

CONTENTS AT A GLANCE

Introduction xix

Part I Unix Tutorial **1**

Chapter 1	Are You Online Yet?	3
Chapter 2	Simple Commands	15
Chapter 3	Meet the Unix File System	23
Chapter 4	Creating Your Own Files	37
Chapter 5	Electronic Mail	57
Chapter 6	Your Own Personalized Unix	81
Chapter 7	Your Own File System	101
Chapter 8	Processes and Multitasking	117
Chapter 9	Printing and Spooling	143
Chapter 10	The vi Family of Editors	159
Chapter 11	Advanced vi Techniques	177
Chapter 12	Exploiting the Shell	199
Chapter 13	Dipping into the Toolbox	239
Chapter 14	greping, sedding, and a Little awking	273
Chapter 15	Advanced Shell Scripts	321
Chapter 16	Reaching Out to Remote Computers	365
Chapter 17	Basic System Administration	399
Chapter 18	X Windows Exposed	421
Chapter 19	Out of the Vacuum: The Door to Mainstream Applications	441

Part I Unix Desktop Reference **461**

Chapter 20	The Complete Unix Desk Reference	463
	<i>Index</i>	964

TABLE OF CONTENTS

Introduction

xix

Part I ▶ Unix Tutorial 1

Chapter 1 □ Are You Online Yet? 3

Gaining Access—What You Need to Get Started	4
Terminals	4
Keyboards	5
Screens	6
Who Does What?	7
Logging In	7
Typing Errors	8
The Enter Key	9
Login Errors	9
Logged In at Last!	10
Defaults	10
Login Greetings	10
Commands	11
Logging Out Already?	12
Choice of Passwords	13
What's Next	13

Chapter 2 □ Simple Commands 15

Files—A Quick Introduction	16
Command Arguments	17
Who Do People Say That I Am?	17
Instant Calendars	19
Pipelines	20
More Calendars	20
What's Next	21

Chapter 3 □ Meet the Unix File System 23

Directories	24
The Name of the File	26
Trees and Hierarchies	27

The root of the Matter	31
Absolute Path Names	32
Home Is Best	32
You Are Here	33
What's Next	35

Chapter 4 □ Creating Your Own Files 37

Standard Input and Output	38
Redirecting Output	39
The ls Command	40
Wildcards	41
Exploring ls with the man Command	43
The cat Command	45
Using Output Redirection with Other Commands	46
Using cat to Create Files	47
The lc Command	48
Counting Words with wc	49
Redirecting Input	50
Comparing Redirection and Pipelines	51
Erasing Files with rm	52
Indirection with Input, Output, and Pipelines	54
Appending Output to Your Files	54
Standard Errors	55
What's Next	55

Chapter 5 □ Electronic Mail 57

Superusers Unite!	58
You Haven't Written to Me Lately	59
Off the Wall	63
Final Warning	63
The Mailperson Cometh	64
Read Your Mail!	64
Leaving the mail Program	66
Printing Your Mail Messages	67
Message Headers	67
Message Selection	68
Saving and Deleting Messages	70
Reading Mail from Another Source	72

Sending Mail	72
Using Other Email Programs	77
What's Next	78
Chapter 6 □ Your Own Personalized Unix	81
Changing Your Password	82
The passwd Command	83
Good and Bad Passwords	83
The /etc/passwd File	84
Choosing Your Shell	88
The Path to Success	89
The Names of the Shells	90
Login Profiles	91
Bourne Shell Login Profiles	92
C Shell Login Profiles	92
Your Own Login Profile	93
Shell Variables—An Introduction	93
Setting Terminal Options with stty	97
Viewing Your .profile File	98
What's Next	99
Chapter 7 □ Your Own File System	101
Home Rule	102
Permissions	103
The Owner	104
File Permissions	104
Directory Permissions	105
Permissions for Owner, Group, and Others	107
Default Permissions	110
Changing Owners and Groups	111
Changing Permissions	112
What's Next	114
Chapter 8 □ Processes and Multitasking	117
Multijargon	118
Multiprogramming Operating Systems	118
Multitasking	120

Unix Images and Processes	121
Process Biography	122
Forks and Spawns	123
The Shell As a Process	124
Background Processes Using & The wait Command	125 126
Killing Processes	127
Hello, I Must Be Going!	128
Checking Your Processes with ps	130
Have a Nice Process	133
Multicommand Lines	134
The sleep Command	137
Scheduling Processes	138
What's Next	141
Chapter 9 □ Printing and Spooling	143
Central and Local Printers	144
Save a Tree	145
Overcoming the Printer Jungle	145
The lp Command	147
Printer Options	148
A Simple Shell Script	150
The C Shell alias Command	151
The -c Copy Option	153
The lpstat Command	154
Changing Print Requests with lp -i	155
The cancel Command	156
The lprint Command	156
Simple Formatting with pr	156
What's Next	157
Chapter 10 □ The vi Family of Editors	159
Preliminaries	160
Meet the Family	164
The Three+Four Modes	166
Mode Navigation	168
Creating a Text with vi	169
Text Entry	170
Cursor Movement	173
What's Next	175

