

Contents

Acknowledgments	iii
Preface	ix
1: IBM i and Open Source	1
Why Open Source on IBM i?	2
It's All About the Community	2
2: The PASE Environment	5
PASE and ILE	6
Installing PASE	8
PASE Applications	8
Using PASE	10
3: The Integrated Language Environment (ILE)	13
ILE's Origins	13
Modularity and Binding	14
The Benefits of ILE's Integration	15
4: The Beast That Is XMLSERVICE	17
Installation	18
Next Steps	19
XMLSERVICE Examples	22
<i>First Step: Prepare the Apache Server</i>	22
<i>Second Step: Serve the Web Pages</i>	25

5: i Object!	33
Classes	34
Encapsulation	35
Inheritance	36
Interfaces	37
Polymorphism	37
Have Some Class	38
6: Ruby and IBM i	39
Installation	42
IDEs and irb	42
Language Basics	48
<i>Variables</i>	48
<i>Scope</i>	49
<i>Built-in Functions</i>	52
<i>Containers</i>	53
<i>Hashes</i>	57
Program Structure in Ruby	59
<i>Modules</i>	59
Control Flow in Ruby	64
<i>Using Case</i>	70
<i>A Brief Aside into Error Handling</i>	71
File, I/O, and System Operations	72
<i>A Brief Aside into I/O</i>	73
<i>Files</i>	74
System Commands	79
The Ruby Toolkit	80
Alternatives	85
Using JRuby with ActiveXMLService and ActiveRecord	90
Something New	97
7: Rails and Ruby	99
Getting Started with Rails	99
Building a Rails Application	101
<i>Rails and MVC</i>	105
<i>Structure of a Rails Project</i>	107
<i>Database Access in Rails</i>	108

<i>Accessing Resources with Routes</i>	109
Summing It Up	110
8: PHP on IBM i	111
Where PHP Lives on IBM i	112
Installation	113
Running Scripts	114
<i>Programming Basics</i>	115
<i>Variables</i>	116
<i>Operators</i>	118
<i>Iteration</i>	119
<i>Strings</i>	120
Accessing System Resources	122
<i>Files</i>	122
Running System Commands	123
Database Access	124
Accessing IBM i Commands and Programs	127
<i>Simple Commands</i>	127
<i>Calling Programs and Procedures</i>	133
PHP in the Web World	138
9: Python	145
Installation	146
Programming in Python	147
<i>Numbers</i>	148
<i>Strings</i>	148
<i>Lists</i>	148
<i>Tuples</i>	149
<i>Dictionary</i>	151
Functions	152
Modules	154
Classes in Python	159
File Access in Python	161
System Access	163
<i>DB2 Access</i>	164
Accessing RPG	165
Feel the Power	168

10: Node.js on IBM i	169
Jiving with JavaScript	170
Classes and Objects	177
Arrays and Hashes	181
Functions	186
Node.js	190
<i>Vexing Versions</i>	192
<i>System Access</i>	203
<i>DB2 Database Access</i>	204
11: Apache and Tomcat on IBM i	213
Apache	214
Tomcat	218
12: The IBM i Open Source Garden	221
User Groups	222
Virtual Communities	223
Notable “Solos”	223
Index	225