Table of Contents

an Creating a new user through Control Panel

notional masses entranction

so Pinning programs to the taskbar

Using the newer Settings screen

(Gwo ways to do the same thing

Prep your demain controller

F6 Instail the AD D5 role

System Insights	17
Windows Server 2019 interface	18
The updated Start menu	19
The Quick Admin Tasks menu	20
Using the Search function	22
Pinning programs to the taskbar	24
The power of right-clicking	25
Using the newer Settings screen	28
Two ways to do the same thing	31
Creating a new user through Control Panel	31
Creating a new user through the Settings menu	32
Task Manager	34
Task View	38
Summary	40
Questions	41
Chapter 2: Installing and Managing Windows Server 2019	43
Technical requirements	44
Installing Windows Server 2019	45
Burning that ISO	45
Creating a bootable USB stick	46
Running the installer	47
Installing roles and features	52
Installing a role using the wizard	52
Installing a feature using PowerShell	58
Centralized management and monitoring	61 Server Co
Server Manager	
Remote Server Administration Tools (RSAT)	
Does this mean NDF is dead?	09
Remote Desktop Connection Manager Windows Admin Center (WAC)	/0
Installing Windows Admin Center	
Launching Windows Admin Center	
Adding more servers to Windows Admin Center	awebaily 76
Managing a server with Windows Admin Center	ewobnit/ 78
Changes are easy as pie	penns8 79
Azure integrations	80
Enabling quick server rollouts with Sysprep	oitengeini 81
Installing Windows Server 2019 onto a new server	83
Configuring customizations and updates onto your new server	83
Running Sysprep to prepare and shut down your master server	84
Creating your master image of the drive	86

Building new servers using copies of the	master image	87
Summary		88
Questions	ypes of DNS zones	89
Chapter 3: Active Directory	Active Directory Integrated Zones	91
What is a domain controller?	senox qualocal biswing	92
Active Directory Domain Services	Reverse Lookup Zones	93
Creating your first domain	Primary Zone :	94
Prep your domain controller	Secondary Zone	95
Install the AD DS role	anos duta	97
Configure the domain		98
Trees, forests, anddomains?		98
Multiple domain controllers for redunda	ncy squad 10 de missa10	03
Active Directory Users and Computers		06
User accounts		80
Security groups		09
Prestaging computer accounts	anevies 90H0 owT1	10
Active Directory Domains and Trusts	erver 2019 - ebom ydbneta toHt	13
Building a trust		14
Network connectivity		15
Conditional DNS forwarding Configuring the trust		15 18
Test it out!		22
Active Directory Sites and Services	enouseil	23
Active Directory Administrative Center	spier 5: Group Policy	25
Dynamic Access Control	toup Policy Object	26
	Croup Policy background refresh	27
Read-only domain controllers	O90 s enibild	28
Group Policy	PAdding Trusted Sites	32
Summary	Wasping network drives	33
Questions	thretalling registry keys collesterit:	33
Chapter 4: DNS and DHCP	1 oping a GPO	35
The purpose of DNS		36
Types of DNS records		37
Host record (A or AAAA)	UNITED AND AND AND PROPERTY OF THE PERSON OF	38
Alias record – CNAME		40
Mail Exchanger (MX) record		42
TXT record		43
SPF Record	animilar langual is	43
Enforcement rule -all		45
Name Server (NS) record	gninetti Filtering	46
Public name server records	protegrat lavel-mell i	46