Chapter 11 □ Advanced vi Techniques	177
Screen Controls	179
More on Text-Entry Modes	180
Text Deletion	181
Changing Text	183
Yanking and Putting Text	184
Searching Text	186
The ex Command Mode	187
Using the Shell within vi	188
Assorted ex Commands	188
Abbreviations	189
Entering and Leaving vi	195
What's Next	196
Chapter 12 □ Exploiting the Shell	199
Shell Scripts	201
Your First Shell Script	202
Exploiting dw	204
Executing dw Directly	205
Shell Script Summary	207
Script Debugging	207
Special Commands	208
New Commands from Old	208
The Dot Command	210
Shell and Subshell Variables	210
Setting and Unsetting Variables	214
Exporting Variables	216
How Shell Scripts Work	218
The Positional Parameters	220
echo and the Shell Metacharacters	222
Familiar Quotations	223
Backquotes	224
More on Metacharacters	226
Escaping with \	226
The Comment Character #	227
Double Quotes	228
Metacharacter Sequences	229
The Shell Game	234
What's Next	237

Chapter 13 □ Dipping into the Toolbox	239
The sort Command	240
Over There!	242
The sort f Option	243
The sort d Option	244
The sort i Option	244
The sort n Option	245
Multiple File Sorts	246
The sort u Option	246
The uniq Command	247
The head Command	250
The tail Command	251
The split Command	252
The cut Command	253
The paste Command	255
The find Command	257
The tr Command	264
The dd Command	266
Putting It All Together	267
What's Next	270
Chapter 14 □ grep, sed, and a Little awk	273
The grep Family	274
Quoting the Search Pattern	275
Word Searches and the -w Option	275
Case-Sensitive Searches	276
Regular Expressions	278
Substitute Command Revisited	282
Global Commands	283
Inverse Global Commands	284
Tagged Regular Expressions	287
The fgrep Command	288
The egrep Command	289
Who Takes Precedence?	290
The grep Family Summary	292
The sed Stream Editor	295
sed Syntax	295
The edit_command	297

Come All Ye Tramps and 'awkers	301
awk Fields	303
awk Records	304
The -F Option	306
awk Relational Operators	308
Multiple Tests	309
Begin and End	311
awk and Math	313
awk Flow Control	316
awk Round Up	319
What's Next	319
Chapter 15 □ Advanced Shell Scripts	321
The Menu, Please	322
Helpful Comments	323
The while Loop	324
The test Command	329
The read Command	342
if Only	344
Error Handling	346
The Best case Scenario	349
Branching with && and	351
More Menu	352
Positional Parameters	354
Doing Sums	362
Script Review	363
What's Next	363
Chapter 16 □ Reaching Out to Remote Computers	365
UUCP	366
Making Contact	367
UUCP Applications	368
UUCP Security	374
The uucp Command	379
Unix and Networking; Reaching the Promised LAN	384
Introducing TCP/IP and Ethernet	385
Distributing Files over the Network	386
Client-Server Computing	387

Accessing the Internet	388
What Is the Internet, Anyway?	388
UUCP Addressing versus Domain Addressing	389
Transferring Files with ftp	390
Connecting to a Remote Computer with telnet	394
World-Wide Web	395
Talk, Talk, Talk	395
Introducing USENET	396
Using News Readers	396
What's Next	397

Chapter 17 □ Basic System Administration 399

Unix System Administration	400
What's Involved	401
Superuser Rules OK?	402
Assuming Power	404
Putting the Boot In	405
Cleanup Time	405
Single-User Mode	406
Multiuser Mode	406
The Halting Problem	406
File Systems and Filesystems	409
Backing Up	410
When?	411
What?	411
Who?	412
How?	413
New Accounts	417
What's Next	418

Chapter 18 □ X Windows Exposed 421

An Introduction to X	422
Clients and Servers Revisited	423
How the X Protocol Works	425
X Compared with Other Windowing Systems	425
What the Users See in X	425
X-Terminals and PC X Servers	426
X Benefits	427

X Window Managers: Open Look and Motif	427
Using X	429
Logging In	430
X Resources	430
Using the xterm Terminal Emulator	431
Using Other X Clients	434
Killing an X Client	436
X Marks the Spot: The Future of X	436
What's Next	438
Chapter 19 □ Out of the Vacuum: The Door to Mainstream Applications	441
Samba	442
smbd	442
smb.conf & swat	443
nmbd	444
smbclient	445
Running Samba	448
mtools	452
Configuring mtools	452
Setting Drive Parameters	453
Running mtools	455
And One More Thing: SCO, VisionFS, and Merge	459
What's Next	459
Part II ► Unix Desktop Reference	461
Chapter 20 □ The Complete Unix Desk Reference	463
<i>Index</i>	964