migration**

42. **A server administrator is configuring a virtual machine with multiple virtual processors. What is the maximum number of virtual processors supported by a single VM in Windows Server 2012 R2?**

- **a) 32**

- **b) 64**

- **c) 128**

- **d) 256**

- **Answer: c) 128**

43. **A server administrator wants to ensure that a virtual machine can dynamically adjust its memory usage based on demand. Which feature should they enable?**

- **a) Dynamic Memory**

- **b) Fixed Memory**

- **c) Resource Metering**

- **d) Checkpoints**

- **Answer: a) Dynamic Memory**

44. A server administrator is configuring a virtual machine for a file server. They want to ensure the VM has access to a large amount of storage. What is the maximum size of a virtual hard disk (VHDX) in Hyper-V?

- a) 2 TB
- b) 16 TB
- c) 64 TB
- d) 128 TB
- Answer: c) 64 TB

45. A server administrator wants to configure a virtual machine to use a physical GPU for better performance. Which feature should they enable?

- a) RemoteFX
- b) Dynamic Memory
- c) Resource Metering
- d) Checkpoints
- Answer: a) RemoteFX