Split-brain DNS	
Types of DNS zones	
Active Directory Integrated Zones	
Forward Lookup Zones	is a domain controller?
Reverse Lookup Zones	
Primary Zone	
Secondary Zone	a your domain controller
Stub Zone	
Creating a new zone	
IP addressing with DHCP	
	ile domain controllers for redund
	a Directory Users and Computers
DHCP reservations	
DHCP failover	
Two DHCP servers	
Hot standby mode	
Load sharing mode	ding a trust
Configuring DHCP failover	
IPAM	ndilional DNS forwarding
Summary	
Questions	
Chapter 5: Group Policy	retneO eviterteinimhA materiO e
Group Policy Object	amic Access Control
Group Policy background refresh c	ycle voilo9 browsas9 beniero-s
Building a GPO	only domain controllers
Adding Trusted Sites	
Mapping network drives	
Installing registry keys	
Scoping a GPO	
Links	
GPRESULT	
Continuing with the link	
Group Policy processing order	
Local Policy Site-level policies	
Domain laval policies	
OU-level policies	
Security Filtering	
WMI Filtering	
Item-level targeting	
Delegation	

Computer settings and user settings	
Computer Configuration	
User Configuration	Rill most pnihogx
Linking GPOs accordingly	
Group Policy loopback processing	
Policy vs preference	
Policies	
Preferences	
Default Domain Policy	
Administrative Templates	
Implementing ADMX/ADML files	
Central Store	
Enable the Central Store	prigdie
Populate the Central Store	
Summary	
Questions	noiteenno Die Vi-tee
Chapter 6: Certificates in Windows S	Server 2019 Will prior to the server
Common certificate types	Well/40
User certificates	Iding a routing table
Computer certificates	lulti-homed servers
SSL certificates	
Single-name certificates	uilding a route
Multi-domain or subject alternative name certi	ificates modern my entone phibb
Wildcard certificates	
Planning your PKI	dding a route with PowerShall
Role services	
Enterprise versus Standalone	tware-defined networking
Root versus subordinate (issuing)	
Naming your CA server	rivete clouds
Can I install the CA role onto a domain	controller?
Creating a new certificate template	
Issuing your new certificates	
Publishing the template	
Requesting a cert from MMC	Generic Routing Encapsulation Microsoft Azura Virtual Nictwork apphaen
Requesting a certificate from the web in	птепасе
Creating an auto-enrollment policy	noitavone showten lautil
Obtaining a public-authority SSL certif	ricate
Public/private key pair	
Creating a certificate signing request	
Submitting the certificate request	
Downloading and installing your certific	ate

Exporting and importing certificates	enrittes resu bas andites retugad
Exporting from MMC	nobsrupitnoO retugmoO
Exporting from IIS	User Configuration -
Importing into a second server	Linking GROs accordingly
Summary	Group Pelicy loopback processing
Questions	eoneretera av volk
Chapter 7: Networking with Window	ws Server 2019
Introduction to IPv6	eeoneret ee
Understanding IPv6 IP addresses	efault Domain Policy
Your networking toolbox	estalqmoT evitantalnimi
ping	aelit JMCAXMCIA entmendini
tracert	entral Store
pathping	Enable the Central Store
Test-Connection	Populate the Central Store
Telnet	Y THE COLUMN TO THE COLUMN TWO IS NOT THE COLUMN TO THE CO
Test-NetConnection	anolieau
the state of the first of the state of the s	apter 6: Certificates in Windows
TCPView	esayt etsofficies nomini
Building a routing table	Belsonines real
Multi-homed servers	aoisaimeo leiuamad
Only one default gateway	aetsoffined 188
Building a route	satsofilheo emen-eleni8
Adding a route with the Command Pr	
Deleting a route	valeonines bracolity
Adding a route with PowerShell	anning your PKI
NIC Teaming	Role services
Software-defined networking	autelburg snales establete
Hyper-V Network Virtualization	(cont versus subordinate (issuing)
Drivete elevade	Tevres AU Tucy onimism
Hybrid clouds	Can I install the CA role onto a domai
How does it work?	etalqmet etachthee wen a prittee
System Center Virtual Machine Manager	aninofflines wen thoy onlive
Network Controller	
Generic Routing Encapsulation	Requesting a cert from MMC
Microsoft Azure Virtual Network	
RAS Gateway/SDN Gateway	Creating an auto-enrollment policy
Virtual network encryption	neo 188 withorthus-pildug s paintate
Bridging the gap to Azure	Publiciphyate key pair
Azure Network Adapter	Creating a certificate signing request
Summary	Submitting the certificate request
Questions	itian wow politiciani bos politicolowa (2

Chapter 8: Remote Access	PRACY 9AW of elnemeyonami is	309
Always On VPN	sauthention for HTTP Basic (AS)	310
Types of AOVPN tunnels		311
User tunnels		312
Device tunnels		312
Device tunnel requirements		312
AOVPN client requirements Domain-joined		313 314
Rolling out the settings		314
AOVPN server components		010
Remote Access server	aumnisma nebneteG ewoi	
Certification Authority (CA) Network Policy Server (NPS)		317
DirectAccess		318
The truth about DirectAccess		320
Prerequisites for DirectAccess	ndows Defender ATP Exploit Guard	321
Domain-joined Supported client operating system	lows Defender Firewall - no laughlfd is	321
DirectAccess servers – one or two		322
To NAT or not to NAT?	Andows Defender Firewall Confide Panety 10 Million	
Network Location Server	rewall & network protection (Windows Security Sett	
Certificates used with DirectAcces		0-0
Do not use the Getting Starte		331
Remote Access Management		332
Configuration		333
Dashboard		335
Operations Status		336
Remote Client Status	Locker and the virtual TPM	337
Reporting		337
Tasks		339
DA, VPN, or AOVPN? Which is	s best?	339
Domain-joined or not?		339
Auto or manual launch	A TO THE PARTY OF	340
Software versus built-in		340
Password and login issues wi		341
Port-restricted firewalls	noqqua to bite - aquigana isotii Lugoni	342
Manual disconnect		344
Native load-balancing capabil	ities	344
Distribution of client configura	and the state of t	345
Web Application Proxy	endertainmine leutoqueq to bir gritti	346
WAP as AD FS Proxy		347
	the different computer to accomplish add	348
		al/ 450

Latest improvements to WAP	
Preauthentication for HTTP Basic	
HTTP to HTTPS redirection	Pypes of AOVPN tunnels
Client IP addresses forwarded to applications	s sentinul result
Publishing Remote Desktop Gateway	eleanut soiveOg
Improved administrative console	
Summary	MOALS clieur tedniteftel
Questions	
Chapter 9: Hardening and Security	spring out the settings
Windows Defender Antivirus	navies esecca slomeRA
Installing Windows Defender Antivirus	
Exploring the user interface	
Disabling Windows Defender Antivirus	
What is ATP, anyway?	
Windows Defender ATP Exploit Guard	Regardantes for DirectAccess
Windows Defender Firewall – no laughing m	
Three Windows Firewall administrative consc	
Windows Defender Firewall (Control Panel)	DIES o eno - significa associatomica de STAM et fon 10 TAM et 6
Firewall & network protection (Windows Security Sett	
Windows Defender Firewall with Advanced Security (
Three different firewall profiles	Do not use the Getting Starte
	inemeganali saesoA etoment
Creating a rule to allow pings (ICMP)	noiterupitne
Managing WFAS with Group Policy	basandrasid
Encryption technologies	Operations Status
BitLocker and the virtual TPM	Remote Client Status
Shielded VMs	politiogali
Encrypted virtual networks	esteel.
	LVPN, or AOVPN? Which is
IPsec	Stan to benioi-nisme@
Configuring IPsec	donuel islinem to otsA
Azure AD Password Protection	ri-flud sustav answhe8
Fine-grained password policy	THE THUR DUSTER DESIGNATION
Advanced Threat Analytics – end of support	
What is (was) ATA?	SHEWELL DESCRIBEDINGS
Azure ATP	Dennocal Disposition
General security best practices	Native load-balancing capacit
Getting rid of perpetual administrators	Distribution of chent connigura
Using distinct accounts for administrative acc	
Using a different computer to accomplish adn	
Never browse the internet from servers	
nevel blowse the internet from servers	

Disable external RDPNOW 401 Summary 402 Questions 403 Chapter 10: Server Core 405 Why use Server Core? 406 No more switching back and forth 408 Interfacing with Server Core 409 PowerShell 411 Using cmdlets to manage IP addresses 411 Using cmdlets to manage IP addresses 411 Setting the server hostname 415 Joining your domain 416 Remote PowerShell 417 Server Manager 419 Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 Windows Admin Center for managing Server Core 424 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Chapter 11: PowerShell 441 Why move to PowerShell 441 Why move to PowerShell 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Launching PowerShell 446 Launching PowerShell 446 AllSigned 450	Role-Based Access Control (RBAC)		399
Disable external RDPNOW 401 Summary 402 Questions 403 Chapter 10: Server Core 405 Why use Server Core 406 No more switching back and forth 408 Interfacing with Server Core 409 PowerShell 411 Using condlets to manage IP addresses 411 Using condlets to manage IP addresses 415 Joining your domain 416 Joining your domain 416 Joining your domain 416 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 What happened to Nano Server? 438 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell 441 Why move to PowerShell 441 Launching PowerShell 446 Default execution policy Restricted 446 AllSigned 446 AllSigned 446 AllSigned 450			700
Summary Questions 403			401
Questions 403 Chapter 10: Server Core 405 Why use Server Core? 406 No more switching back and forth 408 Interfacing with Server Core 409 PowerShell 411 Using cmdlets to manage IP addresses 411 Setting the server hostname 415 Joining your domain 416 Remote PowerShell 417 Server Manager 419 Remote PowerShell 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell 442	Summary	/ qiem-jec/ Qi	402
Why use Server Core? 406 No more switching back and forth 408 Interfacing with Server Core 409 PowerShell 411 Using cmdlets to manage IP addresses 411 Setting the server hostname 415 Joining your domain 416 Remote PowerShell 417 Server Manager 419 Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell 442 PowerShell is the backbone 445 Scryer Core			403
Why use Server Core? 406 No more switching back and forth 408 Interfacing with Server Core 409 PowerShell 411 Using cmdlets to manage IP addresses 411 Setting the server hostname 415 Joining your domain 416 Remote PowerShell 417 Server Manager 419 Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell 442 PowerShell is the backbone 445 Scripting <t< th=""><th>Chapter 10: Server Core</th><th></th><th>405</th></t<>	Chapter 10: Server Core		405
No more switching back and forth		enileqiq s	406
Interfacing with Server Core		VSO of he	408
PowerShell		is can invoke action	409
Using cmdlets to manage IP addresses			411
Joining your domain	Using cmdlets to manage IP addresses		411
Remote PowerShell 417 Server Manager 419 Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 RemoteSigned 450 Unrestricted 450 Bypass mode 450		king with PowerShell ISE	
Server Manager 419 Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450 <td></td> <td></td> <td>DITIAN</td>			DITIAN
Remote Server Administration Tools 420 Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Launching PowerShell 446 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			16114
Accidentally closing Command Prompt 422 Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450 Bypass mode 450 Alson 450 Bypass mode 450 Bypas		ses solvines MAnNY s	814
Windows Admin Center for managing Server Core 424 The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			
The Sconfig utility 428 Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		o aniamob tamon mon asminosm gniwo	
Roles available in Server Core 432 Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		Server Core	
Building a Server Core domain controller 433 Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		noisse229asin3 on	
Install the AD DS role 433 Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		notienuoBaoO etsi2 be	
Promote this server to a domain controller 434 Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		ler	YEARS LOOK
Verify that it worked 435 What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			COLUMN TO SERVICE OF
What happened to Nano Server? 438 Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450		ler	Annual Park
Summary 438 Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			
Questions 439 Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450	What happened to Nano Server?	(MLIM) gniansist baou 316	
Chapter 11: PowerShell 441 Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			70.000
Why move to PowerShell? 442 Cmdlets 442 PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			
Cmdlets PowerShell is the backbone Scripting Server Core Working within PowerShell Launching PowerShell Default execution policy Restricted AllSigned RemoteSigned Unrestricted Bypass mode 442 444 445 445 445 445 445 44	Chapter 11: PowerShell	sessembles 41 betsoileb bus ist	441
PowerShell is the backbone 444 Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450	Why move to PowerShell?		442
Scripting 445 Server Core 445 Working within PowerShell 446 Launching PowerShell 446 Default execution policy 449 Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450	Cmdlets		442
Server Core Working within PowerShell Launching PowerShell Default execution policy Restricted AllSigned RemoteSigned Unrestricted Bypass mode 445 446 446 446 446 447 449 449 449	PowerShell is the backbone	ters - AMOLiesott	444
Working within PowerShell Launching PowerShell Default execution policy Restricted AllSigned RemoteSigned Unrestricted Bypass mode 446 446 447 449 449 449 449 450 450 450 450	Scripting		445
Launching PowerShell Default execution policy Restricted AllSigned RemoteSigned Unrestricted Bypass mode 446 446 447 449 449 450 450 450 450	Server Core		445
Default execution policy Restricted AllSigned RemoteSigned Unrestricted Bypass mode 449 450 450 450 450 450	Working within PowerShell		446
Restricted 450 AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450	Launching PowerShell		
AllSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450	Default execution policy	figuring IIS and DNS	449
RemoteSigned 450 RemoteSigned 450 Unrestricted 450 Bypass mode 450			- V - V - V - E
Unrestricted Bypass mode 450	AllSigned		
Bypass mode 450			
			450
			452

Useful cmdlets for daily tasks		45
Query user or quser		45
IP addressing cmdlets		45
Using Get-Help		45
Formatting the output		45
Format-Table Format-List		45 45
Using a pipeline		46
Export to CSV		46
		46
Pipes can invoke action		
PowerShell Integrated Scripting Env		46
		463
Working with PowerShell ISE	niomaka sunar meletiala	46
Remotely managing a server		469
Preparing the remote server	Server Manager	470
The WinRM service		47
Enable-PSRemoting Allowing machines from other domains or v	vorkarouns	47
Connecting to the remote server		47
Using -ComputerName		47
Using Enter-PSSession		47
Desired State Configuration	ninco alscanb aroû iavraê a palbili	47
Summary		47
Questions		48
Chapter 12: Redundancy in Window	ws Server 2019	48
Network Load Balancing (NLB)		482
Not the same as round-robin DNS		483
What roles can use NLB?		483
Virtual and dedicated IP addresses		484
NLB modes Unicast	ny move to PowerShell?	48
Multicast		48
Multicast IGMP	PowerBhell is the backbone	48
Configuring a load-balanced website	Scripfing	488
Enabling NLB		488
Enabling MAC address spoofing on VMs		48
Configuring NLB	HeriStrewo Powistonus	490
Configuring IIS and DNS	voilog noituosza fluistad	496
Testing it out	bestifteeR	498
Flushing the ARP cache		498
Failover clustering		499
Clustering Hyper-V hosts		500
Virtual machine load balancing		50

Clustering for file servers	distraction of the second seco
Scale-out file server	
Clustering tiers	
Application-layer clustering	r preniminos ribler go
Host-layer clustering	
A combination of both	
How does failover work?	ker commands
Setting up a failover cluster	
Building the servers	- olni text
Installing the feature	gisti- 15%
Running Failover Cluster Manager	
Running cluster validation	
Running the Create Cluster wizard	nun 193k
Clustering improvements in Windows Se	
True two-node clusters with USB witness	es parin Taria mod a pribacini
Higher security for clusters	
Multi-site clustering	
Cross-domain or workgroup clustering	
Migrating cross-domain clusters	V-19qyl4:5/19
Cluster operating system rolling upgrades	ning and implementing you
Virtual machine resiliency	
Storage Replica (SR)	
Configuring Storage Replica	
Initializing disks as GPT	dotive Isuniv Ism
Testing preparedness for Storage Replica	riothwa lauthiv ets
Configuring Storage Replica Shifting the primary server to FS02	ating a new virtual switch
	avide lautriv wen a pritnem
	and connecting to the VN
Summary	metevs poils and enting
Questions	
and the same of th	
Chapter 13: Containers and Nano Serv	pler Giles d'amen sonifies
Understanding application containers	
Sharing resources	
Isolation	
Scalability	
Containers and Nano Server	
Windows Server containers versus Hype	er-v containers
Windows Server containers	
Hyper-V containers	astructure requirements for sh
Docker and Nubernetes	
Linux containers	

Docker Hub	graviae elli rol prinetzule53
Docker Trusted Registry	nevree elit tuo elsoe 53
Kubernetes	53
Working with containers	gamesaulo revisi-noitabilique 53
Installing the role and feature	gringtenlo revel-teof 53
Installing Docker for Windows	nted to noitenidmoo A53
Docker commands	Show revolut adob wol 53
docker version	18 18 18 18 18 18 18 18 18 18 18 18 18 1
docker info	54
dockerhelp	54
docker images	54
uockei sealcii	repensive retaulo revolis 3 prinnua 54
docker pull	nodebilev retaulo primnus 54
	brexive related Steer O ent prinnug 54
	obnitti ni etnamovorigmi gnireteu 54
	w 88U dies sters with USB v
Running a container	46 Higher security for olusters
Summary	prinetaulo etia-iliul 54
Questions	etaulo augrovitov to niamob-azona54
Chapter 14: Hyper-V	analaulo mamob-asono pritangily 549
Designing and implementing your Hype Installing the Hyper-V role Using virtual switches	55. 55. 55. 55. 55. 55. 55. 55. 55. 55.
External virtual switch	
Internal virtual switch	olios Resting preparedness for Storage Replic
Private virtual switch	soilge Register gangane 559
Creating a new virtual switch	2023 Shifting the primary server to FS02
Implementing a new virtual server	(GSZ) toeriG zeosgZ eparo56
Starting and connecting to the VM	6102 jevies ni wei 56
Installing the operating system	566
Managing a virtual server	568
Hyper-V Manager	569
The Settings menu	
Checkpoints	574
Configuring auto stop and start	576
Expanding a virtual disk	579
Hyper-V console, Remote Desktop Prote	
Windows Admin Center (WAC)	58'
Shielded VMs	The termination revies awabin 582
	615/18611100 16V15/5 2W6001W100
Encrypting VHDs	Salania moa V-regy 585
Infrastructure requirements for shielded Guarded hosts	VMs 586

Index	651
Other Books You May Enjoy	647
Appendix: Answers to the end-of-chapter Questions	633
Questions	632
Summary	631
MMC and MSC shortcuts	628
Common Event IDs	627
Exporting Windows event logs with PowerShell	625
Filtering event logs	623
Event Logs	621
Remote toolsets	620
System Insights	618
Performance Monitor Windows Firewall with Advanced Security	617
Resource Monitor Performance Monitor	608
Task Manager	606
Restoring from the installer disk	602
Restoring from Windows	600
Schedule regular backups	596
Backup and Restore	596
Chapter 15: Troubleshooting Windows Server 2019	595
Questions	594
Summary	594
Hyper-V Server 2019	590
Why is this important to Hyper-V?	590
Data deduplication	589
ReFS	589
ReFS deduplication	589
Integrating with Linux	588
Host key attestations Admin-trusted attestation – deprecated in 2019	587 588
TPM-trusted attestations	587
Host attestations	587
Host Guardian Service (HGS)	586